

!A

LLOAD INCL.L,A\$4000

LLOAD PROGRAM.L,A\$4000

\*\*\* End of Pass 1

LLOAD INCL.L,A\$4000

LLOAD PROGRAM1.L,A\$4000

LLOAD INPUT.L,A\$4000

LLOAD PRINT.L,A\$4000

LLOAD DATA.L,A\$4000

LLOAD PROGRAM.L,A\$4000

\*\*\* End of Pass 2

```
0800      1          ttl "PROGRAM Source Code, PROGRAM.L"
0800      2          src "PROGRAM.L"
0800      3      ;
0800      4      ;
0800      5      ; PROGRAM.L
0800      6      ;
0800      7      ;
0800      8      ; PROGRAM Source Code
0800      9      ;
0800     10      ; 2024 February 14
0800     11      ;
0800     12      ;
0800     13      ; DOS 4.5, Build 06
0800     14      ;
0800     15      ; 2024 February 14
0800     16      ;
0800     17      ;
0800     18      ; Start of Source Code: 0x4000
0800     19      ; Start of Symbol List: 0x7800
0800     20      ;
0800     21      ;
0800     22      ; Copyright (c) 2024 February 14 by
0800     23      ; Walland Philip Vrbancic Jr
0800     24      ;
0800     25      ; 6223 East Peabody Street
0800     26      ; Long Beach, California 90808
0800     27      ; Unitied States of America
0800     28      ;
0800     29      ; All Rights Reserved
0800     30      ;
0800     31      ; This software is the confidential and
0800     32      ; proprietary intellectual property of
0800     33      ; Walland Philip Vrbancic Jr
0800     34      ;
0800     35      ;
0800     36      ; Description of PROGRAM.
0800     37      ;
0800     38      ;
0800     39          icl "INCL.L"
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LLOAD INCL.L,A$4000
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```
0800          1          ttl "PROGRAM Source Code, INCL.L"
0800          2          ;
0800          3          ;
0800          4          ; INCL.L
0800          5          ;
0800          6          ;
0800          7          ; This file defines all the page zero locations, equates,
0800          8          ; memory locations, and parameters used by PROGRAM.
0800          9          ;
0800         10          ;
0000         11  LOC0      epz $00
0020         12  WNDLFT    epz $20
0021         13  WNDWDTH   epz $21
0022         14  WNDTOP    epz $22
0023         15  WNDBTM    epz $23
0024         16  CH        epz $24
0025         17  CV        epz $25
0032         18  INVFLG    epz $32
0033         19  PROMPT    epz $33
0800         20          ;
0076         21  ASRUN     epz $76
0800         22          ;
00D8         23  ASONERR   epz $D8
0800         24          ;
00F6         25  GENPTR    epz $F6
00FA         26  DATAPTR   epz $FA
00FC         27  PRNTPTR   epz $FC
0800         28          ;
0800         29          enz
0800         30          ;
0000         31  ZERO      equ $00
0006         32  DATELEN   equ $06
000E         33  VRSNLEN   equ $0E
0013         34  VSNLEN    equ $13
0018         35  NAMELEN   equ $18
00FF         36  NEGONE    equ $FF
0800         37          ;
0000         38  TEXTMODE  equ $00
0001         39  GRPHMODE  equ $01
0002         40  TX80MODE  equ $02
0003         41  LV80MODE  equ $03
0800         42          ;
0000         43  NORMDISP  equ $00
0001         44  INVRDISP  equ $01
0800         45          ;
0000         46  INITSCRN  equ $00
0001         47  HOMESCRN  equ $01
0800         48          ;
0000         49  EOLCLR    equ $00
0001         50  EOPCLR    equ $01
0800         51          ;
0000         52  DIRECT    equ $00
0001         53  INDIRECT  equ $01
0800         54          ;
0000         55  NOPAD     equ $00
0020         56  HIGHLOW   equ $20
0040         57  ZEROPAD   equ $40
0080         58  SPCPAD    equ $80
0800         59          ;
0004         60  NEXTLINE  equ $04
```

```
0007          61  CHARCELL equ $07
000F          62  PCMDMASK equ $0F
000F          63  NIBLMASK equ $0F
001F          64  CVMASK   equ $1F
0028          65  MAXWDTH  equ $28
0050          66  MAXCH    equ $50
0060          67  MINCV    equ $60
007F          68  INVRMASK equ $7F
0080          69  ASCIFLAG equ $80
00DF          70  LWRMASK  equ $DF
00E0          71  LWRCASE  equ $E0
0800          72  ;
0050          73  RTNCMD   equ $50
0051          74  MODECMD  equ $51
0052          75  DISPCMD  equ $52
0053          76  SCRNCMD  equ $53
0054          77  CLRCMD   equ $54
0055          78  CNTRCMD  equ $55
0056          79  BUFRCMD  equ $56
0057          80  NIBLCMD  equ $57
0058          81  BYT1CMD  equ $58
0059          82  BYT2CMD  equ $59
005A          83  BYTNCMD  equ $5A
005B          84  ADRCMD   equ $5B
005C          85  DEC1CMD  equ $5C
005D          86  DEC2CMD  equ $5D
005E          87  DEC3CMD  equ $5E
005F          88  DECNCMD  equ $5F
0800          89  ;
0084          90  CTRLD    equ $84
0087          91  BELLCHAR equ $87
0088          92  LARROW   equ $88
008A          93  DARROW   equ $8A
008B          94  UARROW   equ $8B
008D          95  RETURN   equ $8D
0091          96  CTRLQ    equ $91
0095          97  RARROW   equ $95
009B          98  ESCAPE   equ $9B
00A0          99  SPACE    equ $A0
00A5          100 PERCENT  equ $A5
00AD          101 MINUS    equ $AD
00AE          102 PERIOD   equ $AE
00BF          103 QUESTION equ $BF
00FC          104 BAR      equ $FC
00FF          105 DELETE   equ $FF
0800          106 ;
0100          107 STACK    equ $100
0100          108 PAGESIZE equ $100
0800          109 ;
03D0          110 DOSWARM  equ $3D0
03D3          111 DOSCOLD  equ $3D3
03D6          112 CALLFM   equ $3D6
03D9          113 CALLRWTS equ $3D9
03DC          114 GETFMCB  equ $3DC
03E1          115 RDVSNADR equ $3E1
03EA          116 HOOKDOS  equ $3EA
03E8          117 RDCLKADR equ $3E8
03ED          118 PRTERADR  equ $3ED
0800          119 ;
0900          120 PAGE09   equ $0900
0800          121 ;
```

```
BFF8      122  INITDOS    equ  $BFF8
BFFB      123  DISKTBL   equ  $BFFB
0800      124  ;
C000      125  KEY       equ  $C000
C010      126  CLRKEY    equ  $C010
0800      127  ;
C050      128  TXTCLR    equ  $C050
C051      129  TXTSET    equ  $C051
C052      130  MIXCLR    equ  $C052
C054      131  LOWSCR    equ  $C054
C057      132  HIRES     equ  $C057
0800      133  ;
F941      134  PRNTAX    equ  $F941
FB2F      135  INIT      equ  $FB2F
FC22      136  VTAB      equ  $FC22
FC42      137  CLREOP    equ  $FC42
FC58      138  HOME      equ  $FC58
FC9C      139  CLREOL    equ  $FC9C
FD8E      140  CROUT     equ  $FD8E
FDDA      141  PRBYTE    equ  $FDDA
FDE3      142  PRHEX     equ  $FDE3
FDED      143  COUT      equ  $FDED
FE95      144  OUTPORT   equ  $FE95
FF3A      145  BELL      equ  $FF3A
0800      146  ;
0800      147  ;
0800      148          icl  "PROGRAM1.L"
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LLOAD PROGRAM1.L,A$4000
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```

0800          1          ttl "PROGRAM Source Code, PROGRAM1.L"
0800          2          ;
0800          3          ;
0800          4          ; PROGRAM1.L
0800          5          ;
0800          6          ;
0000          7  DISPLAY equ TEXTMODE
0800          8  ;DISPLAY equ GRPHMODE
0800          9  ;DISPLAY equ TX80MODE
0800         10          ;
0800         11          ;
0900         12          org PAGE09
0900         13          obj PAGE09
0900         14          usr
0900         15          ;
0900         16          ;
0900 BA       17          tsx
0901 8A       18          txa
0902 48       19          pha
0903 20 8E FD  20          jsr CROUT
0906 68       21          pla
0907 20 DA FD  22          jsr PRBYTE
090A 20 8E FD  23          jsr CROUT
090D 20 7B 12  24          jsr GETKEY
0910         25          ;
0910 20 2B 13  26          jsr PRINT
0913         27          .if DISPLAY=TEXTMODE
0913 51 00      28          byt MODECMD,TEXTMODE
0915         29          .fi
0915         30          .if DISPLAY=GRPHMODE
0915         31          byt RETURN
0915         32          byt MODECMD,GRPHMODE
0915         33          .fi
0915         34          .if DISPLAY=TX80MODE
0915         35          byt MODECMD,TX80MODE
0915         36          .fi
0915 52 00      37          byt DISPCMD,NORMDISP
0917 53 00      38          byt SCRNCMD,INITSCRN
0919 53 01      39          byt SCRNCMD,HOMESCRN
091B 50         40          byt RTNCMD
091C         41          ;
091C 20 A8 0E   42          jsr TESTVAL
091F         43          ;
091F 20 45 09   44          jsr SHOWVAL
0922         45          ;
0922         46  QUIT:
0922 20 2B 13   47          jsr PRINT
0925         48          .if DISPLAY=GRPHMODE
0925         49          byt MODECMD,TEXTMODE
0925         50          .fi
0925         51          .if DISPLAY=TX80MODE
0925         52          byt MODECMD,LV80MODE
0925         53          .fi
0925 52 00      54          byt DISPCMD,NORMDISP
0927 53 00      55          byt SCRNCMD,INITSCRN
0929 8D         56          byt RETURN
092A 53 01      57          byt SCRNCMD,HOMESCRN
092C 50         58          byt RTNCMD
092D         59          ;
092D A9 A5      60          lda #PERCENT

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```
092F 85 33      61      sta PROMPT
0931           62      ;
0931 A9 00      63      lda #ZERO
0933 85 76      64      sta ASRUN
0935 85 D8      65      sta ASONERR
0937           66      ;
0937 BA        67      tsx
0938 8A        68      txa
0939 20 DA FD   69      jsr PRBYTE
093C           70      ;
093C 20 8E FD   71      jsr CROUT
093F           72      ;
093F 20 EA 03   73      jsr HOOKDOS
0942           74      ;
0942 4C D3 03   75      jmp DOSCOLD
0945           76      ;
0945           77      ;
0945           78      SHOWVAL:
0945 A9 D8      79      lda #"X"
0947 8D 52 16   80      sta CHARBUFR
094A           81      ;
094A 20 2B 13   82      jsr PRINT
094D 53 01      83      byt SCRNCMD,HOMESCRN
094F 55         84      byt CNTRCMD
0950 D4 E8 E9   85      asc "This is a test of PRINT"
0953 F3 A0 E9
0956 F3 A0 E1
0959 A0 F4 E5
095C F3 F4 A0
095F EF E6 A0
0962 D0 D2 C9
0965 CE D4
0967 8D 8D      86      byt RETURN,RETURN
0969 AA AA AA   87      asc "*** Start PRNTBUFR call ***"
096C A0 D3 F4
096F E1 F2 F4
0972 A0 D0 D2
0975 CE D4 C2
0978 D5 C6 D2
097B A0 E3 E1
097E EC EC A0
0981 AA AA AA
0984 8D         88      byt RETURN
0985 10         89      hex 10
0986 56 00      90      byt BUFRCMD,DIRECT
0988 78 16      91      adr TESTMSG
098A 8D         92      byt RETURN
098B 08         93      hex 08
098C 56 00      94      byt BUFRCMD,DIRECT
098E 52 16      95      adr CHARBUFR
0990 8D         96      byt RETURN
0991 AA AA AA   97      asc "*** End PRNTBUFR call ***"
0994 A0 C5 EE
0997 E4 A0 D0
099A D2 CE D4
099D C2 D5 C6
09A0 D2 A0 E3
09A3 E1 EC EC
09A6 A0 AA AA
09A9 AA
09AA 8D 8D 50   98      byt RETURN,RETURN,RTNCMD
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```

09AD          99      ;
09AD A9 EA      100      lda #$EA
09AF 8D BA 15    101      sta NUM
09B2          102      ;
09B2 20 E3 FD    103      jsr PRHEX
09B5          104      ;
09B5 20 2B 13    105      jsr PRINT
09B8 8D          106      byt RETURN
09B9 AA AA AA    107      asc "*** Start PRNTNIBL call ***"
09BC A0 D3 F4
09BF E1 F2 F4
09C2 A0 D0 D2
09C5 CE D4 CE
09C8 C9 C2 CC
09CB A0 E3 E1
09CE EC EC A0
09D1 AA AA AA
09D4 8D 57      108      byt RETURN,NIBLCMD
09D6 BA 15      109      adr NUM
09D8 8D          110      byt RETURN
09D9 AA AA AA    111      asc "*** End PRNTNIBL call ***"
09DC A0 C5 EE
09DF E4 A0 D0
09E2 D2 CE D4
09E5 CE C9 C2
09E8 CC A0 E3
09EB E1 EC EC
09EE A0 AA AA
09F1 AA
09F2 8D 8D 50    112      byt RETURN,RETURN,RTNCMD
09F5          113      ;
09F5 A9 A3      114      lda #$A3
09F7 8D BA 15    115      sta NUM
09FA          116      ;
09FA 20 DA FD    117      jsr PRBYTE
09FD          118      ;
09FD 20 2B 13    119      jsr PRINT
0A00 8D          120      byt RETURN
0A01 AA AA AA    121      asc "*** Start PRNT1BYT call ***"
0A04 A0 D3 F4
0A07 E1 F2 F4
0A0A A0 D0 D2
0A0D CE D4 B1
0A10 C2 D9 D4
0A13 A0 E3 E1
0A16 EC EC A0
0A19 AA AA AA
0A1C 8D 58      122      byt RETURN,BYT1CMD
0A1E BA 15      123      adr NUM
0A20 8D          124      byt RETURN
0A21 AA AA AA    125      asc "*** End PRNT1BYT call ***"
0A24 A0 C5 EE
0A27 E4 A0 D0
0A2A D2 CE D4
0A2D B1 C2 D9
0A30 D4 A0 E3
0A33 E1 EC EC
0A36 A0 AA AA
0A39 AA
0A3A 8D 8D 50    126      byt RETURN,RETURN,RTNCMD
0A3D          127      ;

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0A3D A9 56      128      lda #$56
0A3F 8D BA 15   129      sta NUM
0A42           130      ;
0A42 20 DA FD   131      jsr PRBYTE
0A45           132      ;
0A45 A9 78      133      lda #$78
0A47 8D BB 15   134      sta NUM+1
0A4A           135      ;
0A4A 20 DA FD   136      jsr PRBYTE
0A4D           137      ;
0A4D 20 2B 13   138      jsr PRINT
0A50 8D         139      byt RETURN
0A51 AA AA AA   140      asc "*** Start PRNT2BYT call ***"
0A54 A0 D3 F4
0A57 E1 F2 F4
0A5A A0 D0 D2
0A5D CE D4 B2
0A60 C2 D9 D4
0A63 A0 E3 E1
0A66 EC EC A0
0A69 AA AA AA
0A6C 8D 59      141      byt RETURN,BYT2CMD
0A6E BA 15      142      adr NUM
0A70 8D         143      byt RETURN
0A71 AA AA AA   144      asc "*** End PRNT2BYT call ***"
0A74 A0 C5 EE
0A77 E4 A0 D0
0A7A D2 CE D4
0A7D B2 C2 D9
0A80 D4 A0 E3
0A83 E1 EC EC
0A86 A0 AA AA
0A89 AA
0A8A 8D 8D 50   145      byt RETURN,RETURN,RTNCMD
0A8D           146      ;
0A8D 20 2B 13   147      jsr PRINT
0A90 8D         148      byt RETURN
0A91 D0 F2 E5   149      asc "Press any key to continue  "
0A94 F3 F3 A0
0A97 E1 EE F9
0A9A A0 EB E5
0A9D F9 A0 F4
0AA0 EF A0 E3
0AA3 EF EE F4
0AA6 E9 EE F5
0AA9 E5 A0 A0
0AAC 50         150      byt RTNCMD
0AAD           151      ;
0AAD 20 7B 12   152      jsr GETKEY
0AB0           153      ;
0AB0 20 2B 13   154      jsr PRINT
0AB3 53 01      155      byt SCRNCMD,HOMESCRN
0AB5 50         156      byt RTNCMD
0AB6           157      ;
0AB6 A9 FE      158      lda #$FE
0AB8 8D BA 15   159      sta NUM
0ABB           160      ;
0ABB 20 DA FD   161      jsr PRBYTE
0ABE           162      ;
0ABE A9 DC      163      lda #$DC
0AC0 8D BB 15   164      sta NUM+1

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0AC3      165 ;
0AC3 20 DA FD 166      jsr PRBYTE
0AC6      167 ;
0AC6 A9 BA 168      lda #$BA
0AC8 8D BC 15 169      sta NUM+2
0ACB      170 ;
0ACB 20 DA FD 171      jsr PRBYTE
0ACE      172 ;
0ACE A9 98 173      lda #$98
0AD0 8D BD 15 174      sta NUM+3
0AD3      175 ;
0AD3 20 DA FD 176      jsr PRBYTE
0AD6      177 ;
0AD6 20 2B 13 178      jsr PRINT
0AD9 8D 179      byt RETURN
0ADA AA AA AA 180      asc "*** Start PRNTNBYT call ***"
0ADD A0 D3 F4
0AE0 E1 F2 F4
0AE3 A0 D0 D2
0AE6 CE D4 CE
0AE9 C2 D9 D4
0AEC A0 E3 E1
0AEF EC EC A0
0AF2 AA AA AA
0AF5 8D 181      byt RETURN
0AF6 5A 04 182      byt BYTNCMD,4
0AF8 BA 15 183      adr NUM
0AFA 8D 184      byt RETURN
0AFB AA AA AA 185      asc "*** End PRNTNBYT call ***"
0AFE A0 C5 EE
0B01 E4 A0 D0
0B04 D2 CE D4
0B07 CE C2 D9
0B0A D4 A0 E3
0B0D E1 EC EC
0B10 A0 AA AA
0B13 AA
0B14 8D 8D 50 186      byt RETURN,RETURN,RTNCMD
0B17      187 ;
0B17 A9 EF 188      lda #$EF
0B19 8D BA 15 189      sta NUM
0B1C      190 ;
0B1C 20 DA FD 191      jsr PRBYTE
0B1F      192 ;
0B1F A9 CD 193      lda #$CD
0B21 8D BB 15 194      sta NUM+1
0B24      195 ;
0B24 20 DA FD 196      jsr PRBYTE
0B27      197 ;
0B27 20 2B 13 198      jsr PRINT
0B2A 8D 199      byt RETURN
0B2B AA AA AA 200      asc "*** Start PRNTADR call ***"
0B2E A0 D3 F4
0B31 E1 F2 F4
0B34 A0 D0 D2
0B37 CE D4 C1
0B3A C4 D2 A0
0B3D E3 E1 EC
0B40 EC A0 AA
0B43 AA AA
0B45 8D 201      byt RETURN

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0B46 5B 01      202      byt ADRCMD,INDIRECT
0B48 BA 15      203      adr NUM
0B4A 8D         204      byt RETURN
0B4B AA AA AA   205      asc "*** End PRNTADR call ***"
0B4E A0 C5 EE
0B51 E4 A0 D0
0B54 D2 CE D4
0B57 C1 C4 D2
0B5A A0 E3 E1
0B5D EC EC A0
0B60 AA AA AA
0B63 8D 8D 50   206      byt RETURN,RETURN,RTNCMD
0B66           207      ;
0B66 20 2B 13   208      jsr PRINT
0B69 8D         209      byt RETURN
0B6A D0 F2 E5   210      asc "Press any key to continue  "
0B6D F3 F3 A0
0B70 E1 EE F9
0B73 A0 EB E5
0B76 F9 A0 F4
0B79 EF A0 E3
0B7C EF EE F4
0B7F E9 EE F5
0B82 E5 A0 A0
0B85 50         211      byt RTNCMD
0B86           212      ;
0B86 20 7B 12   213      jsr GETKEY
0B89           214      ;
0B89 20 2B 13   215      jsr PRINT
0B8C 53 01      216      byt SCRNCMD,HOMESCRN
0B8E 50         217      byt RTNCMD
0B8F           218      ;
0B8F A9 B7      219      lda #$B7
0B91 8D BA 15   220      sta NUM
0B94           221      ;
0B94 20 DA FD   222      jsr PRBYTE
0B97           223      ;
0B97 20 2B 13   224      jsr PRINT
0B9A 8D         225      byt RETURN
0B9B AA AA AA   226      asc "*** Start PRNT1DEC call ***"
0B9E A0 D3 F4
0BA1 E1 F2 F4
0BA4 A0 D0 D2
0BA7 CE D4 B1
0BAA C4 C5 C3
0BAD A0 E3 E1
0BB0 EC EC A0
0BB3 AA AA AA
0BB6 8D 5C      227      byt RETURN,DEC1CMD
0BB8 BA 15      228      adr NUM
0BBA 8D         229      byt RETURN
0BBB AA AA AA   230      asc "*** End PRNT1DEC call ***"
0BBE A0 C5 EE
0BC1 E4 A0 D0
0BC4 D2 CE D4
0BC7 B1 C4 C5
0BCA C3 A0 E3
0BCD E1 EC EC
0BD0 A0 AA AA
0BD3 AA
0BD4 8D 8D 50   231      byt RETURN,RETURN,RTNCMD

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0BD7          232 ;
0BD7 A9 A9     233      lda #$A9
0BD9 8D BA 15   234      sta NUM
0BDC          235 ;
0BDC 20 DA FD   236      jsr PRBYTE
0BDF          237 ;
0BDF 20 2B 13   238      jsr PRINT
0BE2 8D         239      byt RETURN
0BE3 AA AA AA   240      asc "*** Start PRNT2DEC call ***"
0BE6 A0 D3 F4
0BE9 E1 F2 F4
0BEC A0 D0 D2
0BEF CE D4 B2
0BF2 C4 C5 C3
0BF5 A0 E3 E1
0BF8 EC EC A0
0BFB AA AA AA
0BFE 8D 5D      241      byt RETURN,DEC2CMD
0C00 BA 15      242      adr NUM
0C02 8D         243      byt RETURN
0C03 AA AA AA   244      asc "*** End PRNT2DEC call ***"
0C06 A0 C5 EE
0C09 E4 A0 D0
0C0C D2 CE D4
0C0F B2 C4 C5
0C12 C3 A0 E3
0C15 E1 EC EC
0C18 A0 AA AA
0C1B AA
0C1C 8D 8D 50   245      byt RETURN,RETURN,RTNCMD
0C1F          246 ;
0C1F A9 D9      247      lda #$D9
0C21 8D BA 15   248      sta NUM
0C24          249 ;
0C24 20 DA FD   250      jsr PRBYTE
0C27          251 ;
0C27 20 2B 13   252      jsr PRINT
0C2A 8D         253      byt RETURN
0C2B AA AA AA   254      asc "*** Start PRNT3DEC call ***"
0C2E A0 D3 F4
0C31 E1 F2 F4
0C34 A0 D0 D2
0C37 CE D4 B3
0C3A C4 C5 C3
0C3D A0 E3 E1
0C40 EC EC A0
0C43 AA AA AA
0C46 8D 5E      255      byt RETURN,DEC3CMD
0C48 BA 15      256      adr NUM
0C4A 8D         257      byt RETURN
0C4B AA AA AA   258      asc "*** End PRNT3DEC call ***"
0C4E A0 C5 EE
0C51 E4 A0 D0
0C54 D2 CE D4
0C57 B3 C4 C5
0C5A C3 A0 E3
0C5D E1 EC EC
0C60 A0 AA AA
0C63 AA
0C64 8D 8D 50   259      byt RETURN,RETURN,RTNCMD
0C67          260 ;

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0C67 20 2B 13      261      jsr PRINT
0C6A 8D            262      byt RETURN
0C6B D0 F2 E5      263      asc "Press any key to continue  "
0C6E F3 F3 A0
0C71 E1 EE F9
0C74 A0 EB E5
0C77 F9 A0 F4
0C7A EF A0 E3
0C7D EF EE F4
0C80 E9 EE F5
0C83 E5 A0 A0
0C86 50            264      byt RTNCMD
0C87              265      ;
0C87 20 7B 12      266      jsr GETKEY
0C8A              267      ;
0C8A 20 2B 13      268      jsr PRINT
0C8D 53 01          269      byt SCRNCMD,HOMESCRN
0C8F 50            270      byt RTNCMD
0C90              271      ;
0C90 20 2B 13      272      jsr PRINT
0C93 AA AA AA      273      asc "*** Start PRNTNDEC (NOPAD) call ***"
0C96 A0 D3 F4
0C99 E1 F2 F4
0C9C A0 D0 D2
0C9F CE D4 CE
0CA2 C4 C5 C3
0CA5 A0 A8 CE
0CA8 CF D0 C1
0CAB C4 A9 A0
0CAE E3 E1 EC
0CB1 EC A0 AA
0CB4 AA AA
0CB6 8D            274      byt RETURN
0CB7 5F 00          275      byt DECNCMD,NOPAD
0CB9 BE 15          276      adr VAL0
0CBB A0            277      asc " "
0CBC 5F 00          278      byt DECNCMD,NOPAD
0CBE C0 15          279      adr VAL1
0CC0 A0            280      asc " "
0CC1 5F 00          281      byt DECNCMD,NOPAD
0CC3 C2 15          282      adr VAL2
0CC5 A0            283      asc " "
0CC6 5F 00          284      byt DECNCMD,NOPAD
0CC8 C4 15          285      adr VAL3
0CCA A0            286      asc " "
0CCB 5F 00          287      byt DECNCMD,NOPAD
0CCD C6 15          288      adr VAL4
0CCF A0            289      asc " "
0CD0 5F 00          290      byt DECNCMD,NOPAD
0CD2 C8 15          291      adr VAL5
0CD4 8D            292      byt RETURN
0CD5 AA AA AA      293      asc "*** End PRNTNDEC (NOPAD) call ***"
0CD8 A0 C5 EE
0CDB E4 A0 D0
0CDE D2 CE D4
0CE1 CE C4 C5
0CE4 C3 A0 A8
0CE7 CE CF D0
0CEA C1 C4 A9
0CED A0 E3 E1
0CF0 EC EC A0

