

!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"

LLOAD PROGRAM1.L,A\$4000

```

0800          1          ttl "PROGRAM Source Code, PROGRAM1.L"
0800          2          ;
0800          3          ;
0800          4          ; PROGRAM1.L
0800          5          ;
0800          6          ;
0800          7          ;DISPLAY equ TEXTMODE
0800          8          ;DISPLAY equ GRPHMODE
0002          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 7D 12 24          jsr GETKEY
0910         25          ;
0910 20 2D 13 26          jsr PRINT
0913         27          .if DISPLAY=TEXTMODE
0913         28          byt MODECMD,TEXTMODE
0913         29          .fi
0913         30          .if DISPLAY=GRPHMODE
0913         31          byt RETURN
0913         32          byt MODECMD,GRPHMODE
0913         33          .fi
0913         34          .if DISPLAY=TX80MODE
0913 51 02     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 AA 0E  42          jsr TESTVAL
091F         43          ;
091F 20 47 09 44          jsr SHOWVAL
0922         45          ;
0922         46          QUIT:
0922 20 2D 13  47          jsr PRINT
0925         48          .if DISPLAY=GRPHMODE
0925         49          byt MODECMD,TEXTMODE
0925         50          .fi
0925         51          .if DISPLAY=TX80MODE
0925 51 03     52          byt MODECMD,LV80MODE
0927         53          .fi
0927 52 00     54          byt DISPCMD,NORMDISP
0929 53 00     55          byt SCRNCMD,INITSCRN
092B 8D        56          byt RETURN
092C 53 01     57          byt SCRNCMD,HOMESCRN
092E 50        58          byt RTNCMD
092F         59          ;
092F A9 A5     60          lda #PERCENT

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```
0931 85 33      61      sta PROMPT
0933           62      ;
0933 A9 00      63      lda #ZERO
0935 85 76      64      sta ASRUN
0937 85 D8      65      sta ASONERR
0939           66      ;
0939 BA        67      tsx
093A 8A        68      txa
093B 20 DA FD   69      jsr PRBYTE
093E           70      ;
093E 20 8E FD   71      jsr CROUT
0941           72      ;
0941 20 EA 03    73      jsr HOOKDOS
0944           74      ;
0944 4C D3 03    75      jmp DOSCOLD
0947           76      ;
0947           77      ;
0947           78      SHOWVAL:
0947 A9 D8      79      lda #"X"
0949 8D 54 16    80      sta CHARBUFR
094C           81      ;
094C 20 2D 13    82      jsr PRINT
094F 53 01      83      byt SCRNCMD,HOMESCRN
0951 55         84      byt CNTRCMD
0952 D4 E8 E9    85      asc "This is a test of PRINT"
0955 F3 A0 E9
0958 F3 A0 E1
095B A0 F4 E5
095E F3 F4 A0
0961 EF E6 A0
0964 D0 D2 C9
0967 CE D4
0969 8D 8D      86      byt RETURN,RETURN
096B AA AA AA   87      asc "*** Start PRNTBUFR call ***"
096E A0 D3 F4
0971 E1 F2 F4
0974 A0 D0 D2
0977 CE D4 C2
097A D5 C6 D2
097D A0 E3 E1
0980 EC EC A0
0983 AA AA AA
0986 8D         88      byt RETURN
0987 10         89      hex 10
0988 56 00      90      byt BUFRCMD,DIRECT
098A 7A 16      91      adr TESTMSG
098C 8D         92      byt RETURN
098D 08         93      hex 08
098E 56 00      94      byt BUFRCMD,DIRECT
0990 54 16      95      adr CHARBUFR
0992 8D         96      byt RETURN
0993 AA AA AA   97      asc "*** End PRNTBUFR call ***"
0996 A0 C5 EE
0999 E4 A0 D0
099C D2 CE D4
099F C2 D5 C6
09A2 D2 A0 E3
09A5 E1 EC EC
09A8 A0 AA AA
09AB AA
09AC 8D 8D 50   98      byt RETURN,RETURN,RTNCMD
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09AF          99      ;
09AF A9 EA      100      lda #$EA
09B1 8D BC 15    101      sta NUM
09B4          102      ;
09B4 20 E3 FD    103      jsr PRHEX
09B7          104      ;
09B7 20 2D 13    105      jsr PRINT
09BA 8D          106      byt RETURN
09BB AA AA AA    107      asc "*** Start PRNTNIBL call ***"
09BE A0 D3 F4
09C1 E1 F2 F4
09C4 A0 D0 D2
09C7 CE D4 CE
09CA C9 C2 CC
09CD A0 E3 E1
09D0 EC EC A0
09D3 AA AA AA
09D6 8D 57      108      byt RETURN,NIBLCMD
09D8 BC 15      109      adr NUM
09DA 8D          110      byt RETURN
09DB AA AA AA    111      asc "*** End PRNTNIBL call ***"
09DE A0 C5 EE
09E1 E4 A0 D0
09E4 D2 CE D4
09E7 CE C9 C2
09EA CC A0 E3
09ED E1 EC EC
09F0 A0 AA AA
09F3 AA
09F4 8D 8D 50    112      byt RETURN,RETURN,RTNCMD
09F7          113      ;
09F7 A9 A3      114      lda #$A3
09F9 8D BC 15    115      sta NUM
09FC          116      ;
09FC 20 DA FD    117      jsr PRBYTE
09FF          118      ;
09FF 20 2D 13    119      jsr PRINT
0A02 8D          120      byt RETURN
0A03 AA AA AA    121      asc "*** Start PRNT1BYT call ***"
0A06 A0 D3 F4
0A09 E1 F2 F4
0A0C A0 D0 D2
0A0F CE D4 B1
0A12 C2 D9 D4
0A15 A0 E3 E1
0A18 EC EC A0
0A1B AA AA AA
0A1E 8D 58      122      byt RETURN,BYT1CMD
0A20 BC 15      123      adr NUM
0A22 8D          124      byt RETURN
0A23 AA AA AA    125      asc "*** End PRNT1BYT call ***"
0A26 A0 C5 EE
0A29 E4 A0 D0
0A2C D2 CE D4
0A2F B1 C2 D9
0A32 D4 A0 E3
0A35 E1 EC EC
0A38 A0 AA AA
0A3B AA
0A3C 8D 8D 50    126      byt RETURN,RETURN,RTNCMD
0A3F          127      ;

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0A3F A9 56      128      lda #$56
0A41 8D BC 15   129      sta NUM
0A44           130      ;
0A44 20 DA FD   131      jsr PRBYTE
0A47           132      ;
0A47 A9 78      133      lda #$78
0A49 8D BD 15   134      sta NUM+1
0A4C           135      ;
0A4C 20 DA FD   136      jsr PRBYTE
0A4F           137      ;
0A4F 20 2D 13   138      jsr PRINT
0A52 8D         139      byt RETURN
0A53 AA AA AA   140      asc "*** Start PRNT2BYT call ***"
0A56 A0 D3 F4
0A59 E1 F2 F4
0A5C A0 D0 D2
0A5F CE D4 B2
0A62 C2 D9 D4
0A65 A0 E3 E1
0A68 EC EC A0
0A6B AA AA AA
0A6E 8D 59      141      byt RETURN,BYT2CMD
0A70 BC 15      142      adr NUM
0A72 8D         143      byt RETURN
0A73 AA AA AA   144      asc "*** End PRNT2BYT call ***"
0A76 A0 C5 EE
0A79 E4 A0 D0
0A7C D2 CE D4
0A7F B2 C2 D9
0A82 D4 A0 E3
0A85 E1 EC EC
0A88 A0 AA AA
0A8B AA
0A8C 8D 8D 50   145      byt RETURN,RETURN,RTNCMD
0A8F           146      ;
0A8F 20 2D 13   147      jsr PRINT
0A92 8D         148      byt RETURN
0A93 D0 F2 E5   149      asc "Press any key to continue  "
0A96 F3 F3 A0
0A99 E1 EE F9
0A9C A0 EB E5
0A9F F9 A0 F4
0AA2 EF A0 E3
0AA5 EF EE F4
0AA8 E9 EE F5
0AAB E5 A0 A0
0AAE 50         150      byt RTNCMD
0AAF           151      ;
0AAF 20 7D 12   152      jsr GETKEY
0AB2           153      ;
0AB2 20 2D 13   154      jsr PRINT
0AB5 53 01      155      byt SCRNCMD,HOMESCRN
0AB7 50         156      byt RTNCMD
0AB8           157      ;
0AB8 A9 FE      158      lda #$FE
0ABA 8D BC 15   159      sta NUM
0ABD           160      ;
0ABD 20 DA FD   161      jsr PRBYTE
0AC0           162      ;
0AC0 A9 DC      163      lda #$DC
0AC2 8D BD 15   164      sta NUM+1

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0AC5      165 ;
0AC5 20 DA FD 166      jsr PRBYTE
0AC8      167 ;
0AC8 A9 BA 168      lda #$BA
0ACA 8D BE 15 169      sta NUM+2
0ACD      170 ;
0ACD 20 DA FD 171      jsr PRBYTE
0AD0      172 ;
0AD0 A9 98 173      lda #$98
0AD2 8D BF 15 174      sta NUM+3
0AD5      175 ;
0AD5 20 DA FD 176      jsr PRBYTE
0AD8      177 ;
0AD8 20 2D 13 178      jsr PRINT
0ADB 8D 179      byt RETURN
0ADC AA AA AA 180      asc "*** Start PRNTNBYT call ***"
0ADF A0 D3 F4
0AE2 E1 F2 F4
0AE5 A0 D0 D2
0AE8 CE D4 CE
0AEB C2 D9 D4
0AEE A0 E3 E1
0AF1 EC EC A0
0AF4 AA AA AA
0AF7 8D 181      byt RETURN
0AF8 5A 04 182      byt BYTNCMD,4
0AFA BC 15 183      adr NUM
0AFC 8D 184      byt RETURN
0AFD AA AA AA 185      asc "*** End PRNTNBYT call ***"
0B00 A0 C5 EE
0B03 E4 A0 D0
0B06 D2 CE D4
0B09 CE C2 D9
0B0C D4 A0 E3
0B0F E1 EC EC
0B12 A0 AA AA
0B15 AA
0B16 8D 8D 50 186      byt RETURN,RETURN,RTNCMD
0B19      187 ;
0B19 A9 EF 188      lda #$EF
0B1B 8D BC 15 189      sta NUM
0B1E      190 ;
0B1E 20 DA FD 191      jsr PRBYTE
0B21      192 ;
0B21 A9 CD 193      lda #$CD
0B23 8D BD 15 194      sta NUM+1
0B26      195 ;
0B26 20 DA FD 196      jsr PRBYTE
0B29      197 ;
0B29 20 2D 13 198      jsr PRINT
0B2C 8D 199      byt RETURN
0B2D AA AA AA 200      asc "*** Start PRNTADR call ***"
0B30 A0 D3 F4
0B33 E1 F2 F4
0B36 A0 D0 D2
0B39 CE D4 C1
0B3C C4 D2 A0
0B3F E3 E1 EC
0B42 EC A0 AA
0B45 AA AA
0B47 8D 201      byt RETURN

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0B48 5B 01      202      byt ADRCMD,INDIRECT
0B4A BC 15      203      adr NUM
0B4C 8D         204      byt RETURN
0B4D AA AA AA   205      asc "*** End PRNTADR call ***"
0B50 A0 C5 EE
0B53 E4 A0 D0
0B56 D2 CE D4
0B59 C1 C4 D2
0B5C A0 E3 E1
0B5F EC EC A0
0B62 AA AA AA
0B65 8D 8D 50   206      byt RETURN,RETURN,RTNCMD
0B68           207      ;
0B68 20 2D 13   208      jsr PRINT
0B6B 8D         209      byt RETURN
0B6C D0 F2 E5   210      asc "Press any key to continue  "
0B6F F3 F3 A0
0B72 E1 EE F9
0B75 A0 EB E5
0B78 F9 A0 F4
0B7B EF A0 E3
0B7E EF EE F4
0B81 E9 EE F5
0B84 E5 A0 A0
0B87 50         211      byt RTNCMD
0B88           212      ;
0B88 20 7D 12   213      jsr GETKEY
0B8B           214      ;
0B8B 20 2D 13   215      jsr PRINT
0B8E 53 01      216      byt SCRNCMD,HOMESCRN
0B90 50         217      byt RTNCMD
0B91           218      ;
0B91 A9 B7      219      lda #$B7
0B93 8D BC 15   220      sta NUM
0B96           221      ;
0B96 20 DA FD   222      jsr PRBYTE
0B99           223      ;
0B99 20 2D 13   224      jsr PRINT
0B9C 8D         225      byt RETURN
0B9D AA AA AA   226      asc "*** Start PRNT1DEC call ***"
0BA0 A0 D3 F4
0BA3 E1 F2 F4
0BA6 A0 D0 D2
0BA9 CE D4 B1
0BAC C4 C5 C3
0BAF A0 E3 E1
0BB2 EC EC A0
0BB5 AA AA AA
0BB8 8D 5C      227      byt RETURN,DEC1CMD
0BBA BC 15      228      adr NUM
0BBC 8D         229      byt RETURN
0BBD AA AA AA   230      asc "*** End PRNT1DEC call ***"
0BC0 A0 C5 EE
0BC3 E4 A0 D0
0BC6 D2 CE D4
0BC9 B1 C4 C5
0BCC C3 A0 E3
0BCF E1 EC EC
0BD2 A0 AA AA
0BD5 AA
0BD6 8D 8D 50   231      byt RETURN,RETURN,RTNCMD

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0BD9          232 ;
0BD9 A9 A9     233      lda #$A9
0BDB 8D BC 15  234      sta NUM
0BDE          235 ;
0BDE 20 DA FD  236      jsr PRBYTE
0BE1          237 ;
0BE1 20 2D 13  238      jsr PRINT
0BE4 8D        239      byt RETURN
0BE5 AA AA AA  240      asc "*** Start PRNT2DEC call ***"
0BE8 A0 D3 F4
0BEB E1 F2 F4
0BEE A0 D0 D2
0BF1 CE D4 B2
0BF4 C4 C5 C3
0BF7 A0 E3 E1
0BFA EC EC A0
0BFD AA AA AA
0C00 8D 5D     241      byt RETURN,DEC2CMD
0C02 BC 15     242      adr NUM
0C04 8D        243      byt RETURN
0C05 AA AA AA  244      asc "*** End PRNT2DEC call ***"
0C08 A0 C5 EE
0C0B E4 A0 D0
0C0E D2 CE D4
0C11 B2 C4 C5
0C14 C3 A0 E3
0C17 E1 EC EC
0C1A A0 AA AA
0C1D AA
0C1E 8D 8D 50  245      byt RETURN,RETURN,RTNCMD
0C21          246 ;
0C21 A9 D9     247      lda #$D9
0C23 8D BC 15  248      sta NUM
0C26          249 ;
0C26 20 DA FD  250      jsr PRBYTE
0C29          251 ;
0C29 20 2D 13  252      jsr PRINT
0C2C 8D        253      byt RETURN
0C2D AA AA AA  254      asc "*** Start PRNT3DEC call ***"
0C30 A0 D3 F4
0C33 E1 F2 F4
0C36 A0 D0 D2
0C39 CE D4 B3
0C3C C4 C5 C3
0C3F A0 E3 E1
0C42 EC EC A0
0C45 AA AA AA
0C48 8D 5E     255      byt RETURN,DEC3CMD
0C4A BC 15     256      adr NUM
0C4C 8D        257      byt RETURN
0C4D AA AA AA  258      asc "*** End PRNT3DEC call ***"
0C50 A0 C5 EE
0C53 E4 A0 D0
0C56 D2 CE D4
0C59 B3 C4 C5
0C5C C3 A0 E3
0C5F E1 EC EC
0C62 A0 AA AA
0C65 AA
0C66 8D 8D 50  259      byt RETURN,RETURN,RTNCMD
0C69          260 ;

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0C69 20 2D 13      261      jsr PRINT
0C6C 8D            262      byt RETURN
0C6D D0 F2 E5      263      asc "Press any key to continue  "
0C70 F3 F3 A0
0C73 E1 EE F9
0C76 A0 EB E5
0C79 F9 A0 F4
0C7C EF A0 E3
0C7F EF EE F4
0C82 E9 EE F5
0C85 E5 A0 A0
0C88 50            264      byt RTNCMD
0C89              265      ;
0C89 20 7D 12      266      jsr GETKEY
0C8C              267      ;
0C8C 20 2D 13      268      jsr PRINT
0C8F 53 01          269      byt SCRNCMD,HOMESCRN
0C91 50            270      byt RTNCMD
0C92              271      ;
0C92 20 2D 13      272      jsr PRINT
0C95 AA AA AA      273      asc "*** Start PRNTNDEC (NOPAD) call ***"
0C98 A0 D3 F4
0C9B E1 F2 F4
0C9E A0 D0 D2
0CA1 CE D4 CE
0CA4 C4 C5 C3
0CA7 A0 A8 CE
0CAA CF D0 C1
0CAD C4 A9 A0
0CB0 E3 E1 EC
0CB3 EC A0 AA
0CB6 AA AA
0CB8 8D            274      byt RETURN
0CB9 5F 00          275      byt DECNCMD,NOPAD
0CBB C0 15          276      adr VAL0
0CBD A0            277      asc " "
0CBE 5F 00          278      byt DECNCMD,NOPAD
0CC0 C2 15          279      adr VAL1
0CC2 A0            280      asc " "
0CC3 5F 00          281      byt DECNCMD,NOPAD
0CC5 C4 15          282      adr VAL2
0CC7 A0            283      asc " "
0CC8 5F 00          284      byt DECNCMD,NOPAD
0CCA C6 15          285      adr VAL3
0CCC A0            286      asc " "
0CCD 5F 00          287      byt DECNCMD,NOPAD
0CCF C8 15          288      adr VAL4
0CD1 A0            289      asc " "
0CD2 5F 00          290      byt DECNCMD,NOPAD
0CD4 CA 15          291      adr VAL5
0CD6 8D            292      byt RETURN
0CD7 AA AA AA      293      asc "*** End PRNTNDEC (NOPAD) call ***"
0CDA A0 C5 EE
0CDD E4 A0 D0
0CE0 D2 CE D4
0CE3 CE C4 C5
0CE6 C3 A0 A8
0CE9 CE CF D0
0CEC C1 C4 A9
0CEF A0 E3 E1
0CF2 EC EC A0

```

```

0CF5 AA AA AA
0CF8 8D 8D 50      294      byt RETURN,RETURN,RTNCMD
0CFB              295      ;
0CFB 20 2D 13      296      jsr PRINT
0CFE AA AA AA      297      asc "*** Start PRNTNDEC (SPCPAD) call ***"
0D01 A0 D3 F4
0D04 E1 F2 F4
0D07 A0 D0 D2
0D0A CE D4 CE
0D0D C4 C5 C3
0D10 A0 A8 D3
0D13 D0 C3 D0
0D16 C1 C4 A9
0D19 A0 E3 E1
0D1C EC EC A0
0D1F AA AA AA
0D22 8D              298      byt RETURN
0D23 5F 80          299      byt DECNCMD,SPCPAD
0D25 C0 15          300      adr VAL0
0D27 A0              301      asc " "
0D28 5F 80          302      byt DECNCMD,SPCPAD
0D2A C2 15          303      adr VAL1
0D2C A0              304      asc " "
0D2D 5F 80          305      byt DECNCMD,SPCPAD
0D2F C4 15          306      adr VAL2
0D31 A0              307      asc " "
0D32 5F 80          308      byt DECNCMD,SPCPAD
0D34 C6 15          309      adr VAL3
0D36 A0              310      asc " "
0D37 5F 80          311      byt DECNCMD,SPCPAD
0D39 C8 15          312      adr VAL4
0D3B A0              313      asc " "
0D3C 5F 80          314      byt DECNCMD,SPCPAD
0D3E CA 15          315      adr VAL5
0D40 8D              316      byt RETURN
0D41 AA AA AA      317      asc "*** End PRNTNDEC (SPCPAD) call ***"
0D44 A0 C5 EE
0D47 E4 A0 D0
0D4A D2 CE D4
0D4D CE C4 C5
0D50 C3 A0 A8
0D53 D3 D0 C3
0D56 D0 C1 C4
0D59 A9 A0 E3
0D5C E1 EC EC
0D5F A0 AA AA
0D62 AA
0D63 8D 8D 50      318      byt RETURN,RETURN,RTNCMD
0D66              319      ;
0D66 20 2D 13      320      jsr PRINT
0D69 AA AA AA      321      asc "*** Start PRNTNDEC (ZEROPAD) call ***"
0D6C A0 D3 F4
0D6F E1 F2 F4
0D72 A0 D0 D2
0D75 CE D4 CE
0D78 C4 C5 C3
0D7B A0 A8 DA
0D7E C5 D2 CF
0D81 D0 C1 C4
0D84 A9 A0 E3
0D87 E1 EC EC