```

```

0CF3 AA AA AA
0CF6 8D 8D 50      294      byt RETURN,RETURN,RTNCMD
0CF9              295      ;
0CF9 20 2B 13      296      jsr PRINT
0CFC AA AA AA      297      asc "*** Start PRNTNDEC (SPCPAD) call ***"
0CFF A0 D3 F4
0D02 E1 F2 F4
0D05 A0 D0 D2
0D08 CE D4 CE
0D0B C4 C5 C3
0D0E A0 A8 D3
0D11 D0 C3 D0
0D14 C1 C4 A9
0D17 A0 E3 E1
0D1A EC EC A0
0D1D AA AA AA
0D20 8D              298      byt RETURN
0D21 5F 80          299      byt DECNCMD,SPCPAD
0D23 BE 15          300      adr VAL0
0D25 A0              301      asc " "
0D26 5F 80          302      byt DECNCMD,SPCPAD
0D28 C0 15          303      adr VAL1
0D2A A0              304      asc " "
0D2B 5F 80          305      byt DECNCMD,SPCPAD
0D2D C2 15          306      adr VAL2
0D2F A0              307      asc " "
0D30 5F 80          308      byt DECNCMD,SPCPAD
0D32 C4 15          309      adr VAL3
0D34 A0              310      asc " "
0D35 5F 80          311      byt DECNCMD,SPCPAD
0D37 C6 15          312      adr VAL4
0D39 A0              313      asc " "
0D3A 5F 80          314      byt DECNCMD,SPCPAD
0D3C C8 15          315      adr VAL5
0D3E 8D              316      byt RETURN
0D3F AA AA AA      317      asc "*** End PRNTNDEC (SPCPAD) call ***"
0D42 A0 C5 EE
0D45 E4 A0 D0
0D48 D2 CE D4
0D4B CE C4 C5
0D4E C3 A0 A8
0D51 D3 D0 C3
0D54 D0 C1 C4
0D57 A9 A0 E3
0D5A E1 EC EC
0D5D A0 AA AA
0D60 AA
0D61 8D 8D 50      318      byt RETURN,RETURN,RTNCMD
0D64              319      ;
0D64 20 2B 13      320      jsr PRINT
0D67 AA AA AA      321      asc "*** Start PRNTNDEC (ZEROPAD) call ***"
0D6A A0 D3 F4
0D6D E1 F2 F4
0D70 A0 D0 D2
0D73 CE D4 CE
0D76 C4 C5 C3
0D79 A0 A8 DA
0D7C C5 D2 CF
0D7F D0 C1 C4
0D82 A9 A0 E3
0D85 E1 EC EC

```

```

0D88 A0 AA AA
0D8B AA
0D8C 8D          322      byt RETURN
0D8D 5F 40       323      byt DECNCMD,ZEROPAD
0D8F BE 15       324      adr VAL0
0D91 A0          325      asc " "
0D92 5F 40       326      byt DECNCMD,ZEROPAD
0D94 C0 15       327      adr VAL1
0D96 A0          328      asc " "
0D97 5F 40       329      byt DECNCMD,ZEROPAD
0D99 C2 15       330      adr VAL2
0D9B A0          331      asc " "
0D9C 5F 40       332      byt DECNCMD,ZEROPAD
0D9E C4 15       333      adr VAL3
0DA0 A0          334      asc " "
0DA1 5F 40       335      byt DECNCMD,ZEROPAD
0DA3 C6 15       336      adr VAL4
0DA5 A0          337      asc " "
0DA6 5F 40       338      byt DECNCMD,ZEROPAD
0DA8 C8 15       339      adr VAL5
0DAA 8D          340      byt RETURN
0DAB AA AA AA    341      asc "*** End PRNTNDEC (ZEROPAD) call ***"
0DAE A0 C5 EE
0DB1 E4 A0 D0
0DB4 D2 CE D4
0DB7 CE C4 C5
0DBA C3 A0 A8
0DBD DA C5 D2
0DC0 CF D0 C1
0DC3 C4 A9 A0
0DC6 E3 E1 EC
0DC9 EC A0 AA
0DCC AA AA
0DCE 8D 8D 8D    342      byt RETURN,RETURN,RETURN
0DD1 D0 F2 E5    343      asc "Press any key to continue "
0DD4 F3 F3 A0
0DD7 E1 EE F9
0DDA A0 EB E5
0DDD F9 A0 F4
0DE0 EF A0 E3
0DE3 EF EE F4
0DE6 E9 EE F5
0DE9 E5 A0 A0
0DEC 50          344      byt RTNCMD
0DED            345      ;
0DED 20 7B 12    346      jsr GETKEY
0DF0            347      ;
0DF0 20 2B 13    348      jsr PRINT
0DF3 53 01       349      byt SCRNCMD,HOMESCRN
0DF5 8D          350      byt RETURN
0DF6 50          351      byt RTNCMD
0DF7            352      ;
0DF7 A9 A0       353      lda #SPACE
0DF9 8D 52 16    354      sta CHARBUFR
0DFC            355      ;
0DFC A2 10       356      ^1  ldx #16
0DFE            357      ;
0DFE 20 2B 13    358      ^2  jsr PRINT
0E01 56 00       359      byt BUFRCMD,DIRECT
0E03 52 16       360      adr CHARBUFR
0E05 A0          361      asc " "

```

```
0E06 50          362          byt RTNCMD
0E07          363      ;
0E07 EE 52 16    364          inc CHARBUFR
0E0A F0 0C       365          beq >3
0E0C          366      ;
0E0C CA         367          dex
0E0D D0 EF       368          bne <2
0E0F          369      ;
0E0F 20 2B 13    370          jsr PRINT
0E12 8D 8D       371          byt RETURN,RETURN
0E14 50          372          byt RTNCMD
0E15          373      ;
0E15 4C FC 0D    374          jmp <1
0E18          375      ;
0E18 20 2B 13    376      ^3      jsr PRINT
0E1B 8D 8D 8D    377          byt RETURN,RETURN,RETURN
0E1E D4 E8 E9    378          asc "This is a test of a very long line to verify
that line wrapping is done correctly in all display modes."
0E21 F3 A0 E9
0E24 F3 A0 E1
0E27 A0 F4 E5
0E2A F3 F4 A0
0E2D EF E6 A0
0E30 E1 A0 F6
0E33 E5 F2 F9
0E36 A0 EC EF
0E39 EE E7 A0
0E3C EC E9 EE
0E3F E5 A0 F4
0E42 EF A0 F6
0E45 E5 F2 E9
0E48 E6 F9 A0
0E4B F4 E8 E1
0E4E F4 A0 EC
0E51 E9 EE E5
0E54 A0 F7 F2
0E57 E1 F0 F0
0E5A E9 EE E7
0E5D A0 E9 F3
0E60 A0 E4 EF
0E63 EE E5 A0
0E66 E3 EF F2
0E69 F2 E5 E3
0E6C F4 EC F9
0E6F A0 E9 EE
0E72 A0 E1 EC
0E75 EC A0 E4
0E78 E9 F3 F0
0E7B EC E1 F9
0E7E A0 ED EF
0E81 E4 E5 F3
0E84 AE
0E85 8D 8D 8D    379          byt RETURN,RETURN,RETURN
0E88 D0 F2 E5    380          asc "Press any key to continue  "
0E8B F3 F3 A0
0E8E E1 EE F9
0E91 A0 EB E5
0E94 F9 A0 F4
0E97 EF A0 E3
0E9A EF EE F4
0E9D E9 EE F5
0EA0 E5 A0 A0
```

```

0EA3 50          381          byt RTNCMD
0EA4          382          ;
0EA4 20 7B 12    383          jsr GETKEY
0EA7          384          ;
0EA7 60          385          rts
0EA8          386          ;
0EA8          387          ;
0EA8          388          TESTVAL:
0EA8 20 2B 13    389          jsr PRINT
0EAB 53 01       390          byt SCRNCMD,HOMESCRN
0EAD 55          391          byt CNTRCMD
0EAE D4 E8 E9    392          asc "This is a test of Decimal Entry"
0EB1 F3 A0 E9
0EB4 F3 A0 E1
0EB7 A0 F4 E5
0EBA F3 F4 A0
0EBD EF E6 A0
0EC0 C4 E5 E3
0EC3 E9 ED E1
0EC6 EC A0 C5
0EC9 EE F4 F2
0ECC F9
0ECD 8D          393          byt RETURN
0ECE 50          394          byt RTNCMD
0ECF          395          ;
0ECF 20 2B 13    396          ^1      jsr PRINT
0ED2 8D 8D       397          byt RETURN,RETURN
0ED4 C5 EE F4    398          asc "Enter 2 dec:  "
0ED7 E5 F2 A0
0EDA B2 A0 E4
0EDD E5 E3 BA
0EE0 A0 A0
0EE2 0E          399          hex 0E
0EE3 50          400          byt RTNCMD
0EE4          401          ;
0EE4 20 5F 11    402          jsr GETDEC2
0EE7 90 18       403          bcc >2
0EE9          404          ;
0EE9 20 2B 13    405          jsr PRINT
0EEC 8D 8D       406          byt RETURN,RETURN
0EEE C5 F2 F2    407          asc "Error in entry."
0EF1 EF F2 A0
0EF4 E9 EE A0
0EF7 E5 EE F4
0EFA F2 F9 AE
0EFD 50          408          byt RTNCMD
0EFE          409          ;
0EFE 4C CF 0E    410          jmp <1
0F01          411          ;
0F01 20 2B 13    412          ^2      jsr PRINT
0F04 8D 8D       413          byt RETURN,RETURN
0F06 5B 01       414          byt ADRCMD,INDIRECT
0F08 08 16       415          adr DECVALS
0F0A 8D 8D       416          byt RETURN,RETURN
0F0C D6 E1 EC    417          asc "Value entered is:  "
0F0F F5 E5 A0
0F12 E5 EE F4
0F15 E5 F2 E5
0F18 E4 A0 E9
0F1B F3 BA A0
0F1E A0

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```

0F1F 5D          418          byt DEC2CMD
0F20 08 16       419          adr DECVALS
0F22 8D 8D       420          byt RETURN,RETURN
0F24 50          421          byt RTNCMD
0F25           422          ;
0F25 20 2B 13    423          ^3      jsr PRINT
0F28 8D 8D       424          byt RETURN,RETURN
0F2A C5 EE F4    425          asc "Enter 3 dec:  "
0F2D E5 F2 A0
0F30 B3 A0 E4
0F33 E5 E3 BA
0F36 A0 A0
0F38 0E          426          hex 0E
0F39 50          427          byt RTNCMD
0F3A           428          ;
0F3A 20 62 11    429          jsr GETDEC3
0F3D 90 18       430          bcc >4
0F3F           431          ;
0F3F 20 2B 13    432          jsr PRINT
0F42 8D 8D       433          byt RETURN,RETURN
0F44 C5 F2 F2    434          asc "Error in entry."
0F47 EF F2 A0
0F4A E9 EE A0
0F4D E5 EE F4
0F50 F2 F9 AE
0F53 50          435          byt RTNCMD
0F54           436          ;
0F54 4C 25 0F    437          jmp <3
0F57           438          ;
0F57 20 2B 13    439          ^4      jsr PRINT
0F5A 8D 8D       440          byt RETURN,RETURN
0F5C 5B 01       441          byt ADRCMD,INDIRECT
0F5E 08 16       442          adr DECVALS
0F60 8D 8D       443          byt RETURN,RETURN
0F62 D6 E1 EC    444          asc "Value entered is:  "
0F65 F5 E5 A0
0F68 E5 EE F4
0F6B E5 F2 E5
0F6E E4 A0 E9
0F71 F3 BA A0
0F74 A0
0F75 5F 00       445          byt DECNCMD,NOPAD
0F77 08 16       446          adr DECVALS
0F79 8D 8D       447          byt RETURN,RETURN
0F7B 50          448          byt RTNCMD
0F7C           449          ;
0F7C 20 2B 13    450          ^5      jsr PRINT
0F7F 8D 8D       451          byt RETURN,RETURN
0F81 C5 EE F4    452          asc "Enter 5 dec:  "
0F84 E5 F2 A0
0F87 B5 A0 E4
0F8A E5 E3 BA
0F8D A0 A0
0F8F 0E          453          hex 0E
0F90 50          454          byt RTNCMD
0F91           455          ;
0F91 20 65 11    456          jsr GETDEC5
0F94 90 18       457          bcc >6
0F96           458          ;
0F96 20 2B 13    459          jsr PRINT
0F99 8D 8D       460          byt RETURN,RETURN

```

```

0F9B C5 F2 F2      461      asc "Error in entry."
0F9E EF F2 A0
0FA1 E9 EE A0
0FA4 E5 EE F4
0FA7 F2 F9 AE
0FAA 50            462      byt RTNCMD
0FAB              463      ;
0FAB 4C 7C 0F      464      jmp <5
0FAE              465      ;
0FAE 20 2B 13      466      ^6      jsr PRINT
0FB1 8D 8D          467      byt RETURN,RETURN
0FB3 5B 01          468      byt ADRCMD,INDIRECT
0FB5 08 16          469      adr DECVALS
0FB7 8D 8D          470      byt RETURN,RETURN
0FB9 D6 E1 EC      471      asc "Value entered is:  "
0FBC F5 E5 A0
0FBF E5 EE F4
0FC2 E5 F2 E5
0FC5 E4 A0 E9
0FC8 F3 BA A0
0FCB A0
0FCC 5F 00          472      byt DECNCMD,NOPAD
0FCE 08 16          473      adr DECVALS
0FD0 8D 8D 8D      474      byt RETURN,RETURN,RETURN
0FD3 C4 EF EE      475      asc "Done with Decimal entry"
0FD6 E5 A0 F7
0FD9 E9 F4 E8
0FDC A0 C4 E5
0FDF E3 E9 ED
0FE2 E1 EC A0
0FE5 E5 EE F4
0FE8 F2 F9
0FEA 8D 8D 8D      476      byt RETURN,RETURN,RETURN
0FED D0 F2 E5      477      asc "Press any key to continue  "
0FF0 F3 F3 A0
0FF3 E1 EE F9
0FF6 A0 EB E5
0FF9 F9 A0 F4
0FFC EF A0 E3
0FFF EF EE F4
1002 E9 EE F5
1005 E5 A0 A0
1008 50            478      byt RTNCMD
1009              479      ;
1009 20 7B 12      480      jsr GETKEY
100C              481      ;
100C 20 2B 13      482      jsr PRINT
100F 53 01          483      byt SCRNCMD,HOMESCRN
1011 55            484      byt CNTRCMD
1012 D4 E8 E9      485      asc "This is a test of HEX entry"
1015 F3 A0 E9
1018 F3 A0 E1
101B A0 F4 E5
101E F3 F4 A0
1021 EF E6 A0
1024 C8 C5 D8
1027 A0 E5 EE
102A F4 F2 F9
102D 8D            486      byt RETURN
102E 50            487      byt RTNCMD
102F              488      ;

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```

102F 20 2B 13    489  ^7      jsr PRINT
1032 8D 8D      490      byt RETURN,RETURN
1034 C5 EE F4    491      asc "Enter 2 hex:  0x"
1037 E5 F2 A0
103A B2 A0 E8
103D E5 F8 BA
1040 A0 A0 B0
1043 F8
1044 10          492      hex 10
1045 50          493      byt RTNCMD
1046          494      ;
1046 20 4E 11    495      jsr GETHEX2
1049 90 18      496      bcc >8
104B          497      ;
104B 20 2B 13    498      jsr PRINT
104E 8D 8D      499      byt RETURN,RETURN
1050 C5 F2 F2    500      asc "Error in entry."
1053 EF F2 A0
1056 E9 EE A0
1059 E5 EE F4
105C F2 F9 AE
105F 50          501      byt RTNCMD
1060          502      ;
1060 4C 2F 10    503      jmp <7
1063          504      ;
1063 20 2B 13    505      ^8      jsr PRINT
1066 8D 8D      506      byt RETURN,RETURN
1068 D6 E1 EC    507      asc "Value entered is:  0x"
106B F5 E5 A0
106E E5 EE F4
1071 E5 F2 E5
1074 E4 A0 E9
1077 F3 BA A0
107A A0 B0 F8
107D 5A 04      508      byt BYTNCMD,4
107F 04 16      509      adr HEXVALS
1081 8D 8D      510      byt RETURN,RETURN
1083 50          511      byt RTNCMD
1084          512      ;
1084 20 2B 13    513      ^7      jsr PRINT
1087 8D 8D      514      byt RETURN,RETURN
1089 C5 EE F4    515      asc "Enter 4 hex:  0x"
108C E5 F2 A0
108F B4 A0 E8
1092 E5 F8 BA
1095 A0 A0 B0
1098 F8
1099 10          516      hex 10
109A 50          517      byt RTNCMD
109B          518      ;
109B 20 51 11    519      jsr GETHEX4
109E 90 18      520      bcc >8
10A0          521      ;
10A0 20 2B 13    522      jsr PRINT
10A3 8D 8D      523      byt RETURN,RETURN
10A5 C5 F2 F2    524      asc "Error in entry."
10A8 EF F2 A0
10AB E9 EE A0
10AE E5 EE F4
10B1 F2 F9 AE
10B4 50          525      byt RTNCMD

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```

10B5      526 ;
10B5 4C 84 10 527      jmp <7
10B8      528 ;
10B8 20 2B 13 529 ^8      jsr PRINT
10BB 8D 8D      530      byt RETURN,RETURN
10BD D6 E1 EC 531      asc "Value entered is: 0x"
10C0 F5 E5 A0
10C3 E5 EE F4
10C6 E5 F2 E5
10C9 E4 A0 E9
10CC F3 BA A0
10CF A0 B0 F8
10D2 5A 04      532      byt BYTNCMD,4
10D4 04 16      533      adr HEXVALS
10D6 8D 8D      534      byt RETURN,RETURN
10D8 50      535      byt RTNCMD
10D9      536 ;
10D9 20 2B 13 537 ^7      jsr PRINT
10DC 8D 8D      538      byt RETURN,RETURN
10DE C5 EE F4 539      asc "Enter 8 hex: 0x"
10E1 E5 F2 A0
10E4 B8 A0 E8
10E7 E5 F8 BA
10EA A0 A0 B0
10ED F8
10EE 10      540      hex 10
10EF 50      541      byt RTNCMD
10F0      542 ;
10F0 20 57 11 543      jsr GETHEX8
10F3 90 18      544      bcc >8
10F5      545 ;
10F5 20 2B 13 546      jsr PRINT
10F8 8D 8D      547      byt RETURN,RETURN
10FA C5 F2 F2 548      asc "Error in entry."
10FD EF F2 A0
1100 E9 EE A0
1103 E5 EE F4
1106 F2 F9 AE
1109 50      549      byt RTNCMD
110A      550 ;
110A 4C D9 10 551      jmp <7
110D      552 ;
110D 20 2B 13 553 ^8      jsr PRINT
1110 8D 8D      554      byt RETURN,RETURN
1112 D6 E1 EC 555      asc "Value entered is: 0x"
1115 F5 E5 A0
1118 E5 EE F4
111B E5 F2 E5
111E E4 A0 E9
1121 F3 BA A0
1124 A0 B0 F8
1127 5A 04      556      byt BYTNCMD,4
1129 04 16      557      adr HEXVALS
112B 8D 8D 8D 558      byt RETURN,RETURN,RETURN
112E D0 F2 E5 559      asc "Press any key to continue "
1131 F3 F3 A0
1134 E1 EE F9
1137 A0 EB E5
113A F9 A0 F4
113D EF A0 E3
1140 EF EE F4