```

```

0D8A A0 AA AA
0D8D AA
0D8E 8D      322      byt RETURN
0D8F 5F 40    323      byt DECNCMD,ZEROPAD
0D91 C0 15    324      adr VAL0
0D93 A0      325      asc " "
0D94 5F 40    326      byt DECNCMD,ZEROPAD
0D96 C2 15    327      adr VAL1
0D98 A0      328      asc " "
0D99 5F 40    329      byt DECNCMD,ZEROPAD
0D9B C4 15    330      adr VAL2
0D9D A0      331      asc " "
0D9E 5F 40    332      byt DECNCMD,ZEROPAD
0DA0 C6 15    333      adr VAL3
0DA2 A0      334      asc " "
0DA3 5F 40    335      byt DECNCMD,ZEROPAD
0DA5 C8 15    336      adr VAL4
0DA7 A0      337      asc " "
0DA8 5F 40    338      byt DECNCMD,ZEROPAD
0DAA CA 15    339      adr VAL5
0DAC 8D      340      byt RETURN
0DAD AA AA AA 341      asc "*** End PRNTNDEC (ZEROPAD) call ***"
0DB0 A0 C5 EE
0DB3 E4 A0 D0
0DB6 D2 CE D4
0DB9 CE C4 C5
0DBC C3 A0 A8
0DBF DA C5 D2
0DC2 CF D0 C1
0DC5 C4 A9 A0
0DC8 E3 E1 EC
0DCB EC A0 AA
0DCE AA AA
0DD0 8D 8D 8D 342      byt RETURN,RETURN,RETURN
0DD3 D0 F2 E5 343      asc "Press any key to continue "
0DD6 F3 F3 A0
0DD9 E1 EE F9
0DDC A0 EB E5
0DDF F9 A0 F4
0DE2 EF A0 E3
0DE5 EF EE F4
0DE8 E9 EE F5
0DEB E5 A0 A0
0DEE 50      344      byt RTNCMD
0DEF      345      ;
0DEF 20 7D 12 346      jsr GETKEY
0DF2      347      ;
0DF2 20 2D 13 348      jsr PRINT
0DF5 53 01    349      byt SCRNCMD,HOMESCRN
0DF7 8D      350      byt RETURN
0DF8 50      351      byt RTNCMD
0DF9      352      ;
0DF9 A9 A0    353      lda #SPACE
0DFB 8D 54 16 354      sta CHARBUFR
0DFE      355      ;
0DFE A2 10    356      ^1  ldx #16
0E00      357      ;
0E00 20 2D 13 358      ^2  jsr PRINT
0E03 56 00    359      byt BUFRCMD,DIRECT
0E05 54 16    360      adr CHARBUFR
0E07 A0      361      asc " "

```

```
0E08 50          362          byt RTNCMD
0E09          363      ;
0E09 EE 54 16    364          inc CHARBUFR
0E0C F0 0C      365          beq >3
0E0E          366      ;
0E0E CA          367          dex
0E0F D0 EF      368          bne <2
0E11          369      ;
0E11 20 2D 13    370          jsr PRINT
0E14 8D 8D      371          byt RETURN,RETURN
0E16 50          372          byt RTNCMD
0E17          373      ;
0E17 4C FE 0D    374          jmp <1
0E1A          375      ;
0E1A 20 2D 13    376      ^3      jsr PRINT
0E1D 8D 8D 8D    377          byt RETURN,RETURN,RETURN
0E20 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."
0E23 F3 A0 E9
0E26 F3 A0 E1
0E29 A0 F4 E5
0E2C F3 F4 A0
0E2F EF E6 A0
0E32 E1 A0 F6
0E35 E5 F2 F9
0E38 A0 EC EF
0E3B EE E7 A0
0E3E EC E9 EE
0E41 E5 A0 F4
0E44 EF A0 F6
0E47 E5 F2 E9
0E4A E6 F9 A0
0E4D F4 E8 E1
0E50 F4 A0 EC
0E53 E9 EE E5
0E56 A0 F7 F2
0E59 E1 F0 F0
0E5C E9 EE E7
0E5F A0 E9 F3
0E62 A0 E4 EF
0E65 EE E5 A0
0E68 E3 EF F2
0E6B F2 E5 E3
0E6E F4 EC F9
0E71 A0 E9 EE
0E74 A0 E1 EC
0E77 EC A0 E4
0E7A E9 F3 F0
0E7D EC E1 F9
0E80 A0 ED EF
0E83 E4 E5 F3
0E86 AE
0E87 8D 8D 8D    379          byt RETURN,RETURN,RETURN
0E8A D0 F2 E5    380          asc "Press any key to continue  "
0E8D F3 F3 A0
0E90 E1 EE F9
0E93 A0 EB E5
0E96 F9 A0 F4
0E99 EF A0 E3
0E9C EF EE F4
0E9F E9 EE F5
0EA2 E5 A0 A0
```



```

0EA5 50          381          byt RTNCMD
0EA6          382          ;
0EA6 20 7D 12    383          jsr GETKEY
0EA9          384          ;
0EA9 60          385          rts
0EAA          386          ;
0EAA          387          ;
0EAA          388          TESTVAL:
0EAA 20 2D 13    389          jsr PRINT
0EAD 53 01       390          byt SCRNCMD,HOMESCRN
0EAF 55          391          byt CNTRCMD
0EB0 D4 E8 E9    392          asc "This is a test of Decimal Entry"
0EB3 F3 A0 E9
0EB6 F3 A0 E1
0EB9 A0 F4 E5
0EBC F3 F4 A0
0EBF EF E6 A0
0EC2 C4 E5 E3
0EC5 E9 ED E1
0EC8 EC A0 C5
0ECB EE F4 F2
0ECE F9
0ECF 8D          393          byt RETURN
0ED0 50          394          byt RTNCMD
0ED1          395          ;
0ED1 20 2D 13    396          ^1      jsr PRINT
0ED4 8D 8D       397          byt RETURN,RETURN
0ED6 C5 EE F4    398          asc "Enter 2 dec:  "
0ED9 E5 F2 A0
0EDC B2 A0 E4
0EDF E5 E3 BA
0EE2 A0 A0
0EE4 0E          399          hex 0E
0EE5 50          400          byt RTNCMD
0EE6          401          ;
0EE6 20 61 11    402          jsr GETDEC2
0EE9 90 18       403          bcc >2
0EEB          404          ;
0EEB 20 2D 13    405          jsr PRINT
0EEE 8D 8D       406          byt RETURN,RETURN
0EF0 C5 F2 F2    407          asc "Error in entry."
0EF3 EF F2 A0
0EF6 E9 EE A0
0EF9 E5 EE F4
0EFC F2 F9 AE
0EFF 50          408          byt RTNCMD
0F00          409          ;
0F00 4C D1 0E    410          jmp <1
0F03          411          ;
0F03 20 2D 13    412          ^2      jsr PRINT
0F06 8D 8D       413          byt RETURN,RETURN
0F08 5B 01       414          byt ADRCMD,INDIRECT
0F0A 0A 16       415          adr DECVALS
0F0C 8D 8D       416          byt RETURN,RETURN
0F0E D6 E1 EC    417          asc "Value entered is:  "
0F11 F5 E5 A0
0F14 E5 EE F4
0F17 E5 F2 E5
0F1A E4 A0 E9
0F1D F3 BA A0
0F20 A0