```

```
1143 E9 EE F5
1146 E5 A0 A0
1149 50          560          byt RTNCMD
114A          561 ;
114A 20 7B 12    562          jsr GETKEY
114D          563 ;
114D 60          564          rts
114E          565 ;
114E          566 ;

BSAVE SEG01,A$0900,B,L$084E

114E          567          usr SEG01
114E          568 ;
114E          569 ;
114E          570          icl "INPUT.L"

LLOAD INPUT.L,A$4000
```

```
114E      1          ttl "PROGRAM Source Code, INPUT.L"
114E      2      ;
114E      3      ;
114E      4      ; INPUT.L
114E      5      ;
114E      6      ;
114E      7          obj PAGE09
114E      8          usr
114E      9      ;
114E     10      ;
114E     11  GETHEX2:
114E A9 02     12      lda #2
1150     13      ;
1150 2C 00 00  14          bit *-*
1153     15          dfs !-2
1151     16      ;
1151     17  GETHEX4:
1151 A9 04     18      lda #4
1153     19      ;
1153 2C 00 00  20          bit *-*
1156     21          dfs !-2
1154     22      ;
1154     23  GETHEX6:
1154 A9 06     24      lda #6
1156     25      ;
1156 2C 00 00  26          bit *-*
1159     27          dfs !-2
1157     28      ;
1157     29  GETHEX8:
1157 A9 08     30      lda #8
1159     31      ;
1159 38        32          sec
115A B0 0C     33          bcs >1
115C     34      ;
115C     35      ;
115C     36  GETDEC1:
115C A9 01     37      lda #1
115E     38      ;
115E 2C 00 00  39          bit *-*
1161     40          dfs !-2
115F     41      ;
115F     42  GETDEC2:
115F A9 02     43      lda #2
1161     44      ;
1161 2C 00 00  45          bit *-*
1164     46          dfs !-2
1162     47      ;
1162     48  GETDEC3:
1162 A9 03     49      lda #3
1164     50      ;
1164 2C 00 00  51          bit *-*
1167     52          dfs !-2
1165     53      ;
1165     54  GETDEC5:
1165 A9 05     55      lda #5
1167     56      ;
1167 18        57          clc
1168     58      ;
1168 08        59      ^1      php
1169     60      ;
```

```

1169 8D FA 15      61      sta NNUMS
116C              62      ;
116C A9 00        63      lda #ZERO
116E              64      ;
116E A0 0E        65      ldy #ENTRLEN-1
1170              66      ;
1170 99 FB 15      67      ^2      sta NENTRY,Y
1173              68      ;
1173 88           69      dey
1174 10 FA        70      bpl <2
1176              71      ;
1176 20 8F 12      72      NUMLOOP jsr READKEY
1179 90 03        73      bcc >3
117B              74      ;
117B 28           75      plp
117C              76      ;
117C 38           77      sec
117D              78      ;
117D 60           79      rts
117E              80      ;
117E D0 0A        81      ^3      bne >4
1180              82      ;
1180 AC FB 15      83      ldy NENTRY
1183 D0 4B        84      bne NUMPROC
1185              85      ;
1185 28           86      plp
1186              87      ;
1186 A9 00        88      lda #ZERO
1188              89      ;
1188 18           90      clc
1189              91      ;
1189 60           92      rts
118A              93      ;
118A C9 88        94      ^4      cmp #LARROW
118C F0 06        95      beq >5
118E              96      ;
118E C9 FF        97      cmp #DELETE
1190 D0 0F        98      bne >6
1192              99      ;
1192 A9 88       100      lda #LARROW
1194              101      ;
1194 AC FB 15     102      ^5      ldy NENTRY
1197 F0 DD       103      beq NUMLOOP
1199              104      ;
1199 20 A5 12     105      jsr PRNTCHAR
119C              106      ;
119C CE FB 15     107      dec NENTRY
119F 10 D5       108      bpl NUMLOOP      ; always taken
11A1              109      ;
11A1 C9 E0       110      ^6      cmp #LWRCASE
11A3 90 02       111      bcc >7
11A5              112      ;
11A5 29 DF       113      and #LWRMASK
11A7              114      ;
11A7 AC FB 15     115      ^7      ldy NENTRY
11AA CC FA 15     116      cpy NNUMS
11AD B0 C7       117      bcs NUMLOOP
11AF              118      ;
11AF AA          119      tax
11B0              120      ;
11B0 E9 AF       121      sbc #"0"-1

```

```

11B2 30 C2      122      bmi NUMLOOP
11B4           123      ;
11B4 C9 0A      124      cmp #10
11B6 90 0C      125      bcc >8
11B8           126      ;
11B8 28         127      plp
11B9 08         128      php
11BA           129      ;
11BA 90 BA      130      bcc NUMLOOP
11BC           131      ;
11BC E9 11      132      sbc #17
11BE           133      ;
11BE C9 06      134      cmp #6
11C0 B0 B4      135      bcs NUMLOOP
11C2           136      ;
11C2 69 0A      137      adc #10
11C4           138      ;
11C4 99 FC 15    139      ^8 sta NUMVALS,Y
11C7           140      ;
11C7 8A         141      txa
11C8           142      ;
11C8 20 A5 12    143      jsr PRNTCHAR
11CB           144      ;
11CB EE FB 15    145      inc NENTRY
11CE D0 A6      146      bne NUMLOOP      ; always taken
11D0           147      ;
11D0 28         148      NUMPROC plp
11D1 90 2F      149      bcc DECPROC
11D3           150      ;
11D3 CC FA 15    151      HEXPROC cpy NNUMS
11D6 B0 13      152      bcs >2
11D8           153      ;
11D8 A2 06      154      ldx #6
11DA           155      ;
11DA BD FC 15    156      ^1 lda NUMVALS,X
11DD 9D FD 15    157      sta NUMVALS+1,X
11E0           158      ;
11E0 CA         159      dex
11E1 10 F7      160      bpl <1
11E3           161      ;
11E3 A9 00      162      lda #ZERO
11E5 8D FC 15    163      sta NUMVALS
11E8           164      ;
11E8 C8         165      iny
11E9 D0 E8      166      bne HEXPROC
11EB           167      ;
11EB A2 06      168      ^2 ldx #6
11ED A0 03      169      ldy #3
11EF           170      ;
11EF BD FC 15    171      ^3 lda NUMVALS,X
11F2           172      ;
11F2 0A         173      asl
11F3 0A         174      asl
11F4 0A         175      asl
11F5 0A         176      asl
11F6           177      ;
11F6 1D FD 15    178      ora NUMVALS+1,X
11F9 99 04 16    179      sta HEXVALS,Y
11FC           180      ;
11FC CA         181      dex
11FD CA         182      dex

```

```

11FE          183 ;
11FE 88        184      dey
11FF 10 EE     185      bpl <3
1201          186 ;
1201 60        187      rts
1202          188 ;
1202 AE FB 15  189  DECPROC  ldx NENTRY
1205 CA        190      dex
1206          191 ;
1206 A0 00     192      ld y #ZERO
1208          193 ;
1208 BD FC 15  194  ^1      lda NUMVALS,X
120B F0 19     195      beq >3
120D          196 ;
120D AD 08 16  197  ^2      lda DECVALS
1210 79 48 16  198      adc DECTBL, Y
1213 8D 08 16  199      sta DECVALS
1216          200 ;
1216 AD 09 16  201      lda DECVALS+1
1219 79 4D 16  202      adc DECTBLH, Y
121C 8D 09 16  203      sta DECVALS+1
121F          204 ;
121F B0 09     205      bcs >4
1221          206 ;
1221 DE FC 15  207      dec NUMVALS,X
1224 D0 E7     208      bne <2
1226          209 ;
1226 C8        210  ^3      iny
1227          211 ;
1227 CA        212      dex
1228 10 DE     213      bpl <1
122A          214 ;
122A 60        215  ^4      rts
122B          216 ;
122B          217 ;
122B          218  SELECT:
122B 20 2B 13  219      jsr PRINT
122E 00 76     220      hex 0076
1230 54 01     221      byt CLRCMD,EOPCLR
1232 A0 D0 F2  222      asc " Press Any Key to Accept, ESC to Abort"
1235 E5 F3 F3
1238 A0 C1 EE
123B F9 A0 CB
123E E5 F9 A0
1241 F4 EF A0
1244 C1 E3 E3
1247 E5 F0 F4
124A AC A0 C5
124D D3 C3 A0
1250 F4 EF A0
1253 C1 E2 EF
1256 F2 F4
1258 50        223      byt RTNCMD
1259          224 ;
1259 90 20     225      bcc GETKEY          ; always taken
125B          226 ;
125B          227 ;
125B          228  PRESKEY1:
125B 20 2B 13  229      jsr PRINT
125E 00 76     230      hex 0076
1260 54 01     231      byt CLRCMD,EOPCLR

```

```

1262 50          232          byt RTNCMD
1263          233          ;
1263          234          ;          bcc PRESKEY          ; always taken
1263          235          ;
1263          236          ;
1263          237          PRESKEY2:
1263 20 2B 13    238          jsr PRINT
1266 00 77      239          hex 0077
1268 50        240          byt RTNCMD
1269          241          ;
1269          242          ;
1269          243          PRESKEY:
1269 20 2B 13    244          jsr PRINT
126C 55        245          byt CNTRCMD
126D D0 F2 E5   246          asc "Press Any Key"
1270 F3 F3 A0
1273 C1 EE F9
1276 A0 CB E5
1279 F9
127A 50        247          byt RTNCMD
127B          248          ;
127B          249          ;
127B          250          GETKEY:
127B 2C 10 C0    251          bit CLRKEY
127E          252          ;
127E AD 00 C0    253          ^1          lda KEY
1281          254          ;
1281 EA        255          nop
1282          256          ;
1282 10 FA        257          bpl <1
1284          258          ;
1284 2C 10 C0    259          bit CLRKEY
1287          260          ;
1287 C9 9B        261          cmp #ESCAPE
1289 F0 03        262          beq >1
128B          263          ;
128B C9 8D        264          cmp #RETURN
128D          265          ;
128D 18          266          clc
128E          267          ;
128E 60          268          ^1          rts
128F          269          ;
128F          270          ;
128F          271          READKEY:
128F 20 2B 13    272          jsr PRINT
1292 52 01        273          byt DISPCMD,INVRDISP
1294 A0          274          asc " "
1295 88          275          byt LARROW
1296 50          276          byt RTNCMD
1297          277          ;
1297 20 7B 12    278          jsr GETKEY
129A          279          ;
129A 08          280          php
129B          281          ;
129B 20 2B 13    282          jsr PRINT
129E 52 00        283          byt DISPCMD,NORMDISP
12A0 A0          284          asc " "
12A1 88          285          byt LARROW
12A2 50          286          byt RTNCMD
12A3          287          ;
12A3 28          288          plp

```

```

12A4          289 ;
12A4 60       290          rts
12A5          291 ;
12A5          292 ;
12A5          293 PRNTCHAR:
12A5 8D 52 16 294          sta CHARBUFR
12A8          295 ;
12A8 20 2B 13 296          jsr PRINT
12AB 56 00     297          byt BUFRCMD,DIRECT
12AD 52 16     298          adr CHARBUFR
12AF 50        299          byt RTNCMD
12B0          300 ;
12B0 60       301          rts
12B1          302 ;
12B1          303 ;
12B1          304 PRSPCHEX:
12B1 8D D1 15 305          sta SAVNUM
12B4          306 ;
12B4 20 2B 13 307          jsr PRINT
12B7 A0        308          asc " "
12B8 57        309          byt NIBLCMD
12B9 D1 15     310          adr SAVNUM
12BB 50        311          byt RTNCMD
12BC          312 ;
12BC 60       313          rts
12BD          314 ;
12BD          315 ;
12BD          316 SELCKEY:
12BD 20 7B 12 317          jsr GETKEY
12C0 B0 0D     318          bcs >3
12C2          319 ;
12C2 C9 88     320          cmp #LARROW
12C4 D0 01     321          bne >1
12C6          322 ;
12C6 CA        323          dex
12C7          324 ;
12C7 C9 95     325 ^1      cmp #RARROW
12C9 D0 01     326          bne >2
12CB          327 ;
12CB E8        328          inx
12CC          329 ;
12CC C9 8D     330 ^2      cmp #RETURN
12CE          331 ;
12CE 18        332          clc
12CF          333 ;
12CF 60        334 ^3      rts
12D0          335 ;
12D0          336 ;
12D0          337 SPLITHEX:
12D0 48        338          pha
12D1          339 ;
12D1 4A        340          lsr
12D2 4A        341          lsr
12D3 4A        342          lsr
12D4 4A        343          lsr
12D5          344 ;
12D5 20 DA 12 345          jsr ASCIHEX
12D8          346 ;
12D8 AA        347          tax
12D9          348 ;
12D9 68        349          pla

```

```
12DA      350      ;
12DA      351  ASCIIHEX:
12DA 29 0F      352      and #NIBLMASK
12DC      353      ;
12DC 09 B0      354      ora #"0"
12DE      355      ;
12DE C9 BA      356      cmp #"9"+1
12E0 90 02      357      bcc >1
12E2      358      ;
12E2 69 06      359      adc #6
12E4      360      ;
12E4 A8      361      ^1    tay
12E5      362      ;
12E5 60      363      rts
12E6      364      ;
12E6      365      ;
12E6      366  MAKEHEX:
12E6 A2 FF      367      ldx #NEGONE
12E8      368      ;
12E8 38      369      sec
12E9      370      ;
12E9 E8      371      ^1    inx
12EA      372      ;
12EA E9 0A      373      sbc #10
12EC B0 FB      374      bcs <1
12EE      375      ;
12EE 69 0A      376      adc #10
12F0      377      ;
12F0 8D D1 15   378      sta SAVNUM
12F3      379      ;
12F3 8A      380      txa
12F4      381      ;
12F4 0A      382      asl
12F5 0A      383      asl
12F6 0A      384      asl
12F7 0A      385      asl
12F8      386      ;
12F8 0D D1 15   387      ora SAVNUM
12FB      388      ;
12FB 60      389      rts
12FC      390      ;
12FC      391      ;
```

BSAVE SEG02,A\$0900,B,L\$01AE

```
12FC      392      usr SEG02
12FC      393      ;
12FC      394      ;
12FC      395      icl "PRINT.L"
```

LLOAD PRINT.L,A\$4000

```

12FC          1          ttl "PROGRAM Source Code, PRINT.L"
12FC          2          ;
12FC          3          ;
12FC          4          ; PRINT.L
12FC          5          ;
12FC          6          ;
12FC          7          obj PAGE09
12FC          8          usr
12FC          9          ;
12FC         10          ;
12FC         11          PRINTBUF:
12FC 8E 12 13   12          stx BUFRMOD
12FF 8C 13 13   13          sty BUFRMOD+1
1302          14          ;
1302 B0 06     15          bcs >1
1304          16          ;
1304 20 ED FD   17          jsr COUT
1307          18          ;
1307 4C 0D 13   19          jmp >2
130A          20          ;
130A 20 DA FD   21          ^1      jsr PRBYTE
130D          22          ;
130D 20 2B 13   23          ^2      jsr PRINT
1310 56 00     24          byt BUFRCMD,DIRECT
1312 6D 16     25          BUFRMOD adr UNKNOWN
1314 50        26          byt RTNCMD
1315          27          ;
1315 60        28          rts
1316          29          ;
1316          30          ;
1316          31          PRINTIME:
1316 84 FC     32          sty PRNTPTR
1318 85 FD     33          sta PRNTPTR+1
131A          34          ;
131A A0 05     35          ldy #DATELEN-1
131C          36          ;
131C B9 42 16   37          ^1      lda DATIMSEP,Y
131F 20 ED FD   38          jsr COUT
1322          39          ;
1322 B1 FC     40          lda (PRNTPTR),Y
1324 20 DA FD   41          jsr PRBYTE
1327          42          ;
1327 88        43          dey
1328 10 F2     44          bpl <1
132A          45          ;
132A 60        46          rts
132B          47          ;
132B          48          ;
132B          49          PRINT:
132B 8D 0B 14   50          sta PRNTSAVA+1
132E 8E 09 14   51          stx PRNTSAVX+1
1331 8C 07 14   52          sty PRNTSAVY+1
1334          53          ;
1334 68        54          pla
1335 85 FC     55          sta PRNTPTR
1337          56          ;
1337 68        57          pla
1338 85 FD     58          sta PRNTPTR+1
133A          59          ;
133A E6 FC     60          PRNTLOOP inc PRNTPTR

```

```

133C D0 02      61      bne >1
133E           62      ;
133E E6 FD      63      inc PRNTPTR+1
1340           64      ;
1340 A0 00      65      ^1      ldy #ZERO
1342           66      ;
1342 B1 FC      67      lda (PRNTPTR),Y
1344 10 10      68      bpl >3
1346           69      ;
1346 C9 A0      70      cmp #SPACE
1348 90 06      71      bcc >2
134A           72      ;
134A 20 A5 13   73      jsr PRNTOUT
134D           74      ;
134D 4C 3A 13   75      jmp PRNTLOOP
1350           76      ;
1350 20 A9 13   77      ^2      jsr PRNTOUT2
1353           78      ;
1353 4C 3A 13   79      jmp PRNTLOOP
1356           80      ;
1356 C9 50      81      ^3      cmp #MAXCH
1358 B0 04      82      bcs >4
135A           83      ;
135A 85 24      84      sta CH
135C           85      ;
135C 90 DC      86      bcc PRNTLOOP
135E           87      ;
135E C9 60      88      ^4      cmp #MINCV
1360 90 0A      89      bcc >5
1362           90      ;
1362 29 1F      91      and #CVMASK
1364 85 25      92      sta CV
1366           93      ;
1366 20 22 FC   94      PRNTMOD1 jsr VTAB
1369           95      ;
1369 4C 3A 13   96      jmp PRNTLOOP
136C           97      ;
136C 29 0F      98      ^5      and #PCMDMASK
136E AA        99      tax
136F          100      ;
136F BD CB 13  101      lda PRNTBL,X
1372 8D 82 13  102      sta PRNTMOD2+1
1375          103      ;
1375 BD DB 13  104      lda PRNTBLL,X
1378 8D A0 13  105      sta PRNTMOD3+1
137B          106      ;
137B BD EB 13  107      lda PRNTBLH,X
137E 8D A1 13  108      sta PRNTMOD3+2
1381          109      ;
1381 90 19      110      PRNTMOD2 bcc PRNTBR4
1383          111      ;
1383 C8         112      PRNTBR1 iny
1384          113      ;
1384 B1 FC      114      lda (PRNTPTR),Y
1386 8D CA 13   115      sta FRMTVAL
1389          116      ;
1389 C8         117      PRNTBR2 iny
138A          118      ;
138A B1 FC      119      lda (PRNTPTR),Y
138C 85 FA      120      sta DATAPTR
138E          121      ;

```

```

138E C8          122 PRNTBR3  iny
138F          123 ;
138F B1 FC      124          lda (PRNTPTR),Y
1391 85 FB      125          sta DATAPTR+1
1393          126 ;
1393 98          127          tya
1394          128 ;
1394 65 FC      129          adc PRNTPTR
1396 85 FC      130          sta PRNTPTR
1398 90 02      131          bcc PRNTBR4
139A          132 ;
139A E6 FD      133          inc PRNTPTR+1
139C          134 ;
139C 18          135 PRNTBR4  clc
139D          136 ;
139D A0 00      137          ldy #ZERO
139F          138 ;
139F 20 00 00    139 PRNTMOD3  jsr *-*
13A2          140 ;
13A2 4C 3A 13    141          jmp PRNTLOOP
13A5          142 ;
13A5          143 ;
13A5          144 PRNTOUT:
13A5 09 00      145 OUTMOD1  ora #ZERO
13A7 49 00      146 OUTMOD2  eor #ZERO
13A9          147 ;
13A9 4C ED FD    148 PRNTOUT2  jmp COUT
13AC          149 ;
13AC          150 ;
13AC          151 ; Notes on DISPCMD as index
13AC          152 ;
13AC          153 ; 0 - Normal display
13AC          154 ; 1 - Inverse display
13AC          155 ;
13AC 80 40      156 OUTTBL1  hex 8040          ; TEXT
13AE 80 00      157          hex 8000          ; GRPH
13B0 80 00      158          hex 8000          ; TX80
13B2          159 ;
13B2 00 C0      160 OUTTBL2  hex 00C0
13B4 00 80      161          hex 0080
13B6 00 00      162          hex 0000
13B8          163 ;
13B8 FF 3F      164 OUT80COL  hex FF3F
13BA          165 ;
13BA          166 ;
13BA 22 FC      167 VTABADRS  adr VTAB
13BC 0D 14      168          adr PRINTRTN
13BE 22 FC      169          adr VTAB
13C0          170 ;
13C0          171 ;
13C0 ED FD      172 OUTADRS  adr COUT
13C2 A2 15      173          adr PRNTGRPH
13C4 ED FD      174          adr COUT
13C6          175 ;
13C6 00          176 PRNTSAV  hex 00
13C7 00 00      177 PRNTNUM  hex 0000
13C9          178 ;
13C9          179 ;
13C9          180 ; Notes on MODEVAL and FRMTVAL
13C9          181 ;
13C9          182 ; 0 - 40 column TEXT mode

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```

13C9      183 ; 1 - GRAPHICS mode
13C9      184 ; 2 - 80 column TEXT mode
13C9      185 ; 3 - exit 80 TEXT, enter 40 TEXT
13C9      186 ;
13C9      187 ; 0x00 - no left padding
13C9      188 ; 0x20 - data in high/low order, otherwise low/high order
13C9      189 ; 0x40 - zero left padding
13C9      190 ; 0x80 - space left padding
13C9      191 ;
13C9 00    192 MODEVAL hex 00
13CA 00    193 FRMTVAL hex 00
13CB      194 ;
13CB      195 ;
13CB      196 ; Branch table of command routines.
13CB      197 ;
13CB      198 PRNTBL:
13CB 19    199      byt PRNTBR4-PRNTBR1 ; 50
13CC 0B    200      byt PRNTBR3-PRNTBR1 ; 51
13CD 0B    201      byt PRNTBR3-PRNTBR1 ; 52
13CE 0B    202      byt PRNTBR3-PRNTBR1 ; 53
13CF 0B    203      byt PRNTBR3-PRNTBR1 ; 54
13D0 19    204      byt PRNTBR4-PRNTBR1 ; 55
13D1 00    205      byt PRNTBR1-PRNTBR1 ; 56
13D2 06    206      byt PRNTBR2-PRNTBR1 ; 57
13D3 06    207      byt PRNTBR2-PRNTBR1 ; 58
13D4 06    208      byt PRNTBR2-PRNTBR1 ; 59
13D5 00    209      byt PRNTBR1-PRNTBR1 ; 5A
13D6 00    210      byt PRNTBR1-PRNTBR1 ; 5B
13D7 06    211      byt PRNTBR2-PRNTBR1 ; 5C
13D8 06    212      byt PRNTBR2-PRNTBR1 ; 5D
13D9 06    213      byt PRNTBR2-PRNTBR1 ; 5E
13DA 00    214      byt PRNTBR1-PRNTBR1 ; 5F
13DB      215 ;
13DB      216 ;
13DB      217 ; Address tables of command routines.
13DB      218 ;
13DB      219 PRNTBL:
13DB FB    220      byt PRNTRTN ; 50
13DC 0E    221      byt PRNTMODE ; 51
13DD 59    222      byt PRNTDISP ; 52
13DE 78    223      byt PRNTSCRN ; 53
13DF 88    224      byt PRNTCLR ; 54
13E0 92    225      byt PRNTCNTR ; 55
13E1 A4    226      byt PRNTBUFR ; 56
13E2 BF    227      byt PRNTNIBL ; 57
13E3 C8    228      byt PRNT1BYT ; 58
13E4 CB    229      byt PRNT2BYT ; 59
13E5 C4    230      byt PRNTNBYT ; 5A
13E6 D7    231      byt PRNTADR ; 5B
13E7 EF    232      byt PRNT1DEC ; 5C
13E8 F5    233      byt PRNT2DEC ; 5D
13E9 02    234      byt PRNT3DEC ; 5E
13EA 0C    235      byt PRNTNDEC ; 5F
13EB      236 ;
13EB      237 PRNTBLH:
13EB 13    238      hby PRNTRTN ; 50
13EC 14    239      hby PRNTMODE ; 51
13ED 14    240      hby PRNTDISP ; 52
13EE 14    241      hby PRNTSCRN ; 53
13EF 14    242      hby PRNTCLR ; 54
13F0 14    243      hby PRNTCNTR ; 55

```

```

13F1 14      244      hby PRNTBUFR      ; 56
13F2 14      245      hby PRNTNIBL      ; 57
13F3 14      246      hby PRNT1BYT      ; 58
13F4 14      247      hby PRNT2BYT      ; 59
13F5 14      248      hby PRNTNBYT      ; 5A
13F6 14      249      hby PRNTADR      ; 5B
13F7 14      250      hby PRNT1DEC      ; 5C
13F8 14      251      hby PRNT2DEC      ; 5D
13F9 15      252      hby PRNT3DEC      ; 5E
13FA 15      253      hby PRNTNDEC      ; 5F
13FB      254      ;
13FB      255      ;
13FB      256      ; RTNCMD (0x50)
13FB      257      ;
13FB      258      PRNTRTN:
13FB BA      259      tsx
13FC      260      ;
13FC A5 FC    261      lda PRNTPTR
13FE 9D 01 01 262      sta STACK+1,X
1401      263      ;
1401 A5 FD    264      lda PRNTPTR+1
1403 9D 02 01 265      sta STACK+2,X
1406      266      ;
1406 A0 00    267      PRNTSAVY ldy #ZERO
1408 A2 00    268      PRNTSAVX ldx #ZERO
140A A9 00    269      PRNTSAVA lda #ZERO
140C      270      ;
140C 18      271      clc
140D      272      ;
140D 60      273      PRNTRTN rts
140E      274      ;
140E      275      ;
140E      276      ; MODECMD (0x51)
140E      277      ;
140E      278      ; 0 - 40 column TEXT mode
140E      279      ; 1 - GRAPHICS mode
140E      280      ; 2 - 80 column TEXT mode
140E      281      ; 3 - exit 80 TEXT, enter 40 TEXT
140E      282      ;
140E      283      PRNTMODE:
140E A5 FB    284      lda DATAPTR+1
1410 29 03    285      and #3
1412      286      ;
1412 C9 02    287      cmp #TX80MODE
1414 D0 09    288      bne >1
1416      289      ;
1416 A9 B3    290      lda #"3"
1418 20 95 FE 291      jsr OUTPORT
141B      292      ;
141B A9 02    293      lda #TX80MODE
141D D0 1A    294      bne >2
141F      295      ;
141F C9 03    296      ^1 cmp #LV80MODE
1421 D0 16    297      bne >2
1423      298      ;
1423 AD B8 13 299      lda OUT80COL
1426 85 32    300      sta INVFLG
1428      301      ;
1428 A9 9B    302      lda #ESCAPE
142A 20 ED FD 303      jsr COUT
142D      304      ;

```

```

142D A9 91      305      lda #CTRLQ
142F 20 ED FD   306      jsr COUT
1432           307      ;
1432 A9 B0      308      lda #"0"
1434 20 95 FE   309      jsr OUTPORT
1437           310      ;
1437 A9 00      311      lda #TEXTMODE
1439           312      ;
1439 8D C9 13    313      ^2 sta MODEVAL
143C           314      ;
143C 0A         315      asl
143D A8         316      tay
143E           317      ;
143E B9 BA 13   318      lda VTABADRS,Y
1441 8D 67 13   319      sta PRNTMOD1+1
1444           320      ;
1444 B9 BB 13   321      lda VTABADRS+1,Y
1447 8D 68 13   322      sta PRNTMOD1+2
144A           323      ;
144A B9 C0 13   324      lda OUTADRS,Y
144D 8D AA 13   325      sta PRNTOUT2+1
1450           326      ;
1450 B9 C1 13   327      lda OUTADRS+1,Y
1453 8D AB 13   328      sta PRNTOUT2+2
1456           329      ;
1456 4C EA 03   330      jmp HOOKDOS
1459           331      ;
1459           332      ;
1459           333      ; DISPCMD (0x52)
1459           334      ;
1459           335      ; 0 - Normal display
1459           336      ; 1 - Inverse display
1459           337      ;
1459           338      PRNTDISP:
1459 A4 FB       339      ldy DATAPTR+1
145B           340      ;
145B AD C9 13   341      lda MODEVAL
145E C9 02      342      cmp #TX80MODE
1460 D0 05      343      bne >1
1462           344      ;
1462 BE B8 13   345      ldx OUT80COL,Y
1465 86 32      346      stx INVFLG
1467           347      ;
1467 0A         348      ^1 asl
1468 65 FB      349      adc DATAPTR+1
146A           350      ;
146A A8         351      tay
146B           352      ;
146B B9 AC 13   353      lda OUTTBL1,Y
146E 8D A6 13   354      sta OUTMOD1+1
1471           355      ;
1471 B9 B2 13   356      lda OUTTBL2,Y
1474 8D A8 13   357      sta OUTMOD2+1
1477           358      ;
1477 60         359      rts
1478           360      ;
1478           361      ;
1478           362      ; SCRNCMD (0x53)
1478           363      ;
1478           364      ; 0 - INIT
1478           365      ; 1 - HOME

```

```
1478          366 ;
1478          367 PRNTSCRN:
1478 2C 54 C0 368          bit LOWSCR
147B          369 ;
147B          370          .if DISPLAY=GRPHMODE
147B          371 ;
147B          372          lda MODEVAL
147B          373          cmp #GRPHMODE
147B          374          bne >2
147B          375 ;
147B          376          lda DATAPTR+1
147B          377          bne >1
147B          378 ;
147B          379          jmp SCRNNINIT
147B          380 ;
147B          381 ^1          jmp SCRNHOM
147B          382 ;
147B          383          .fi
147B          384 ;
147B A5 FB 385 ^2          lda DATAPTR+1
147D D0 06 386          bne >3
147F          387 ;
147F 2C 51 C0 388          bit TXTSET
1482          389 ;
1482 4C 2F FB 390          jmp INIT
1485          391 ;
1485 4C 58 FC 392 ^3          jmp HOME
1488          393 ;
1488          394 ;
1488          395 ; CLRCMD (0x54)
1488          396 ;
1488          397 ; 0 - EOL
1488          398 ; 1 - EOP
1488          399 ;
1488          400 PRNTCLR:
1488          401          .if DISPLAY=GRPHMODE
1488          402 ;
1488          403          lda MODEVAL
1488          404          cmp #GRPHMODE
1488          405          bne >2
1488          406 ;
1488          407          lda DATAPTR+1
1488          408          bne >1
1488          409 ;
1488          410          jmp SCRNEOL
1488          411 ;
1488          412 ^1          jmp SCRNEOP
1488          413 ;
1488          414          .fi
1488          415 ;
1488 A5 FB 416 ^2          lda DATAPTR+1
148A D0 03 417          bne >3
148C          418 ;
148C 4C 9C FC 419          jmp CLREOL
148F          420 ;
148F 4C 42 FC 421 ^3          jmp CLREOP
1492          422 ;
1492          423 ;
1492          424 ; CNTRCMD (0x55)
1492          425 ;
1492          426 PRNTCNTR:
```

```

1492 A9 9F      427      lda #SPACE-1
1494           428      ;
1494 C8         429      ^1    iny
1495           430      ;
1495 D1 FC      431      cmp (PRNTPTR),Y
1497 90 FB      432      bcc <1
1499           433      ;
1499 98         434      tya
149A           435      ;
149A 49 FF      436      eor #NEGONE
149C 65 21      437      adc WNDWDTH
149E           438      ;
149E 4A         439      lsr
149F           440      ;
149F 65 20      441      adc WNDLFT
14A1 85 24      442      sta CH
14A3           443      ;
14A3 60         444      rts
14A4           445      ;
14A4           446      ;
14A4           447      ; BUFRCMD (0x56)
14A4           448      ;
14A4           449      ; 0 - direct address
14A4           450      ; 1 - indirect address
14A4           451      ;
14A4           452      PRNTBUFR:
14A4 AD CA 13   453      lda FRMTVAL
14A7 F0 0B      454      beq >1
14A9           455      ;
14A9 B1 FA      456      lda (DATAPTR),Y
14AB AA         457      tax
14AC           458      ;
14AC C8         459      iny
14AD           460      ;
14AD B1 FA      461      lda (DATAPTR),Y
14AF           462      ;
14AF 86 FA      463      stx DATAPTR
14B1 85 FB      464      sta DATAPTR+1
14B3           465      ;
14B3 88         466      dey
14B4           467      ;
14B4 B1 FA      468      ^1    lda (DATAPTR),Y
14B6 F0 06      469      beq >2
14B8           470      ;
14B8 20 A5 13   471      jsr PRNTOUT
14BB           472      ;
14BB C8         473      iny
14BC D0 F6      474      bne <1
14BE           475      ;
14BE 60         476      ^2    rts
14BF           477      ;
14BF           478      ;
14BF           479      ; NIBLCMD (0x57)
14BF           480      ;
14BF           481      PRNTNIBL:
14BF B1 FA      482      lda (DATAPTR),Y
14C1           483      ;
14C1 4C 5C 15   484      jmp PRNTHEx
14C4           485      ;
14C4           486      ;
14C4           487      ; BYT1CMD (0x58)