```

```

0F21 5D          418          byt DEC2CMD
0F22 0A 16      419          adr DECVALS
0F24 8D 8D      420          byt RETURN,RETURN
0F26 50          421          byt RTNCMD
0F27            422          ;
0F27 20 2D 13   423          ^3      jsr PRINT
0F2A 8D 8D      424          byt RETURN,RETURN
0F2C C5 EE F4   425          asc "Enter 3 dec:  "
0F2F E5 F2 A0
0F32 B3 A0 E4
0F35 E5 E3 BA
0F38 A0 A0
0F3A 0E          426          hex 0E
0F3B 50          427          byt RTNCMD
0F3C            428          ;
0F3C 20 64 11   429          jsr GETDEC3
0F3F 90 18      430          bcc >4
0F41            431          ;
0F41 20 2D 13   432          jsr PRINT
0F44 8D 8D      433          byt RETURN,RETURN
0F46 C5 F2 F2   434          asc "Error in entry."
0F49 EF F2 A0
0F4C E9 EE A0
0F4F E5 EE F4
0F52 F2 F9 AE
0F55 50          435          byt RTNCMD
0F56            436          ;
0F56 4C 27 0F   437          jmp <3
0F59            438          ;
0F59 20 2D 13   439          ^4      jsr PRINT
0F5C 8D 8D      440          byt RETURN,RETURN
0F5E 5B 01      441          byt ADRCMD,INDIRECT
0F60 0A 16      442          adr DECVALS
0F62 8D 8D      443          byt RETURN,RETURN
0F64 D6 E1 EC   444          asc "Value entered is:  "
0F67 F5 E5 A0
0F6A E5 EE F4
0F6D E5 F2 E5
0F70 E4 A0 E9
0F73 F3 BA A0
0F76 A0
0F77 5F 00      445          byt DECNCMD,NOPAD
0F79 0A 16      446          adr DECVALS
0F7B 8D 8D      447          byt RETURN,RETURN
0F7D 50          448          byt RTNCMD
0F7E            449          ;
0F7E 20 2D 13   450          ^5      jsr PRINT
0F81 8D 8D      451          byt RETURN,RETURN
0F83 C5 EE F4   452          asc "Enter 5 dec:  "
0F86 E5 F2 A0
0F89 B5 A0 E4
0F8C E5 E3 BA
0F8F A0 A0
0F91 0E          453          hex 0E
0F92 50          454          byt RTNCMD
0F93            455          ;
0F93 20 67 11   456          jsr GETDEC5
0F96 90 18      457          bcc >6
0F98            458          ;
0F98 20 2D 13   459          jsr PRINT
0F9B 8D 8D      460          byt RETURN,RETURN

```

```

0F9D C5 F2 F2      461      asc "Error in entry."
0FA0 EF F2 A0
0FA3 E9 EE A0
0FA6 E5 EE F4
0FA9 F2 F9 AE
0FAC 50            462      byt RTNCMD
0FAD            463      ;
0FAD 4C 7E 0F      464      jmp <5
0FB0            465      ;
0FB0 20 2D 13      466      ^6      jsr PRINT
0FB3 8D 8D          467      byt RETURN,RETURN
0FB5 5B 01          468      byt ADRCMD,INDIRECT
0FB7 0A 16          469      adr DECVALS
0FB9 8D 8D          470      byt RETURN,RETURN
0FBB D6 E1 EC      471      asc "Value entered is:  "
0FBE F5 E5 A0
0FC1 E5 EE F4
0FC4 E5 F2 E5
0FC7 E4 A0 E9
0FCA F3 BA A0
0FCD A0
0FCE 5F 00          472      byt DECNCMD,NOPAD
0FD0 0A 16          473      adr DECVALS
0FD2 8D 8D 8D      474      byt RETURN,RETURN,RETURN
0FD5 C4 EF EE      475      asc "Done with Decimal entry"
0FD8 E5 A0 F7
0FDB E9 F4 E8
0FDE A0 C4 E5
0FE1 E3 E9 ED
0FE4 E1 EC A0
0FE7 E5 EE F4
0FEA F2 F9
0FEC 8D 8D 8D      476      byt RETURN,RETURN,RETURN
0FEF D0 F2 E5      477      asc "Press any key to continue  "
0FF2 F3 F3 A0
0FF5 E1 EE F9
0FF8 A0 EB E5
0FFB F9 A0 F4
0FFE EF A0 E3
1001 EF EE F4
1004 E9 EE F5
1007 E5 A0 A0
100A 50            478      byt RTNCMD
100B            479      ;
100B 20 7D 12      480      jsr GETKEY
100E            481      ;
100E 20 2D 13      482      jsr PRINT
1011 53 01          483      byt SCRNCMD,HOMESCRN
1013 55            484      byt CNTRCMD
1014 D4 E8 E9      485      asc "This is a test of HEX entry"
1017 F3 A0 E9
101A F3 A0 E1
101D A0 F4 E5
1020 F3 F4 A0
1023 EF E6 A0
1026 C8 C5 D8
1029 A0 E5 EE
102C F4 F2 F9
102F 8D            486      byt RETURN
1030 50            487      byt RTNCMD
1031            488      ;

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```

1031 20 2D 13      489  ^7      jsr PRINT
1034 8D 8D          490      byt RETURN,RETURN
1036 C5 EE F4      491      asc "Enter 2 hex:  0x"
1039 E5 F2 A0
103C B2 A0 E8
103F E5 F8 BA
1042 A0 A0 B0
1045 F8
1046 10            492      hex 10
1047 50            493      byt RTNCMD
1048              494      ;
1048 20 50 11      495      jsr GETHEX2
104B 90 18          496      bcc >8
104D              497      ;
104D 20 2D 13      498      jsr PRINT
1050 8D 8D          499      byt RETURN,RETURN
1052 C5 F2 F2      500      asc "Error in entry."
1055 EF F2 A0
1058 E9 EE A0
105B E5 EE F4
105E F2 F9 AE
1061 50            501      byt RTNCMD
1062              502      ;
1062 4C 31 10      503      jmp <7
1065              504      ;
1065 20 2D 13      505      ^8      jsr PRINT
1068 8D 8D          506      byt RETURN,RETURN
106A D6 E1 EC      507      asc "Value entered is:  0x"
106D F5 E5 A0
1070 E5 EE F4
1073 E5 F2 E5
1076 E4 A0 E9
1079 F3 BA A0
107C A0 B0 F8
107F 5A 04          508      byt BYTNCMD,4
1081 06 16          509      adr HEXVALS
1083 8D 8D          510      byt RETURN,RETURN
1085 50            511      byt RTNCMD
1086              512      ;
1086 20 2D 13      513      ^7      jsr PRINT
1089 8D 8D          514      byt RETURN,RETURN
108B C5 EE F4      515      asc "Enter 4 hex:  0x"
108E E5 F2 A0
1091 B4 A0 E8
1094 E5 F8 BA
1097 A0 A0 B0
109A F8
109B 10            516      hex 10
109C 50            517      byt RTNCMD
109D              518      ;
109D 20 53 11      519      jsr GETHEX4
10A0 90 18          520      bcc >8
10A2              521      ;
10A2 20 2D 13      522      jsr PRINT
10A5 8D 8D          523      byt RETURN,RETURN
10A7 C5 F2 F2      524      asc "Error in entry."
10AA EF F2 A0
10AD E9 EE A0
10B0 E5 EE F4
10B3 F2 F9 AE
10B6 50            525      byt RTNCMD

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```

10B7          526 ;
10B7 4C 86 10 527      jmp <7
10BA          528 ;
10BA 20 2D 13 529      ^8      jsr PRINT
10BD 8D 8D      530      byt RETURN,RETURN
10BF D6 E1 EC 531      asc "Value entered is:  0x"
10C2 F5 E5 A0
10C5 E5 EE F4
10C8 E5 F2 E5
10CB E4 A0 E9
10CE F3 BA A0
10D1 A0 B0 F8
10D4 5A 04      532      byt BYTNCMD,4
10D6 06 16      533      adr HEXVALS
10D8 8D 8D      534      byt RETURN,RETURN
10DA 50          535      byt RTNCMD
10DB          536 ;
10DB 20 2D 13 537      ^7      jsr PRINT
10DE 8D 8D      538      byt RETURN,RETURN
10E0 C5 EE F4 539      asc "Enter 8 hex:  0x"
10E3 E5 F2 A0
10E6 B8 A0 E8
10E9 E5 F8 BA
10EC A0 A0 B0
10EF F8
10F0 10          540      hex 10
10F1 50          541      byt RTNCMD
10F2          542 ;
10F2 20 59 11 543      jsr GETHEX8
10F5 90 18      544      bcc >8
10F7          545 ;
10F7 20 2D 13 546      jsr PRINT
10FA 8D 8D      547      byt RETURN,RETURN
10FC C5 F2 F2 548      asc "Error in entry."
10FF EF F2 A0
1102 E9 EE A0
1105 E5 EE F4
1108 F2 F9 AE
110B 50          549      byt RTNCMD
110C          550 ;
110C 4C DB 10 551      jmp <7
110F          552 ;
110F 20 2D 13 553      ^8      jsr PRINT
1112 8D 8D      554      byt RETURN,RETURN
1114 D6 E1 EC 555      asc "Value entered is:  0x"
1117 F5 E5 A0
111A E5 EE F4
111D E5 F2 E5
1120 E4 A0 E9
1123 F3 BA A0
1126 A0 B0 F8
1129 5A 04      556      byt BYTNCMD,4
112B 06 16      557      adr HEXVALS
112D 8D 8D 8D 558      byt RETURN,RETURN,RETURN
1130 D0 F2 E5 559      asc "Press any key to continue  "
1133 F3 F3 A0
1136 E1 EE F9
1139 A0 EB E5
113C F9 A0 F4
113F EF A0 E3
1142 EF EE F4

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```
1145 E9 EE F5
1148 E5 A0 A0
114B 50          560      byt RTNCMD
114C          561      ;
114C 20 7D 12    562      jsr GETKEY
114F          563      ;
114F 60          564      rts
1150          565      ;
1150          566      ;

BSAVE SEG01,A$0900,B,L$0850

1150          567      usr SEG01
1150          568      ;
1150          569      ;
1150          570      icl "INPUT.L"

LLOAD INPUT.L,A$4000
```

```
1150          1          ttl "PROGRAM Source Code, INPUT.L"
1150          2          ;
1150          3          ;
1150          4          ; INPUT.L
1150          5          ;
1150          6          ;
1150          7          obj PAGE09
1150          8          usr
1150          9          ;
1150         10          ;
1150         11      GETHEX2:
1150 A9 02         12          lda #2
1152         13          ;
1152 2C 00 00     14          bit *-*
1155         15          dfs !-2
1153         16          ;
1153         17      GETHEX4:
1153 A9 04         18          lda #4
1155         19          ;
1155 2C 00 00     20          bit *-*
1158         21          dfs !-2
1156         22          ;
1156         23      GETHEX6:
1156 A9 06         24          lda #6
1158         25          ;
1158 2C 00 00     26          bit *-*
115B         27          dfs !-2
1159         28          ;
1159         29      GETHEX8:
1159 A9 08         30          lda #8
115B         31          ;
115B 38          32          sec
115C B0 0C       33          bcs >1
115E         34          ;
115E         35          ;
115E         36      GETDEC1:
115E A9 01         37          lda #1
1160         38          ;
1160 2C 00 00     39          bit *-*
1163         40          dfs !-2
1161         41          ;
1161         42      GETDEC2:
1161 A9 02         43          lda #2
1163         44          ;
1163 2C 00 00     45          bit *-*
1166         46          dfs !-2
1164         47          ;
1164         48      GETDEC3:
1164 A9 03         49          lda #3
1166         50          ;
1166 2C 00 00     51          bit *-*
1169         52          dfs !-2
1167         53          ;
1167         54      GETDEC5:
1167 A9 05         55          lda #5
1169         56          ;
1169 18          57          clc
116A         58          ;
116A 08          59      ^1      php
116B         60          ;
```

```

116B 8D FC 15      61      sta NNUMS
116E              62      ;
116E A9 00          63      lda #ZERO
1170              64      ;
1170 A0 0E          65      ldy #ENTRLEN-1
1172              66      ;
1172 99 FD 15      67      ^2      sta NENTRY,Y
1175              68      ;
1175 88            69      dey
1176 10 FA          70      bpl <2
1178              71      ;
1178 20 91 12      72      NUMLOOP jsr READKEY
117B 90 03          73      bcc >3
117D              74      ;
117D 28            75      plp
117E              76      ;
117E 38            77      sec
117F              78      ;
117F 60            79      rts
1180              80      ;
1180 D0 0A          81      ^3      bne >4
1182              82      ;
1182 AC FD 15      83      ldy NENTRY
1185 D0 4B          84      bne NUMPROC
1187              85      ;
1187 28            86      plp
1188              87      ;
1188 A9 00          88      lda #ZERO
118A              89      ;
118A 18            90      clc
118B              91      ;
118B 60            92      rts
118C              93      ;
118C C9 88          94      ^4      cmp #LARROW
118E F0 06          95      beq >5
1190              96      ;
1190 C9 FF          97      cmp #DELETE
1192 D0 0F          98      bne >6
1194              99      ;
1194 A9 88          100     lda #LARROW
1196              101     ;
1196 AC FD 15      102     ^5      ldy NENTRY
1199 F0 DD          103     beq NUMLOOP
119B              104     ;
119B 20 A7 12      105     jsr PRNTCHAR
119E              106     ;
119E CE FD 15      107     dec NENTRY
11A1 10 D5          108     bpl NUMLOOP      ; always taken
11A3              109     ;
11A3 C9 E0          110     ^6      cmp #LWRCASE
11A5 90 02          111     bcc >7
11A7              112     ;
11A7 29 DF          113     and #LWRMASK
11A9              114     ;
11A9 AC FD 15      115     ^7      ldy NENTRY
11AC CC FC 15      116     cpy NNUMS
11AF B0 C7          117     bcs NUMLOOP
11B1              118     ;
11B1 AA            119     tax
11B2              120     ;
11B2 E9 AF          121     sbc #"0"-1