```

```

14C4      488      ; BYT2CMD (0x59)
14C4      489      ; BYTNCMD (0x5A)
14C4      490      ;
14C4      491      PRNTNBYT:
14C4 AE CA 13    492          ldx FRMTVAL
14C7      493      ;
14C7 2C 00 00    494          bit *-*
14CA      495          dfs !-2
14C8      496      ;
14C8      497      PRNT1BYT:
14C8 A2 01      498          ldx #1
14CA      499      ;
14CA 2C 00 00    500          bit *-*
14CD      501          dfs !-2
14CB      502      ;
14CB      503      PRNT2BYT:
14CB A2 02      504          ldx #2
14CD      505      ;
14CD      506      PRNTBYT:
14CD B1 FA      507          lda (DATAPTR),Y
14CF      508      ;
14CF 20 53 15    509          jsr PRNTBYTE
14D2      510      ;
14D2 C8          511          iny
14D3      512      ;
14D3 CA          513          dex
14D4 D0 F7      514          bne PRNTBYT
14D6      515      ;
14D6 60          516          rts
14D7      517      ;
14D7      518      ;
14D7      519      ; ADRCMD (0x5B)
14D7      520      ;
14D7      521      ; 0 - direct address
14D7      522      ; 1 - indirect address
14D7      523      ;
14D7      524      PRNTADR:
14D7 AD CA 13    525          lda FRMTVAL
14DA D0 06      526          bne >1
14DC      527      ;
14DC A6 FA      528          ldx DATAPTR
14DE A5 FB      529          lda DATAPTR+1
14E0      530      ;
14E0 90 06      531          bcc >2                ; always taken
14E2      532      ;
14E2 B1 FA      533      ^1          lda (DATAPTR),Y
14E4 AA          534          tax
14E5      535      ;
14E5 C8          536          iny
14E6      537      ;
14E6 B1 FA      538          lda (DATAPTR),Y
14E8      539      ;
14E8 20 53 15    540      ^2          jsr PRNTBYTE
14EB      541      ;
14EB 8A          542          txa
14EC      543      ;
14EC 4C 53 15    544          jmp PRNTBYTE
14EF      545      ;
14EF      546      ;
14EF      547      ; DEC1CMD (0x5C)
14EF      548      ;

```

```

14EF          549 PRNT1DEC:
14EF 20 69 15 550          jsr HEXTODEC
14F2          551          ;
14F2 4C 5C 15 552          jmp PRNTHEx
14F5          553          ;
14F5          554          ;
14F5          555          ; DEC2CMD (0x5D)
14F5          556          ;
14F5          557 PRNT2DEC:
14F5 20 69 15 558          jsr HEXTODEC
14F8          559          ;
14F8          560          ;
14F8 8A       561 PRNTDEC  txa
14F9 20 5C 15 562          jsr PRNTHEx
14FC          563          ;
14FC AD C6 13 564          lda PRNTSAV
14FF          565          ;
14FF 4C 5C 15 566          jmp PRNTHEx
1502          567          ;
1502          568          ;
1502          569          ; DEC3CMD (0x5E)
1502          570          ;
1502          571 PRNT3DEC:
1502 20 69 15 572          jsr HEXTODEC
1505          573          ;
1505 98       574          tya
1506          575          ;
1506 20 5C 15 576          jsr PRNTHEx
1509          577          ;
1509 4C F8 14 578          jmp PRNTDEC
150C          579          ;
150C          580          ;
150C          581          ; DECN CMD (0x5F)
150C          582          ;
150C          583          ; 0x00 - no left padding
150C          584          ; 0x20 - data in high/low order, otherwise low/high order
150C          585          ; 0x40 - zero left padding
150C          586          ; 0x80 - space left padding
150C          587          ;
150C          588 PRNTNDEC:
150C B1 FA    589          lda (DATAPTR),Y
150E AA       590          tax
150F          591          ;
150F C8       592          iny
1510          593          ;
1510 B1 FA    594          lda (DATAPTR),Y
1512 A8       595          tay
1513          596          ;
1513 AD CA 13 597          lda FRMTVAL
1516 29 20    598          and #HIGHLOW
1518 D0 09    599          bne >1
151A          600          ;
151A 8E C7 13 601          stx PRNTNUM
151D 8C C8 13 602          sty PRNTNUM+1
1520          603          ;
1520 4C 29 15 604          jmp >2
1523          605          ;
1523 8C C7 13 606          ^1 sty PRNTNUM
1526 8E C8 13 607          stx PRNTNUM+1
1529          608          ;
1529 A2 03    609          ^2 ldx #3

```

```

152B      610 ;
152B 2C CA 13 611      bit FRMTVAL
152E 70 18    612      bvs >6
1530      613 ;
1530 20 83 15 614      ^3      jsr GETDIGIT
1533 D0 16    615      bne >7
1535      616 ;
1535 2C CA 13 617      bit FRMTVAL
1538 10 05    618      bpl >4
153A      619 ;
153A A9 A0    620      lda #SPACE
153C 20 A5 13 621      jsr PRNTOUT
153F      622 ;
153F CA      623      ^4      dex
1540 10 EE    624      bpl <3
1542      625 ;
1542 AD C7 13 626      ^5      lda PRNTNUM
1545      627 ;
1545 4C 5C 15 628      jmp PRNTHEx
1548      629 ;
1548 20 83 15 630      ^6      jsr GETDIGIT
154B      631 ;
154B 20 5C 15 632      ^7      jsr PRNTHEx
154E      633 ;
154E CA      634      dex
154F 10 F7    635      bpl <6
1551      636 ;
1551 30 EF    637      bmi <5          ; always taken
1553      638 ;
1553      639 ;
1553      640 PRNTBYTE:
1553 48      641      pha
1554      642 ;
1554 4A      643      lsr
1555 4A      644      lsr
1556 4A      645      lsr
1557 4A      646      lsr
1558      647 ;
1558 20 5E 15 648      jsr PRNTHEx2
155B      649 ;
155B 68      650      pla
155C      651 ;
155C      652 ;
155C      653 PRNTHEx:
155C 29 0F    654      and #NIBLMASK
155E      655 ;
155E 09 B0    656 PRNTHEx2 ora #"0"
1560      657 ;
1560 C9 BA    658      cmp #"9"+1
1562 90 02    659      bcc >1
1564      660 ;
1564 69 06    661      adc #6
1566      662 ;
1566 4C A5 13 663      ^1      jmp PRNTOUT
1569      664 ;
1569      665 ;
1569      666 HEXTODEC:
1569 B1 FA    667      lda (DATAPTR),Y
156B      668 ;
156B      669 HEXTODC2:
156B A2 00    670      ldx #ZERO

```

```

156D          671 ;
156D C9 64    672 ^1      cmp #100
156F 90 05    673          bcc >2
1571          674 ;
1571 E9 64    675          sbc #100
1573          676 ;
1573 C8       677          iny
1574 D0 F7    678          bne <1
1576          679 ;
1576 C9 0A    680 ^2      cmp #10
1578 90 05    681          bcc >3
157A          682 ;
157A E9 0A    683          sbc #10
157C          684 ;
157C E8       685          inx
157D D0 F7    686          bne <2
157F          687 ;
157F 8D C6 13 688 ^3      sta PRNTSAV
1582          689 ;
1582 60       690          rts
1583          691 ;
1583          692 ;
1583          693 GETDIGIT:
1583 A0 00    694          ldy #ZERO
1585          695 ;
1585 38       696 ^1      sec
1586          697 ;
1586 AD C7 13 698          lda PRNTNUM
1589 FD 49 16 699          sbc DECTBLL+1,X
158C 48       700          pha
158D          701 ;
158D AD C8 13 702          lda PRNTNUM+1
1590 FD 4E 16 703          sbc DECTBLH+1,X
1593 90 0A    704          bcc >2
1595          705 ;
1595 8D C8 13 706          sta PRNTNUM+1
1598          707 ;
1598 68       708          pla
1599 8D C7 13 709          sta PRNTNUM
159C          710 ;
159C C8       711          iny
159D D0 E6    712          bne <1
159F          713 ;
159F 68       714 ^2      pla
15A0          715 ;
15A0 98       716          tya
15A1          717 ;
15A1 60       718          rts
15A2          719 ;
15A2          720 ;
15A2          721 PRNTGRPH:
15A2          722 ;
15A2          723          .if DISPLAY=GRPHMODE
15A2          724 ;
15A2          725          cmp #SPACE
15A2          726          bcs >3
15A2          727 ;
15A2          728          cmp #ASCIFLAG
15A2          729          bcc >3
15A2          730 ;
15A2          731          cmp #BELLCHAR