```



```

11B4 30 C2      122      bmi NUMLOOP
11B6           123      ;
11B6 C9 0A      124      cmp #10
11B8 90 0C      125      bcc >8
11BA           126      ;
11BA 28         127      plp
11BB 08         128      php
11BC           129      ;
11BC 90 BA      130      bcc NUMLOOP
11BE           131      ;
11BE E9 11      132      sbc #17
11C0           133      ;
11C0 C9 06      134      cmp #6
11C2 B0 B4      135      bcs NUMLOOP
11C4           136      ;
11C4 69 0A      137      adc #10
11C6           138      ;
11C6 99 FE 15    139      ^8 sta NUMVALS,Y
11C9           140      ;
11C9 8A         141      txa
11CA           142      ;
11CA 20 A7 12    143      jsr PRNTCHAR
11CD           144      ;
11CD EE FD 15    145      inc NENTRY
11D0 D0 A6      146      bne NUMLOOP      ; always taken
11D2           147      ;
11D2 28         148      NUMPROC plp
11D3 90 2F      149      bcc DECPROC
11D5           150      ;
11D5 CC FC 15    151      HEXPROC cpy NNUMS
11D8 B0 13      152      bcs >2
11DA           153      ;
11DA A2 06      154      ldx #6
11DC           155      ;
11DC BD FE 15    156      ^1 lda NUMVALS,X
11DF 9D FF 15    157      sta NUMVALS+1,X
11E2           158      ;
11E2 CA         159      dex
11E3 10 F7      160      bpl <1
11E5           161      ;
11E5 A9 00      162      lda #ZERO
11E7 8D FE 15    163      sta NUMVALS
11EA           164      ;
11EA C8         165      iny
11EB D0 E8      166      bne HEXPROC
11ED           167      ;
11ED A2 06      168      ^2 ldx #6
11EF A0 03      169      ld y #3
11F1           170      ;
11F1 BD FE 15    171      ^3 lda NUMVALS,X
11F4           172      ;
11F4 0A         173      asl
11F5 0A         174      asl
11F6 0A         175      asl
11F7 0A         176      asl
11F8           177      ;
11F8 1D FF 15    178      ora NUMVALS+1,X
11FB 99 06 16    179      sta HEXVALS,Y
11FE           180      ;
11FE CA         181      dex
11FF CA         182      dex

```

```

1200      183 ;
1200 88      184      dey
1201 10 EE    185      bpl <3
1203      186 ;
1203 60      187      rts
1204      188 ;
1204 AE FD 15 189  DECPROC  ldx NENTRY
1207 CA      190      dex
1208      191 ;
1208 A0 00     192      ldy #ZERO
120A      193 ;
120A BD FE 15 194  ^1      lda NUMVALS,X
120D F0 19     195      beq >3
120F      196 ;
120F AD 0A 16 197  ^2      lda DECVALS
1212 79 4A 16 198      adc DECTBLH,Y
1215 8D 0A 16 199      sta DECVALS
1218      200 ;
1218 AD 0B 16 201      lda DECVALS+1
121B 79 4F 16 202      adc DECTBLH,Y
121E 8D 0B 16 203      sta DECVALS+1
1221      204 ;
1221 B0 09     205      bcs >4
1223      206 ;
1223 DE FE 15 207      dec NUMVALS,X
1226 D0 E7     208      bne <2
1228      209 ;
1228 C8        210 ^3      iny
1229      211 ;
1229 CA        212      dex
122A 10 DE     213      bpl <1
122C      214 ;
122C 60        215 ^4      rts
122D      216 ;
122D      217 ;
122D      218 SELECT:
122D 20 2D 13 219      jsr PRINT
1230 00 76     220      hex 0076
1232 54 01     221      byt CLRCMD,EOPCLR
1234 A0 D0 F2 222      asc " Press Any Key to Accept, ESC to Abort"
1237 E5 F3 F3
123A A0 C1 EE
123D F9 A0 CB
1240 E5 F9 A0
1243 F4 EF A0
1246 C1 E3 E3
1249 E5 F0 F4
124C AC A0 C5
124F D3 C3 A0
1252 F4 EF A0
1255 C1 E2 EF
1258 F2 F4
125A 50      223      byt RTNCMD
125B      224 ;
125B 90 20    225      bcc GETKEY      ; always taken
125D      226 ;
125D      227 ;
125D      228 PRESKEY1:
125D 20 2D 13 229      jsr PRINT
1260 00 76     230      hex 0076
1262 54 01     231      byt CLRCMD,EOPCLR

```

```

1264 50          232          byt RTNCMD
1265          233          ;
1265          234          ;          bcc PRESKEY          ; always taken
1265          235          ;
1265          236          ;
1265          237          PRESKEY2:
1265 20 2D 13    238          jsr PRINT
1268 00 77      239          hex 0077
126A 50        240          byt RTNCMD
126B          241          ;
126B          242          ;
126B          243          PRESKEY:
126B 20 2D 13    244          jsr PRINT
126E 55        245          byt CNTRCMD
126F D0 F2 E5   246          asc "Press Any Key"
1272 F3 F3 A0
1275 C1 EE F9
1278 A0 CB E5
127B F9
127C 50          247          byt RTNCMD
127D          248          ;
127D          249          ;
127D          250          GETKEY:
127D 2C 10 C0    251          bit CLRKEY
1280          252          ;
1280 AD 00 C0    253          ^1          lda KEY
1283          254          ;
1283 EA         255          nop
1284          256          ;
1284 10 FA       257          bpl <1
1286          258          ;
1286 2C 10 C0    259          bit CLRKEY
1289          260          ;
1289 C9 9B       261          cmp #ESCAPE
128B F0 03      262          beq >1
128D          263          ;
128D C9 8D      264          cmp #RETURN
128F          265          ;
128F 18         266          clc
1290          267          ;
1290 60          268          ^1          rts
1291          269          ;
1291          270          ;
1291          271          READKEY:
1291 20 2D 13    272          jsr PRINT
1294 52 01      273          byt DISPCMD,INVRDISP
1296 A0         274          asc " "
1297 88         275          byt LARROW
1298 50         276          byt RTNCMD
1299          277          ;
1299 20 7D 12    278          jsr GETKEY
129C          279          ;
129C 08         280          php
129D          281          ;
129D 20 2D 13    282          jsr PRINT
12A0 52 00      283          byt DISPCMD,NORMDISP
12A2 A0         284          asc " "
12A3 88         285          byt LARROW
12A4 50         286          byt RTNCMD
12A5          287          ;
12A5 28         288          plp

```

```

12A6          289 ;
12A6 60       290          rts
12A7          291 ;
12A7          292 ;
12A7          293 PRNTCHAR:
12A7 8D 54 16  294          sta CHARBUFR
12AA          295 ;
12AA 20 2D 13  296          jsr PRINT
12AD 56 00     297          byt BUFRCMD,DIRECT
12AF 54 16     298          adr CHARBUFR
12B1 50        299          byt RTNCMD
12B2          300 ;
12B2 60       301          rts
12B3          302 ;
12B3          303 ;
12B3          304 PRSPCHEX:
12B3 8D D3 15  305          sta SAVNUM
12B6          306 ;
12B6 20 2D 13  307          jsr PRINT
12B9 A0        308          asc " "
12BA 57        309          byt NIBLCMD
12BB D3 15     310          adr SAVNUM
12BD 50        311          byt RTNCMD
12BE          312 ;
12BE 60       313          rts
12BF          314 ;
12BF          315 ;
12BF          316 SELCKEY:
12BF 20 7D 12  317          jsr GETKEY
12C2 B0 0D     318          bcs >3
12C4          319 ;
12C4 C9 88     320          cmp #LARROW
12C6 D0 01     321          bne >1
12C8          322 ;
12C8 CA        323          dex
12C9          324 ;
12C9 C9 95     325 ^1      cmp #RARROW
12CB D0 01     326          bne >2
12CD          327 ;
12CD E8        328          inx
12CE          329 ;
12CE C9 8D     330 ^2      cmp #RETURN
12D0          331 ;
12D0 18        332          clc
12D1          333 ;
12D1 60       334 ^3      rts
12D2          335 ;
12D2          336 ;
12D2          337 SPLITHEX:
12D2 48        338          pha
12D3          339 ;
12D3 4A        340          lsr
12D4 4A        341          lsr
12D5 4A        342          lsr
12D6 4A        343          lsr
12D7          344 ;
12D7 20 DC 12  345          jsr ASCIHEX
12DA          346 ;
12DA AA        347          tax
12DB          348 ;
12DB 68        349          pla

```

```
12DC          350      ;
12DC          351  ASCIIHEX:
12DC 29 0F      352          and #NIBLMASK
12DE          353      ;
12DE 09 B0      354          ora #"0"
12E0          355      ;
12E0 C9 BA      356          cmp #"9"+1
12E2 90 02      357          bcc >1
12E4          358      ;
12E4 69 06      359          adc #6
12E6          360      ;
12E6 A8         361      ^1      tay
12E7          362      ;
12E7 60         363          rts
12E8          364      ;
12E8          365      ;
12E8          366  MAKEHEX:
12E8 A2 FF      367          ldx #NEGONE
12EA          368      ;
12EA 38         369          sec
12EB          370      ;
12EB E8         371      ^1      inx
12EC          372      ;
12EC E9 0A      373          sbc #10
12EE B0 FB      374          bcs <1
12F0          375      ;
12F0 69 0A      376          adc #10
12F2          377      ;
12F2 8D D3 15   378          sta SAVNUM
12F5          379      ;
12F5 8A         380          txa
12F6          381      ;
12F6 0A         382          asl
12F7 0A         383          asl
12F8 0A         384          asl
12F9 0A         385          asl
12FA          386      ;
12FA 0D D3 15   387          ora SAVNUM
12FD          388      ;
12FD 60         389          rts
12FE          390      ;
12FE          391      ;
```

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

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

LLOAD PRINT.L,A\$4000

```

12FE          1          ttl "PROGRAM Source Code, PRINT.L"
12FE          2          ;
12FE          3          ;
12FE          4          ; PRINT.L
12FE          5          ;
12FE          6          ;
12FE          7          obj PAGE09
12FE          8          usr
12FE          9          ;
12FE         10          ;
12FE         11          PRINTBUF:
12FE 8E 14 13    12          stx BUFRMOD
1301 8C 15 13    13          sty BUFRMOD+1
1304           14          ;
1304 B0 06       15          bcs >1
1306           16          ;
1306 20 ED FD    17          jsr COUT
1309           18          ;
1309 4C 0F 13    19          jmp >2
130C           20          ;
130C 20 DA FD    21          ^1      jsr PRBYTE
130F           22          ;
130F 20 2D 13    23          ^2      jsr PRINT
1312 56 00       24          byt BUFRCMD,DIRECT
1314 6F 16       25          BUFRMOD adr UNKNOWN
1316 50          26          byt RTNCMD
1317           27          ;
1317 60          28          rts
1318           29          ;
1318           30          ;
1318           31          PRINTIME:
1318 84 FC        32          sty PRNTPTR
131A 85 FD        33          sta PRNTPTR+1
131C           34          ;
131C A0 05       35          ldy #DATELEN-1
131E           36          ;
131E B9 44 16    37          ^1      lda DATIMSEP,Y
1321 20 ED FD    38          jsr COUT
1324           39          ;
1324 B1 FC        40          lda (PRNTPTR),Y
1326 20 DA FD    41          jsr PRBYTE
1329           42          ;
1329 88          43          dey
132A 10 F2       44          bpl <1
132C           45          ;
132C 60          46          rts
132D           47          ;
132D           48          ;
132D           49          PRINT:
132D 8D 0D 14    50          sta PRNTSAVA+1
1330 8E 0B 14    51          stx PRNTSAVX+1
1333 8C 09 14    52          sty PRNTSAVY+1
1336           53          ;
1336 68          54          pla
1337 85 FC        55          sta PRNTPTR
1339           56          ;
1339 68          57          pla
133A 85 FD        58          sta PRNTPTR+1
133C           59          ;
133C E6 FC       60          PRNTLOOP inc PRNTPTR

```

```

133E D0 02      61      bne >1
1340           62      ;
1340 E6 FD      63      inc PRNTPTR+1
1342           64      ;
1342 A0 00      65      ^1      ldy #ZERO
1344           66      ;
1344 B1 FC      67      lda (PRNTPTR),Y
1346 10 10      68      bpl >3
1348           69      ;
1348 C9 A0      70      cmp #SPACE
134A 90 06      71      bcc >2
134C           72      ;
134C 20 A7 13   73      jsr PRNTOUT
134F           74      ;
134F 4C 3C 13   75      jmp PRNTLOOP
1352           76      ;
1352 20 AB 13   77      ^2      jsr PRNTOUT2
1355           78      ;
1355 4C 3C 13   79      jmp PRNTLOOP
1358           80      ;
1358 C9 50      81      ^3      cmp #MAXCH
135A B0 04      82      bcs >4
135C           83      ;
135C 85 24      84      sta CH
135E           85      ;
135E 90 DC      86      bcc PRNTLOOP
1360           87      ;
1360 C9 60      88      ^4      cmp #MINCV
1362 90 0A      89      bcc >5
1364           90      ;
1364 29 1F      91      and #CVMASK
1366 85 25      92      sta CV
1368           93      ;
1368 20 22 FC   94      PRNTMOD1 jsr VTAB
136B           95      ;
136B 4C 3C 13   96      jmp PRNTLOOP
136E           97      ;
136E 29 0F      98      ^5      and #PCMDMASK
1370 AA        99      tax
1371          100      ;
1371 BD CD 13   101      lda PRNTBL,X
1374 8D 84 13   102      sta PRNTMOD2+1
1377          103      ;
1377 BD DD 13   104      lda PRNTBLL,X
137A 8D A2 13   105      sta PRNTMOD3+1
137D          106      ;
137D BD ED 13   107      lda PRNTBLH,X
1380 8D A3 13   108      sta PRNTMOD3+2
1383          109      ;
1383 90 19      110      PRNTMOD2 bcc PRNTBR4
1385          111      ;
1385 C8        112      PRNTBR1 iny
1386          113      ;
1386 B1 FC      114      lda (PRNTPTR),Y
1388 8D CC 13   115      sta FRMTVAL
138B          116      ;
138B C8        117      PRNTBR2 iny
138C          118      ;
138C B1 FC      119      lda (PRNTPTR),Y
138E 85 FA      120      sta DATAPTR
1390          121      ;