```

```
15A2      732      bne >1
15A2      733      ;
15A2      734      jmp BELL
15A2      735      ;
15A2      736      ^1      cmp #RETURN
15A2      737      beq >2
15A2      738      ;
15A2      739      cmp #LARROW
15A2      740      bne >1
15A2      741      ;
15A2      742      dec CH
15A2      743      ;
15A2      744      ^1      cmp #DARROW
15A2      745      bne >1
15A2      746      ;
15A2      747      inc CV
15A2      748      ;
15A2      749      ^1      cmp #UARROW
15A2      750      bne >1
15A2      751      ;
15A2      752      dec CV
15A2      753      ;
15A2      754      ^1      cmp #RARROW
15A2      755      bne >1
15A2      756      ;
15A2      757      inc CH
15A2      758      ;
15A2      759      ^1      rts
15A2      760      ;
15A2      761      ^2      lda WNDLFT
15A2      762      sta CH
15A2      763      ;
15A2      764      inc CV
15A2      765      ;
15A2      766      lda CV
15A2      767      cmp WNDBTM
15A2      768      bcc >8
15A2      769      ;
15A2      770      jmp SCROLL
15A2      771      ;
15A2      772      ^3      stx SCRNSAVX+1
15A2      773      sty SCRNSAVY+1
15A2      774      ;
15A2      775      ldx /CHARTBL
15A2      776      ;
15A2      777      ldy #ZERO
15A2      778      ;
15A2      779      asl
15A2      780      bcs >4
15A2      781      ;
15A2      782      ldy #INVRMASK
15A2      783      ;
15A2      784      sec
15A2      785      ;
15A2      786      ^4      sty SCRNMOD2+1
15A2      787      ;
15A2      788      sbc #$40
15A2      789      ;
15A2      790      asl
15A2      791      bcc >5
15A2      792      ;
```

```
15A2      793      ldx /CHARTBL+$200
15A2      794      ;
15A2      795      ^5      asl
15A2      796      bcc >6
15A2      797      ;
15A2      798      inx
15A2      799      ;
15A2      800      clc
15A2      801      ;
15A2      802      ^6      adc #CHARTBL
15A2      803      sta SCRNMOD1+1
15A2      804      bcc >7
15A2      805      ;
15A2      806      inx
15A2      807      ;
15A2      808      ^7      stx SCRNMOD1+2
15A2      809      ;
15A2      810      clc
15A2      811      ;
15A2      812      ldx CV
15A2      813      ;
15A2      814      lda YBASELO,X
15A2      815      sta SCRNMOD3+1
15A2      816      ;
15A2      817      lda YBASEHI,X
15A2      818      sta SCRNMOD3+2
15A2      819      ;
15A2      820      ld y CH
15A2      821      ld x #CHARCELL
15A2      822      ;
15A2      823      SCRNMOD1 lda *-,X
15A2      824      ;
15A2      825      SCRNMOD2 eor #ZERO
15A2      826      ;
15A2      827      SCRNMOD3 sta *-,Y
15A2      828      ;
15A2      829      lda SCRNMOD3+2
15A2      830      adc #NEXTLINE
15A2      831      sta SCRNMOD3+2
15A2      832      ;
15A2      833      dex
15A2      834      bpl SCRNMOD1
15A2      835      ;
15A2      836      iny
15A2      837      ;
15A2      838      SCRNMOD4 cpy #MAXWDTH
15A2      839      bcs <2
15A2      840      ;
15A2      841      sty CH
15A2      842      ;
15A2      843      SCRNSAVY ld y #ZERO
15A2      844      SCRNSAVX ld x #ZERO
15A2      845      ;
15A2      846      ^8      rts
15A2      847      ;
15A2      848      ;
15A2      849      SCRNINIT:
15A2      850      bit HIRES
15A2      851      bit MIXCLR
15A2      852      bit TXTCLR
15A2      853      ;
```

```
15A2      854      clc
15A2      855      ;
15A2      856      lda #MAXWDTH
15A2      857      adc WNDLFT
15A2      858      sta SCRNMOD4+1
15A2      859      sta EOLMOD1+1
15A2      860      sta SCRLMOD3+1
15A2      861      ;
15A2      862      rts
15A2      863      ;
15A2      864      ;
15A2      865      SCROLL:
15A2      866      lda WNDLFT
15A2      867      sta CH
15A2      868      ;
15A2      869      ldx WNDBTM
15A2      870      dex
15A2      871      stx SCRLMOD4+1
15A2      872      ;
15A2      873      ldx WNDTOP
15A2      874      stx CV
15A2      875      ;
15A2      876      ^1      lda YBASELO,X
15A2      877      sta SCRLMOD2+1
15A2      878      ;
15A2      879      lda YBASEHI,X
15A2      880      sta SCRLMOD2+2
15A2      881      ;
15A2      882      inx
15A2      883      stx CV
15A2      884      ;
15A2      885      lda YBASELO,X
15A2      886      sta SCRLMOD1+1
15A2      887      ;
15A2      888      lda YBASEHI,X
15A2      889      sta SCRLMOD1+2
15A2      890      ;
15A2      891      ldx #CHARCELL
15A2      892      ;
15A2      893      ^2      ldY CH
15A2      894      ;
15A2      895      SCRLMOD1 lda *-,Y
15A2      896      SCRLMOD2 sta *-,Y
15A2      897      ;
15A2      898      iny
15A2      899      ;
15A2      900      SCRLMOD3 cpy #MAXWDTH
15A2      901      bcc SCRLMOD1
15A2      902      ;
15A2      903      lda SCRLMOD1+2
15A2      904      adc #NEXTLINE-1
15A2      905      sta SCRLMOD1+2
15A2      906      ;
15A2      907      lda SCRLMOD2+2
15A2      908      adc #NEXTLINE
15A2      909      sta SCRLMOD2+2
15A2      910      ;
15A2      911      dex
15A2      912      bpl <2
15A2      913      ;
15A2      914      ldx CV
```

```
15A2      915  SCRLMOD4  cpx #LOC0
15A2      916          bne <1
15A2      917  ;
15A2      918  ;
15A2      919  SCRNEOL:
15A2      920          ldx CV
15A2      921  ;
15A2      922          lda YBASELO,X
15A2      923          sta EOLMOD2+1
15A2      924  ;
15A2      925          lda YBASEHI,X
15A2      926          sta EOLMOD2+2
15A2      927  ;
15A2      928          ldx #CHARCELL
15A2      929  ;
15A2      930  ^1      ldy CH
15A2      931  ;
15A2      932          lda #ZERO
15A2      933  ;
15A2      934  EOLMOD1  cpy #MAXWDTH
15A2      935          bcs >2
15A2      936  ;
15A2      937  EOLMOD2  sta *-,Y
15A2      938  ;
15A2      939          iny
15A2      940          bne EOLMOD1
15A2      941  ;
15A2      942  ^2      lda EOLMOD2+2
15A2      943          adc #NEXTLINE-1
15A2      944          sta EOLMOD2+2
15A2      945  ;
15A2      946          dex
15A2      947          bpl <1
15A2      948  ;
15A2      949          rts
15A2      950  ;
15A2      951  ;
15A2      952  SCRNHOM:
15A2      953          lda WNDLFT
15A2      954          sta CH
15A2      955  ;
15A2      956          lda WNDTOP
15A2      957          sta CV
15A2      958  ;
15A2      959  ;
15A2      960  SCRNEOP:
15A2      961          jsr SCRNEOL
15A2      962  ;
15A2      963          lda CH
15A2      964          pha
15A2      965  ;
15A2      966          lda CV
15A2      967          pha
15A2      968  ;
15A2      969          lda WNDLFT
15A2      970          sta CH
15A2      971  ;
15A2      972  ^1      inc CV
15A2      973  ;
15A2      974          lda CV
15A2      975          cmp WNDBTM
```

```
15A2      976      bcs >2
15A2      977      ;
15A2      978      jsr SCRNEOL
15A2      979      bmi <1
15A2      980      ;
15A2      981      ^2      pla
15A2      982      sta CV
15A2      983      ;
15A2      984      pla
15A2      985      sta CH
15A2      986      ;
15A2      987      rts
15A2      988      ;
15A2      989      ;
15A2      990      YBASELO:
15A2      991      ;
15A2      992      hex 0080008000800080
15A2      993      hex 28A828A828A828A8
15A2      994      hex 50D050D050D050D0
15A2      995      ;
15A2      996      YBASEHI:
15A2      997      ;
15A2      998      hex 2020212122222323
15A2      999      hex 2020212122222323
15A2     1000      hex 2020212122222323
15A2     1001      ;
15A2     1002      ;
15A2     1003      CHARTBL:
15A2     1004      ;
15A2     1005      hex 0000000000000000 ;
15A2     1006      hex 0008000808080808 ; !
15A2     1007      hex 0000000000141414 ; "
15A2     1008      hex 0014143E143E1414 ; #
15A2     1009      hex 00081E281C0A3C08 ; $
15A2     1010      hex 0030320408102606 ; %
15A2     1011      hex 002C122A040A0A04 ; &
15A2     1012      hex 0000000000080808 ; ??
15A2     1013      hex 0010080404040810 ; (
15A2     1014      hex 0004081010100804 ; )
15A2     1015      hex 0000082A1C1C2A08 ; *
15A2     1016      hex 000008083E080800 ; +
15A2     1017      hex 04080C0000000000 ; ,
15A2     1018      hex 000000003E000000 ; -
15A2     1019      hex 000C0C0000000000 ; .
15A2     1020      hex 0000020408102000 ; /
15A2     1021      ;
15A2     1022      hex 001C22262A32221C ; 0
15A2     1023      hex 001C080808080C08 ; 1
15A2     1024      hex 003E02041820221C ; 2
15A2     1025      hex 001C22201820221C ; 3
15A2     1026      hex 0010103E12141810 ; 4
15A2     1027      hex 001E20201E02023E ; 5
15A2     1028      hex 001C22221E02021C ; 6
15A2     1029      hex 000808081010203E ; 7
15A2     1030      hex 001C22221C22221C ; 8
15A2     1031      hex 001C20203C22221C ; 9
15A2     1032      hex 000C0C000C0C0000 ; :
15A2     1033      hex 04080C000C0C0000 ; ;
15A2     1034      hex 0020100804081020 ; <
15A2     1035      hex 0000003E003E0000 ; =
15A2     1036      hex 0002040810080402 ; >
```

```
15A2      1037      hex 000800081020221C ; ?
15A2      1038      ;
15A2      1039      hex 001C2A2A2C20221C ; @
15A2      1040      hex 0022223E22221408 ; A
15A2      1041      hex 001E24241C24241E ; B
15A2      1042      hex 001C22020202221C ; C
15A2      1043      hex 001E24242424241E ; D
15A2      1044      hex 003E02021E02023E ; E
15A2      1045      hex 000202021E02023E ; F
15A2      1046      hex 001C22223202221C ; G
15A2      1047      hex 002222223E222222 ; H
15A2      1048      hex 001C08080808081C ; I
15A2      1049      hex 000C121010101038 ; J
15A2      1050      hex 0022120A060A1222 ; K
15A2      1051      hex 003E020202020202 ; L
15A2      1052      hex 002222222A2A3622 ; M
15A2      1053      hex 002222322A262222 ; N
15A2      1054      hex 001C22222222221C ; O
15A2      1055      ;
15A2      1056      hex 000202021E22221E ; P
15A2      1057      hex 002C122A2222221C ; Q
15A2      1058      hex 0022120A1E22221E ; R
15A2      1059      hex 001C22201C02221C ; S
15A2      1060      hex 000808080808083E ; T
15A2      1061      hex 001C222222222222 ; U
15A2      1062      hex 0008142222222222 ; V
15A2      1063      hex 00142A2A2A222222 ; W
15A2      1064      hex 0022221408142222 ; X
15A2      1065      hex 0008080814222222 ; Y
15A2      1066      hex 003E02040810203E ; Z
15A2      1067      hex 0038080808080838 ; [
15A2      1068      hex 0000201008040200 ; \
15A2      1069      hex 000E08080808080E ; ]
15A2      1070      hex 0000000000221408 ; ^
15A2      1071      hex 7F00000000000000 ; _
15A2      1072      ;
15A2      1073      hex 0000000000100804 ; `
15A2      1074      hex 003C223C201C0000 ; a
15A2      1075      hex 001E2222221E0202 ; b
15A2      1076      hex 003C0202023C0000 ; c
15A2      1077      hex 003C2222223C2020 ; d
15A2      1078      hex 003C023E221C0000 ; e
15A2      1079      hex 000404041E042418 ; f
15A2      1080      hex 1C203C22223C0000 ; g
15A2      1081      hex 00222222261A0202 ; h
15A2      1082      hex 001C0808080C0008 ; i
15A2      1083      hex 06080808080C0008 ; j
15A2      1084      hex 00120A060A120202 ; k
15A2      1085      hex 001C08080808080C ; l
15A2      1086      hex 002A2A2A2A160000 ; m
15A2      1087      hex 00222222261A0000 ; n
15A2      1088      hex 001C2222221C0000 ; o
15A2      1089      ;
15A2      1090      hex 02021E22221E0000 ; p
15A2      1091      hex 20203C22223C0000 ; q
15A2      1092      hex 00020202261A0000 ; r
15A2      1093      hex 001E201C023C0000 ; s
15A2      1094      hex 00182404041E0404 ; t
15A2      1095      hex 002C322222220000 ; u
15A2      1096      hex 0008142222220000 ; v
15A2      1097      hex 00142A2A22220000 ; w
```

```
15A2      1098      hex 0022140814220000 ; x
15A2      1099      hex 1C203C2222220000 ; y
15A2      1100      hex 003E0408103E0000 ; z
15A2      1101      hex 0030080804080830 ; {
15A2      1102      hex 0808080808080808 ; |
15A2      1103      hex 0006080810080806 ; }
15A2      1104      hex 0000000000001A2C ; ~
15A2      1105      hex 00002A142A142A00 ;
15A2      1106      ;
15A2      1107      ;
15A2      1108      ;
15A2      1109      .fi
15A2      1110      ;
15A2      1111      ;
```

```
BSAVE SEG03,A$0900,B,L$02A6
```

```
15A2      1112      usr SEG03
15A2      1113      ;
15A2      1114      ;
15A2      1115      icl "DATA.L"
```

```
LLOAD DATA.L,A$4000
```

```
15A2      1          ttl "PROGRAM Source Code, DATA.L"
15A2      2      ;
15A2      3      ;
15A2      4      ; DATA.L
15A2      5      ;
15A2      6      ;
15A2      7          obj PAGE09
15A2      8          usr
15A2      9      ;
15A2     10      ;
15A2     11      SIGBYTES:
15A2     12      ;
15A2     13      CFFASIG:
15A2 A9 20     14          lda #$20
15A4 A2 00     15          ldx #$00
15A6 A9 03     16          lda #$03
15A8 A9 00     17          lda #$00          ; or #$3C
15AA        18      ;
0008       19      SIGLEN equ *-CFFASIG
15AA       20      ;
15AA       21      DISKSIG1:
15AA A2 20     22          ldx #$20
15AC A0 00     23          ldy #$00
15AE A2 03     24          ldx #$03
15B0 86 3C     25          stx $3C
15B2       26      ;
15B2       27      DISKSIG2:
15B2 A2 20     28          ldx #$20
15B4 A0 00     29          ldy #$00
15B6 A2 03     30          ldx #$03
15B8 84 3C     31          sty $3C
15BA       32      ;
15BA       33      ;
15BA       34      NUM      dfs 4,ZERO
15BE 00 00     35      VAL0     adr ZERO
15C0 09 00     36      VAL1     adr 9
15C2 2F 00     37      VAL2     adr 47
15C4 7B 00     38      VAL3     adr 123
15C6 2E 16     39      VAL4     adr 5678
15C8 DD 87     40      VAL5     adr 34781
15CA       41      ;
15CA       42      ;
15CA       43      ;
15CA       44      SAVROMER dfs 2,ZERO
15CC       45      ;
15CC       46      SAVCH     dfs 1,ZERO
15CD       47      SAVCV     dfs 1,ZERO
15CE       48      ;
15CE       49      SAVA      dfs 1,ZERO
15CF       50      SAVX      dfs 1,ZERO
15D0       51      SAVY      dfs 1,ZERO
15D1       52      ;
15D1       53      SAVNUM     dfs 1,ZERO
15D2       54      TEMP      dfs 1,ZERO
15D3       55      YORN      dfs 1,ZERO
15D4       56      ;
15D4       57      SHOWCNT   dfs 1,ZERO
15D5       58      LINECNT   dfs 1,ZERO
15D6       59      PAGECNT   dfs 1,ZERO
15D7       60      ;
```

```

15D7          61 VSNBUFR  dfs VSNLEN+1,ZERO
15EB          62 VERSION  dfs VRSNLEN+1,ZERO
15FA          63 ;
15FA          64 ;
15FA          65 ;
15FA          66 ; Get entry parameters.
15FA          67 ;
15FA          68 NNUMS     dfs 1,ZERO
15FB          69 NENTRY    dfs 1,ZERO
15FC          70 ;
15FC          71 NUMVALS   dfs 8,ZERO
1604          72 ;
1604          73 HEXVALS   dfs 4,ZERO
1608          74 DECVALS   dfs 2,ZERO
160A          75 ;
000F          76 ENTRLEN   equ *-NENTRY
160A          77 ;
160A          78 ;
160A          79 VOLTITLE  dfs NAMELEN+1,ZERO
1623          80 BOOTFILE  dfs NAMELEN+1,ZERO
163C          81 FMDATE    dfs DATELEN,ZERO
1642          82 ;
1642          83 ;
1642          84 ; Time and Date separators.
1642          85 ;
1642 BA BA A0 86 DATIMSEP asc " :: // "
1645 AF AF A0
1648          87 ;
1648          88 ;
1648          89 ; Hex to decimal conversion tables.
1648          90 ;
1648 01 0A 64 91 DECTBL   byt 1,10,100,1000,10000
164B E8 10
164D 00 00 00 92 DECTBLH  hby 1,10,100,1000,10000
1650 03 27
1652          93 ;
1652          94 ;
1652 A0 00     95 CHARBUFR byt SPACE,ZERO
1654          96 NAMEBUFR dfs NAMELEN+1,ZERO
166D          97 ;
166D          98 ;
166D A0 A8 F5 99 UNKNOWN  asc " (unknown)"
1670 EE EB EE
1673 EF F7 EE
1676 A9
1677 00        100          byt ZERO
1678          101 ;
1678          102 ;
1678 D4 E8 E9 103 TESTMSG  asc "This is a test message"
167B F3 A0 E9
167E F3 A0 E1
1681 A0 F4 E5
1684 F3 F4 A0
1687 ED E5 F3
168A F3 E1 E7
168D E5
168E 00        104          byt ZERO
168F          105 ;
168F          106 ;
168F          107          dfs PAGE SIZE-* -PAGE SIZE** /PAGE SIZE,ZERO
1700          108 ;

```

1700                   109   ;

BSAVE SEG04,A\$0900,B,L\$015E

1700                   110                   usr SEG04  
1700                   111   BUFFERS:  
1700                   112   ;  
1700                   113   ;  
1700                   114                   stt "PROGRAM Symbol Table"  
1700                   115   ;  
1700                   116   ;  
1700                   117                   end 111