```

```

1390 C8          122 PRNTBR3  iny
1391            123 ;
1391 B1 FC        124          lda (PRNTPTR),Y
1393 85 FB        125          sta DATAPTR+1
1395            126 ;
1395 98          127          tya
1396            128 ;
1396 65 FC        129          adc PRNTPTR
1398 85 FC        130          sta PRNTPTR
139A 90 02        131          bcc PRNTBR4
139C            132 ;
139C E6 FD        133          inc PRNTPTR+1
139E            134 ;
139E 18          135 PRNTBR4  clc
139F            136 ;
139F A0 00        137          ldy #ZERO
13A1            138 ;
13A1 20 00 00    139 PRNTMOD3 jsr *-*
13A4            140 ;
13A4 4C 3C 13    141          jmp PRNTLOOP
13A7            142 ;
13A7            143 ;
13A7            144 PRNTOUT:
13A7 09 00        145 OUTMOD1  ora #ZERO
13A9 49 00        146 OUTMOD2  eor #ZERO
13AB            147 ;
13AB 4C ED FD    148 PRNTOUT2 jmp COUT
13AE            149 ;
13AE            150 ;
13AE            151 ; Notes on DISPCMD as index
13AE            152 ;
13AE            153 ; 0 - Normal display
13AE            154 ; 1 - Inverse display
13AE            155 ;
13AE 80 40        156 OUTTBL1  hex 8040          ; TEXT
13B0 80 00        157          hex 8000          ; GRPH
13B2 80 00        158          hex 8000          ; TX80
13B4            159 ;
13B4 00 C0        160 OUTTBL2  hex 00C0
13B6 00 80        161          hex 0080
13B8 00 00        162          hex 0000
13BA            163 ;
13BA FF 3F        164 OUT80COL  hex FF3F
13BC            165 ;
13BC            166 ;
13BC 22 FC        167 VTABADRS  adr VTAB
13BE 0F 14        168          adr PRINTRTN
13C0 22 FC        169          adr VTAB
13C2            170 ;
13C2            171 ;
13C2 ED FD        172 OUTADRS  adr COUT
13C4 A4 15        173          adr PRNTGRPH
13C6 ED FD        174          adr COUT
13C8            175 ;
13C8 00          176 PRNTSAV  hex 00
13C9 00 00        177 PRNTNUM  hex 0000
13CB            178 ;
13CB            179 ;
13CB            180 ; Notes on MODEVAL and FRMTVAL
13CB            181 ;
13CB            182 ; 0 - 40 column TEXT mode

```



```

13CB      183 ; 1 - GRAPHICS mode
13CB      184 ; 2 - 80 column TEXT mode
13CB      185 ; 3 - exit 80 TEXT, enter 40 TEXT
13CB      186 ;
13CB      187 ; 0x00 - no left padding
13CB      188 ; 0x20 - data in high/low order, otherwise low/high order
13CB      189 ; 0x40 - zero left padding
13CB      190 ; 0x80 - space left padding
13CB      191 ;
13CB 00    192 MODEVAL hex 00
13CC 00    193 FRMTVAL hex 00
13CD      194 ;
13CD      195 ;
13CD      196 ; Branch table of command routines.
13CD      197 ;
13CD      198 PRNTBL:
13CD 19    199      byt PRNTBR4-PRNTBR1 ; 50
13CE 0B    200      byt PRNTBR3-PRNTBR1 ; 51
13CF 0B    201      byt PRNTBR3-PRNTBR1 ; 52
13D0 0B    202      byt PRNTBR3-PRNTBR1 ; 53
13D1 0B    203      byt PRNTBR3-PRNTBR1 ; 54
13D2 19    204      byt PRNTBR4-PRNTBR1 ; 55
13D3 00    205      byt PRNTBR1-PRNTBR1 ; 56
13D4 06    206      byt PRNTBR2-PRNTBR1 ; 57
13D5 06    207      byt PRNTBR2-PRNTBR1 ; 58
13D6 06    208      byt PRNTBR2-PRNTBR1 ; 59
13D7 00    209      byt PRNTBR1-PRNTBR1 ; 5A
13D8 00    210      byt PRNTBR1-PRNTBR1 ; 5B
13D9 06    211      byt PRNTBR2-PRNTBR1 ; 5C
13DA 06    212      byt PRNTBR2-PRNTBR1 ; 5D
13DB 06    213      byt PRNTBR2-PRNTBR1 ; 5E
13DC 00    214      byt PRNTBR1-PRNTBR1 ; 5F
13DD      215 ;
13DD      216 ;
13DD      217 ; Address tables of command routines.
13DD      218 ;
13DD      219 PRNTBLL:
13DD FD    220      byt PRNTRTN ; 50
13DE 10    221      byt PRNTMODE ; 51
13DF 5B    222      byt PRNTDISP ; 52
13E0 7A    223      byt PRNTSCRN ; 53
13E1 8A    224      byt PRNTCLR ; 54
13E2 94    225      byt PRNTCNTR ; 55
13E3 A6    226      byt PRNTBUFR ; 56
13E4 C1    227      byt PRNTNIBL ; 57
13E5 CA    228      byt PRNT1BYT ; 58
13E6 CD    229      byt PRNT2BYT ; 59
13E7 C6    230      byt PRNTNBYT ; 5A
13E8 D9    231      byt PRNTADR ; 5B
13E9 F1    232      byt PRNT1DEC ; 5C
13EA F7    233      byt PRNT2DEC ; 5D
13EB 04    234      byt PRNT3DEC ; 5E
13EC 0E    235      byt PRNTNDEC ; 5F
13ED      236 ;
13ED      237 PRNTBLH:
13ED 13    238      hby PRNTRTN ; 50
13EE 14    239      hby PRNTMODE ; 51
13EF 14    240      hby PRNTDISP ; 52
13F0 14    241      hby PRNTSCRN ; 53
13F1 14    242      hby PRNTCLR ; 54
13F2 14    243      hby PRNTCNTR ; 55

```

```

13F3 14      244      hby PRNTBUFR      ; 56
13F4 14      245      hby PRNTNIBL      ; 57
13F5 14      246      hby PRNT1BYT      ; 58
13F6 14      247      hby PRNT2BYT      ; 59
13F7 14      248      hby PRNTNBYT      ; 5A
13F8 14      249      hby PRNTADR       ; 5B
13F9 14      250      hby PRNT1DEC      ; 5C
13FA 14      251      hby PRNT2DEC      ; 5D
13FB 15      252      hby PRNT3DEC      ; 5E
13FC 15      253      hby PRNTNDEC      ; 5F
13FD          254      ;
13FD          255      ;
13FD          256      ; RTNCMD (0x50)
13FD          257      ;
13FD          258      PRNTRTN:
13FD BA      259      tsx
13FE          260      ;
13FE A5 FC    261      lda PRNTPTR
1400 9D 01 01 262      sta STACK+1,X
1403          263      ;
1403 A5 FD    264      lda PRNTPTR+1
1405 9D 02 01 265      sta STACK+2,X
1408          266      ;
1408 A0 00    267      PRNTSAVY ldy #ZERO
140A A2 00    268      PRNTSAVX ldx #ZERO
140C A9 00    269      PRNTSAVA lda #ZERO
140E          270      ;
140E 18      271      clc
140F          272      ;
140F 60      273      PRNTRTN rts
1410          274      ;
1410          275      ;
1410          276      ; MODECMD (0x51)
1410          277      ;
1410          278      ; 0 - 40 column TEXT mode
1410          279      ; 1 - GRAPHICS mode
1410          280      ; 2 - 80 column TEXT mode
1410          281      ; 3 - exit 80 TEXT, enter 40 TEXT
1410          282      ;
1410          283      PRNTMODE:
1410 A5 FB      284      lda DATAPTR+1
1412 29 03      285      and #3
1414          286      ;
1414 C9 02      287      cmp #TX80MODE
1416 D0 09      288      bne >1
1418          289      ;
1418 A9 B3      290      lda #"3"
141A 20 95 FE    291      jsr OUTPORT
141D          292      ;
141D A9 02      293      lda #TX80MODE
141F D0 1A      294      bne >2
1421          295      ;
1421 C9 03      296      ^1 cmp #LV80MODE
1423 D0 16      297      bne >2
1425          298      ;
1425 AD BA 13    299      lda OUT80COL
1428 85 32      300      sta INVFLG
142A          301      ;
142A A9 9B      302      lda #ESCAPE
142C 20 ED FD    303      jsr COUT
142F          304      ;