\*\*\* End of Assembly

Symbol List starts at 0x7800, ends at 0x817E, used 0x097E, remaining 0x351A

# Symbols unsorted:

LOC0	0000	WNDLFT	0020	WNDWDTH	0021	WNDTOP	0022	WNDBTM	0023
CH	0024	CV	0025	INVFLG	0032	PROMPT	0033	ASRUN	0076
ASONERR	00D8	GENPTR	00F6	DATAPTR	00FA	PRNTPTR	00FC	ZERO	0000
DATELEN	0006	VRSNLEN	000E	VSNLEN	0013	NAMELEN	0018	NEGONE	00FF
TEXTMODE	0000	GRPHMODE	0001	TX80MODE	0002	LV80MODE	0003	NORMDISP	0000
INVRDISP	0001	INITSCRN	0000	HOMESCRN	0001	EOLCLR	0000	EOPCLR	0001
DIRECT	0000	INDIRECT	0001	NOPAD	0000	HIGHLOW	0020	ZEROPAD	0040
SPCPAD	0080	NEXTLINE	0004	CHARCELL	0007	PCMDMASK	000F	NIBLMASK	000F
CVMASK	001F	MAXWDTH	0028	MAXCH	0050	MINCV	0060	INVRMASK	007F
ASCIFLAG	0080	LWRMASK	00DF	LWRCASE	00E0	RTNCMD	0050	MODECMD	0051
DISPCMD	0052	SCRNCMD	0053	CLRCMD	0054	CNTRCMD	0055	BUFRCMD	0056
NIBLCMD	0057	BYT1CMD	0058	BYT2CMD	0059	BYTNCMD	005A	ADRCMD	005B
DEC1CMD	005C	DEC2CMD	005D	DEC3CMD	005E	DECNCMD	005F	CTRLD	0084
BELLCHAR	0087	LARROW	0088	DARROW	008A	UARROW	008B	RETURN	008D
CTRLQ	0091	RARROW	0095	ESCAPE	009B	SPACE	00A0	PERCENT	00A5
MINUS	00AD	PERIOD	00AE	QUESTION	00BF	BAR	00FC	DELETE	00FF
STACK	0100	PAGESIZE	0100	DOSWARM	03D0	DOSCOLD	03D3	CALLFM	03D6
CALLRWTS	03D9	GETFMCB	03DC	RDVSNADR	03E1	HOOKDOS	03EA	RDCLKADR	03E8
PRTERADR	03ED	PAGE09	0900	INITDOS	BFF8	DISKTBL	BFFB	KEY	C000
CLRKEY	C010	TXTCLR	C050	TXTSET	C051	MIXCLR	C052	LOWSCR	C054
HIRES	C057	PRNTAX	F941	INIT	FB2F	VTAB	FC22	CLREOP	FC42
HOME	FC58	CLREOL	FC9C	CROUT	FD8E	PRBYTE	FDDA	PRHEX	FDE3
COUT	FDED	OUTPORT	FE95	BELL	FF3A	DISPLAY	0000	QUIT	0922
SHOWVAL	0945	TESTVAL	0EA8	GETHEX2	114E	GETHEX4	1151	GETHEX6	1154
GETHEX8	1157	GETDEC1	115C	GETDEC2	115F	GETDEC3	1162	GETDEC5	1165
NUMLOOP	1176	NUMPROC	11D0	HEXPROC	11D3	DECPROC	1202	SELECT	122B
PRESKEY1	125B	PRESKEY2	1263	PRESKEY	1269	GETKEY	127B	READKEY	128F
PRNTCHAR	12A5	PRSPCHEX	12B1	SELCKEY	12BD	SPLITHEX	12D0	ASCIHEX	12DA
MAKEHEX	12E6	PRINTBUF	12FC	BUFRMOD	1312	PRINTIME	1316	PRINT	132B
PRNTLOOP	133A	PRNTMOD1	1366	PRNTMOD2	1381	PRNTBR1	1383	PRNTBR2	1389
PRNTBR3	138E	PRNTBR4	139C	PRNTMOD3	139F	PRNTOUT	13A5	OUTMOD1	13A5
OUTMOD2	13A7	PRNTOUT2	13A9	OUTTBL1	13AC	OUTTBL2	13B2	OUT80COL	13B8
VTABADRS	13BA	OUTADRS	13C0	PRNTSAV	13C6	PRNTNUM	13C7	MODEVAL	13C9
FRMTVAL	13CA	PRNTBL	13CB	PRNTBLL	13DB	PRNTBLH	13EB	PRNTRTN	13FB
PRNTSAVY	1406	PRNTSAVX	1408	PRNTSAVA	140A	PRNTRTN	140D	PRNTMODE	140E
PRNTDISP	1459	PRNTSCRN	1478	PRNTCLR	1488	PRNTCNTR	1492	PRNTBUFR	14A4
PRNTNIBL	14BF	PRNTNBYT	14C4	PRNT1BYT	14C8	PRNT2BYT	14CB	PRNTBYT	14CD
PRNTADR	14D7	PRNT1DEC	14EF	PRNT2DEC	14F5	PRNTDEC	14F8	PRNT3DEC	1502
PRNTNDEC	150C	PRNTBYTE	1553	PRNTHEx	155C	PRNTHEx2	155E	HEXTODEC	1569
HEXTODC2	156B	GETDIGIT	1583	PRNTGRPH	15A2	SIGBYTES	15A2	CFFASIG	15A2
SIGLEN	0008	DISKSIG1	15AA	DISKSIG2	15B2	NUM	15BA	VAL0	15BE
VAL1	15C0	VAL2	15C2	VAL3	15C4	VAL4	15C6	VAL5	15C8
SAVROMER	15CA	SAVCH	15CC	SAVCV	15CD	SAVA	15CE	SAVX	15CF
SAVY	15D0	SAVNUM	15D1	TEMP	15D2	YORN	15D3	SHOWCNT	15D4
LINECNT	15D5	PAGECNT	15D6	VSNBUFR	15D7	VERSION	15EB	NNUMS	15FA
NENTRY	15FB	NUMVALS	15FC	HEXVALS	1604	DECVALS	1608	ENTRLN	000F
VOLTITLE	160A	BOOTFILE	1623	FMDATE	163C	DATIMSEP	1642	DECTBL	1648
DECTBLH	164D	CHARBUFR	1652	NAMEBUFR	1654	UNKNOWN	166D	TESTMSG	1678
BUFFERS	1700								

# Symbols alphabetically sorted:

ADRCMD	005B	ASCIFLAG	0080	ASCIHEX	12DA	ASONERR	00D8	ASRUN	0076
BAR	00FC	BELL	FF3A	BELLCHAR	0087	BOOTFILE	1623	BUFFERS	1700
BUFRCMD	0056	BUFRMOD	1312	BYT1CMD	0058	BYT2CMD	0059	BYTNCMD	005A

CALLFM	03D6	CALLRWTS	03D9	CFFASIG	15A2	CH	0024	CHARBUFR	1652
CHARCELL	0007	CLRCMD	0054	CLREOL	FC9C	CLREOP	FC42	CLRKEY	C010
CNTRCMD	0055	COUT	FD8E	CROUT	FD8E	CTRLD	0084	CTRLQ	0091
CV	0025	CVMASK	001F	DARROW	008A	DATAPTR	00FA	DATELEN	0006
DATIMSEP	1642	DEC1CMD	005C	DEC2CMD	005D	DEC3CMD	005E	DECNCMD	005F
DECPROC	1202	DECTBLH	164D	DECTBLL	1648	DECVALS	1608	DELETE	00FF
DIRECT	0000	DISKSIG1	15AA	DISKSIG2	15B2	DISKTBL	BFFB	DISPCMD	0052
DISPLAY	0000	DOSCOLD	03D3	DOSWARM	03D0	ENTRLEN	000F	EOLCLR	0000
EOPCLR	0001	ESCAPE	009B	FMDATE	163C	FRMTVAL	13CA	GENPTR	00F6
GETDEC1	115C	GETDEC2	115F	GETDEC3	1162	GETDEC5	1165	GETDIGIT	1583
GETFMCB	03DC	GETHEX2	114E	GETHEX4	1151	GETHEX6	1154	GETHEX8	1157
GETKEY	127B	GRPHMODE	0001	HEXPROC	11D3	HEXTODC2	156B	HEXTODEC	1569
HEXVALS	1604	HIGHLOW	0020	HIRES	C057	HOME	FC58	HOMESCRN	0001
HOOKDOS	03EA	INDIRECT	0001	INIT	FB2F	INITDOS	BFF8	INITSCRN	0000
INVFLG	0032	INVRDISP	0001	INVRMASK	007F	KEY	C000	LARROW	0088
LINECNT	15D5	LOC0	0000	LOWSCR	C054	LV80MODE	0003	LWRCASE	00E0
LWRMASK	00DF	MAKEHEX	12E6	MAXCH	0050	MAXWDTH	0028	MINCV	0060
MINUS	00AD	MIXCLR	C052	MODECMD	0051	MODEVAL	13C9	NAMEBUFR	1654
NAMELEN	0018	NEGONE	00FF	NENTRY	15FB	NEXTLINE	0004	NIBLCMD	0057
NIBLMASK	000F	NNUMS	15FA	NOPAD	0000	NORMDISP	0000	NUM	15BA
NUMLOOP	1176	NUMPROC	11D0	NUMVALS	15FC	OUT80COL	13B8	OUTADRS	13C0
OUTMOD1	13A5	OUTMOD2	13A7	OUTPORT	FE95	OUTTBL1	13AC	OUTTBL2	13B2
PAGE09	0900	PAGECNT	15D6	PAGESIZE	0100	PCMDMASK	000F	PERCENT	00A5
PERIOD	00AE	PRBYTE	FDDA	PRESKEY	1269	PRESKEY1	125B	PRESKEY2	1263
PRHEX	FDE3	PRINT	132B	PRINTBUF	12FC	PRINTIME	1316	PRINTRTN	140D
PRNT1BYT	14C8	PRNT1DEC	14EF	PRNT2BYT	14CB	PRNT2DEC	14F5	PRNT3DEC	1502
PRNTADR	14D7	PRNTAX	F941	PRNTBL	13CB	PRNTBLH	13EB	PRNTBLL	13DB
PRNTBR1	1383	PRNTBR2	1389	PRNTBR3	138E	PRNTBR4	139C	PRNTBUFR	14A4
PRNTBYT	14CD	PRNTBYTE	1553	PRNTCHAR	12A5	PRNTCLR	1488	PRNTCNTR	1492
PRNTDEC	14F8	PRNTDISP	1459	PRNTGRPH	15A2	PRNTHEx	155C	PRNTHEx2	155E
PRNTLOOP	133A	PRNTMOD1	1366	PRNTMOD2	1381	PRNTMOD3	139F	PRNTMODE	140E
PRNTNBYT	14C4	PRNTNDEC	150C	PRNTNIBL	14BF	PRNTNUM	13C7	PRNTOUT	13A5
PRNTOUT2	13A9	PRNTPTR	00FC	PRNTRTN	13FB	PRNTSAV	13C6	PRNTSAVA	140A
PRNTSAVX	1408	PRNTSAVY	1406	PRNTSCRN	1478	PROMPT	0033	PRSPCHEX	12B1
PRTERADR	03ED	QUESTION	00BF	QUIT	0922	RARROW	0095	RDCLKADR	03E8
RDVSNADR	03E1	READKEY	128F	RETURN	008D	RTNCMD	0050	SAVA	15CE
SAVCH	15CC	SAVCV	15CD	SAVNUM	15D1	SAVROMER	15CA	SAVX	15CF
SAVY	15D0	SCRNCMD	0053	SELCKEY	12BD	SELECT	122B	SHOWCNT	15D4
SHOWVAL	0945	SIGBYTES	15A2	SIGLEN	0008	SPACE	00A0	SPCPAD	0080
SPLITHEX	12D0	STACK	0100	TEMP	15D2	TESTMSG	1678	TESTVAL	0EA8
TEXTMODE	0000	TX80MODE	0002	TXTCLR	C050	TXTSET	C051	UARROW	008B
UNKNOWN	166D	VAL0	15BE	VAL1	15C0	VAL2	15C2	VAL3	15C4
VAL4	15C6	VAL5	15C8	VERSION	15EB	VOLTITLE	160A	VRSNLEN	000E
VSNBUFR	15D7	VSNLEN	0013	VTAB	FC22	VTABADRS	13BA	WNBDM	0023
WNDLFT	0020	WNDTOP	0022	WNDWDTH	0021	YORN	15D3	ZERO	0000
ZEROPAD	0040								

Symbols numerically sorted:

ZERO	0000	TEXTMODE	0000	NORMDISP	0000	NOPAD	0000	LOC0	0000
INITSCRN	0000	EOLCLR	0000	DISPLAY	0000	DIRECT	0000	INVRDISP	0001
INDIRECT	0001	HOMESCRN	0001	GRPHMODE	0001	EOPCLR	0001	TX80MODE	0002
LV80MODE	0003	NEXTLINE	0004	DATELEN	0006	CHARCELL	0007	SIGLEN	0008
VRSNLEN	000E	PCMDMASK	000F	NIBLMASK	000F	ENTRLEN	000F	VSNLEN	0013
NAMELEN	0018	CVMASK	001F	WNDLFT	0020	HIGHLOW	0020	WNDWDTH	0021
WNDTOP	0022	WNBDM	0023	CH	0024	CV	0025	MAXWDTH	0028
INVFLG	0032	PROMPT	0033	ZEROPAD	0040	RTNCMD	0050	MAXCH	0050
MODECMD	0051	DISPCMD	0052	SCRNCMD	0053	CLRCMD	0054	CNTRCMD	0055
BUFRCMD	0056	NIBLCMD	0057	BYT1CMD	0058	BYT2CMD	0059	BYTNCMD	005A
ADRCMD	005B	DEC1CMD	005C	DEC2CMD	005D	DEC3CMD	005E	DECNCMD	005F

MINCV	0060	ASRUN	0076	INVRMASK	007F	SPCPAD	0080	ASCIIFLAG	0080
CTRLD	0084	BELLCHAR	0087	LARROW	0088	DARROW	008A	UARROW	008B
RETURN	008D	CTRLQ	0091	RARROW	0095	ESCAPE	009B	SPACE	00A0
PERCENT	00A5	MINUS	00AD	PERIOD	00AE	QUESTION	00BF	ASONERR	00D8
LWRMASK	00DF	LWRCASE	00E0	GENPTR	00F6	DATAPTR	00FA	PRNTPTR	00FC
BAR	00FC	NEGONE	00FF	DELETE	00FF	STACK	0100	PAGESIZE	0100
DOSWARM	03D0	DOSCOLD	03D3	CALLFM	03D6	CALLRWTS	03D9	GETFMCB	03DC
RDVSNADR	03E1	RDCLKADR	03E8	HOOKDOS	03EA	PRTERADR	03ED	PAGE09	0900
QUIT	0922	SHOWVAL	0945	TESTVAL	0EA8	GETHEX2	114E	GETHEX4	1151
GETHEX6	1154	GETHEX8	1157	GETDEC1	115C	GETDEC2	115F	GETDEC3	1162
GETDEC5	1165	NUMLOOP	1176	NUMPROC	11D0	HEXPROC	11D3	DECPROC	1202
SELECT	122B	PRESKEY1	125B	PRESKEY2	1263	PRESKEY	1269	GETKEY	127B
READKEY	128F	PRNTCHAR	12A5	PRSPCHEX	12B1	SELCKEY	12BD	SPLITHEX	12D0
ASCIHEX	12DA	MAKEHEX	12E6	PRINTBUF	12FC	BUFRMOD	1312	PRINTIME	1316
PRINT	132B	PRNTLOOP	133A	PRNTMOD1	1366	PRNTMOD2	1381	PRNTBR1	1383
PRNTBR2	1389	PRNTBR3	138E	PRNTBR4	139C	PRNTMOD3	139F	PRNTOUT	13A5
OUTMOD1	13A5	OUTMOD2	13A7	PRNTOUT2	13A9	OUTTBL1	13AC	OUTTBL2	13B2
OUT80COL	13B8	VTABADRS	13BA	OUTADRS	13C0	PRNTSAV	13C6	PRNTNUM	13C7
MODEVAL	13C9	FRMTVAL	13CA	PRNTBL	13CB	PRNTBLL	13DB	PRNTBLH	13EB
PRNTRTN	13FB	PRNTSAVY	1406	PRNTSAVX	1408	PRNTSAVA	140A	PRINTRTN	140D
PRNTMODE	140E	PRNTDISP	1459	PRNTSCRN	1478	PRNTCLR	1488	PRNTCNTR	1492
PRNTBUFR	14A4	PRNTNIBL	14BF	PRNTNBYT	14C4	PRNT1BYT	14C8	PRNT2BYT	14CB
PRNTBYT	14CD	PRNTADR	14D7	PRNT1DEC	14EF	PRNT2DEC	14F5	PRNTDEC	14F8
PRNT3DEC	1502	PRNTNDEC	150C	PRNTBYTE	1553	PRNTHex	155C	PRNTHEx2	155E
HEXTODEC	1569	HEXTODC2	156B	GETDIGIT	1583	SIGBYTES	15A2	PRNTGRPH	15A2
CFFASIG	15A2	DISKSIG1	15AA	DISKSIG2	15B2	NUM	15BA	VAL0	15BE
VAL1	15C0	VAL2	15C2	VAL3	15C4	VAL4	15C6	VAL5	15C8
SAVROMER	15CA	SAVCH	15CC	SAVCV	15CD	SAVA	15CE	SAVX	15CF
SAVY	15D0	SAVNUM	15D1	TEMP	15D2	YORN	15D3	SHOWCNT	15D4
LINECNT	15D5	PAGECNT	15D6	VSNBUFR	15D7	VERSION	15EB	NNUMS	15FA
NENTRY	15FB	NUMVALS	15FC	HEXVALS	1604	DECVALS	1608	VOLTITLE	160A
BOOTFILE	1623	FMDATE	163C	DATIMSEP	1642	DECTBLL	1648	DECTBLH	164D
CHARBUFR	1652	NAMEBUFR	1654	UNKNOWN	166D	TESTMSG	1678	BUFFERS	1700
INITDOS	BFF8	DISKTBL	BFFB	KEY	C000	CLRKEY	C010	TXTCLR	C050
TXTSET	C051	MIXCLR	C052	LOWSCR	C054	HIRES	C057	PRNTAX	F941
INIT	FB2F	VTAB	FC22	CLREOP	FC42	HOME	FC58	CLREOL	FC9C
CROUT	FD8E	PRBYTE	FDDA	PRHEX	FDE3	COUT	FDED	OUTPORT	FE95
BELL	FF3A								