```

```

142F A9 91      305      lda #CTRLQ
1431 20 ED FD   306      jsr COUT
1434           307      ;
1434 A9 B0      308      lda #"0"
1436 20 95 FE   309      jsr OUTPORT
1439           310      ;
1439 A9 00      311      lda #TEXTMODE
143B           312      ;
143B 8D CB 13   313      ^2 sta MODEVAL
143E           314      ;
143E 0A         315      asl
143F A8         316      tay
1440           317      ;
1440 B9 BC 13   318      lda VTABADRS,Y
1443 8D 69 13   319      sta PRNTMOD1+1
1446           320      ;
1446 B9 BD 13   321      lda VTABADRS+1,Y
1449 8D 6A 13   322      sta PRNTMOD1+2
144C           323      ;
144C B9 C2 13   324      lda OUTADRS,Y
144F 8D AC 13   325      sta PRNTOUT2+1
1452           326      ;
1452 B9 C3 13   327      lda OUTADRS+1,Y
1455 8D AD 13   328      sta PRNTOUT2+2
1458           329      ;
1458 4C EA 03   330      jmp HOOKDOS
145B           331      ;
145B           332      ;
145B           333      ; DISPCMD (0x52)
145B           334      ;
145B           335      ; 0 - Normal display
145B           336      ; 1 - Inverse display
145B           337      ;
145B           338      PRNTDISP:
145B A4 FB      339      ldy DATAPTR+1
145D           340      ;
145D AD CB 13   341      lda MODEVAL
1460 C9 02      342      cmp #TX80MODE
1462 D0 05      343      bne >1
1464           344      ;
1464 BE BA 13   345      ldx OUT80COL,Y
1467 86 32      346      stx INVFLG
1469           347      ;
1469 0A         348      ^1 asl
146A 65 FB      349      adc DATAPTR+1
146C           350      ;
146C A8         351      tay
146D           352      ;
146D B9 AE 13   353      lda OUTTBL1,Y
1470 8D A8 13   354      sta OUTMOD1+1
1473           355      ;
1473 B9 B4 13   356      lda OUTTBL2,Y
1476 8D AA 13   357      sta OUTMOD2+1
1479           358      ;
1479 60         359      rts
147A           360      ;
147A           361      ;
147A           362      ; SCRNCMD (0x53)
147A           363      ;
147A           364      ; 0 - INIT
147A           365      ; 1 - HOME

```

```
147A      366      ;
147A      367      PRNTSCRN:
147A 2C 54 C0      368          bit LOWSCR
147D      369      ;
147D      370          .if DISPLAY=GRPHMODE
147D      371      ;
147D      372          lda MODEVAL
147D      373          cmp #GRPHMODE
147D      374          bne >2
147D      375      ;
147D      376          lda DATAPTR+1
147D      377          bne >1
147D      378      ;
147D      379          jmp SCRNNINIT
147D      380      ;
147D      381      ^1      jmp SCRNHOM
147D      382      ;
147D      383          .fi
147D      384      ;
147D A5 FB      385      ^2      lda DATAPTR+1
147F D0 06      386          bne >3
1481      387      ;
1481 2C 51 C0      388          bit TXTSET
1484      389      ;
1484 4C 2F FB      390          jmp INIT
1487      391      ;
1487 4C 58 FC      392      ^3      jmp HOME
148A      393      ;
148A      394      ;
148A      395      ; CLRCMD (0x54)
148A      396      ;
148A      397      ; 0 - EOL
148A      398      ; 1 - EOP
148A      399      ;
148A      400      PRNTCLR:
148A      401          .if DISPLAY=GRPHMODE
148A      402      ;
148A      403          lda MODEVAL
148A      404          cmp #GRPHMODE
148A      405          bne >2
148A      406      ;
148A      407          lda DATAPTR+1
148A      408          bne >1
148A      409      ;
148A      410          jmp SCRNEOL
148A      411      ;
148A      412      ^1      jmp SCRNEOP
148A      413      ;
148A      414          .fi
148A      415      ;
148A A5 FB      416      ^2      lda DATAPTR+1
148C D0 03      417          bne >3
148E      418      ;
148E 4C 9C FC      419          jmp CLREOL
1491      420      ;
1491 4C 42 FC      421      ^3      jmp CLREOP
1494      422      ;
1494      423      ;
1494      424      ; CNTRCMD (0x55)
1494      425      ;
1494      426      PRNTCNTR:
```

```

1494 A9 9F      427      lda #SPACE-1
1496           428      ;
1496 C8         429      ^1      iny
1497           430      ;
1497 D1 FC      431      cmp (PRNTPTR),Y
1499 90 FB      432      bcc <1
149B           433      ;
149B 98         434      tya
149C           435      ;
149C 49 FF      436      eor #NEGONE
149E 65 21      437      adc WNDWDTH
14A0           438      ;
14A0 4A         439      lsr
14A1           440      ;
14A1 65 20      441      adc WNDLFT
14A3 85 24      442      sta CH
14A5           443      ;
14A5 60         444      rts
14A6           445      ;
14A6           446      ;
14A6           447      ; BUFRCMD (0x56)
14A6           448      ;
14A6           449      ; 0 - direct address
14A6           450      ; 1 - indirect address
14A6           451      ;
14A6           452      PRNTBUFR:
14A6 AD CC 13   453      lda FRMTVAL
14A9 F0 0B      454      beq >1
14AB           455      ;
14AB B1 FA      456      lda (DATAPTR),Y
14AD AA         457      tax
14AE           458      ;
14AE C8         459      iny
14AF           460      ;
14AF B1 FA      461      lda (DATAPTR),Y
14B1           462      ;
14B1 86 FA      463      stx DATAPTR
14B3 85 FB      464      sta DATAPTR+1
14B5           465      ;
14B5 88         466      dey
14B6           467      ;
14B6 B1 FA      468      ^1      lda (DATAPTR),Y
14B8 F0 06      469      beq >2
14BA           470      ;
14BA 20 A7 13   471      jsr PRNTOUT
14BD           472      ;
14BD C8         473      iny
14BE D0 F6      474      bne <1
14C0           475      ;
14C0 60         476      ^2      rts
14C1           477      ;
14C1           478      ;
14C1           479      ; NIBLCMD (0x57)
14C1           480      ;
14C1           481      PRNTNIBL:
14C1 B1 FA      482      lda (DATAPTR),Y
14C3           483      ;
14C3 4C 5E 15   484      jmp PRNTHEx
14C6           485      ;
14C6           486      ;
14C6           487      ; BYT1CMD (0x58)

```

```

14C6      488      ; BYT2CMD (0x59)
14C6      489      ; BYTNCMD (0x5A)
14C6      490      ;
14C6      491      PRNTNBYT:
14C6 AE CC 13    492      ldx FRMTVAL
14C9      493      ;
14C9 2C 00 00    494      bit *-*
14CC      495      dfs !-2
14CA      496      ;
14CA      497      PRNT1BYT:
14CA A2 01      498      ldx #1
14CC      499      ;
14CC 2C 00 00    500      bit *-*
14CF      501      dfs !-2
14CD      502      ;
14CD      503      PRNT2BYT:
14CD A2 02      504      ldx #2
14CF      505      ;
14CF      506      PRNTBYT:
14CF B1 FA      507      lda (DATAPTR),Y
14D1      508      ;
14D1 20 55 15    509      jsr PRNTBYTE
14D4      510      ;
14D4 C8          511      iny
14D5      512      ;
14D5 CA          513      dex
14D6 D0 F7      514      bne PRNTBYT
14D8      515      ;
14D8 60          516      rts
14D9      517      ;
14D9      518      ;
14D9      519      ; ADRCMD (0x5B)
14D9      520      ;
14D9      521      ; 0 - direct address
14D9      522      ; 1 - indirect address
14D9      523      ;
14D9      524      PRNTADR:
14D9 AD CC 13    525      lda FRMTVAL
14DC D0 06      526      bne >1
14DE      527      ;
14DE A6 FA      528      ldx DATAPTR
14E0 A5 FB      529      lda DATAPTR+1
14E2      530      ;
14E2 90 06      531      bcc >2                ; always taken
14E4      532      ;
14E4 B1 FA      533      ^1      lda (DATAPTR),Y
14E6 AA          534      tax
14E7      535      ;
14E7 C8          536      iny
14E8      537      ;
14E8 B1 FA      538      lda (DATAPTR),Y
14EA      539      ;
14EA 20 55 15    540      ^2      jsr PRNTBYTE
14ED      541      ;
14ED 8A          542      txa
14EE      543      ;
14EE 4C 55 15    544      jmp PRNTBYTE
14F1      545      ;
14F1      546      ;
14F1      547      ; DEC1CMD (0x5C)
14F1      548      ;

```

```

14F1          549 PRNT1DEC:
14F1 20 6B 15 550          jsr HEXTODEC
14F4          551 ;
14F4 4C 5E 15 552          jmp PRNTHEx
14F7          553 ;
14F7          554 ;
14F7          555 ; DEC2CMD (0x5D)
14F7          556 ;
14F7          557 PRNT2DEC:
14F7 20 6B 15 558          jsr HEXTODEC
14FA          559 ;
14FA          560 ;
14FA 8A       561 PRNTDEC  txa
14FB 20 5E 15 562          jsr PRNTHEx
14FE          563 ;
14FE AD C8 13 564          lda PRNTSAV
1501          565 ;
1501 4C 5E 15 566          jmp PRNTHEx
1504          567 ;
1504          568 ;
1504          569 ; DEC3CMD (0x5E)
1504          570 ;
1504          571 PRNT3DEC:
1504 20 6B 15 572          jsr HEXTODEC
1507          573 ;
1507 98       574          tya
1508          575 ;
1508 20 5E 15 576          jsr PRNTHEx
150B          577 ;
150B 4C FA 14 578          jmp PRNTDEC
150E          579 ;
150E          580 ;
150E          581 ; DECN CMD (0x5F)
150E          582 ;
150E          583 ; 0x00 - no left padding
150E          584 ; 0x20 - data in high/low order, otherwise low/high order
150E          585 ; 0x40 - zero left padding
150E          586 ; 0x80 - space left padding
150E          587 ;
150E          588 PRNTNDEC:
150E B1 FA    589          lda (DATAPTR),Y
1510 AA       590          tax
1511          591 ;
1511 C8       592          iny
1512          593 ;
1512 B1 FA    594          lda (DATAPTR),Y
1514 A8       595          tay
1515          596 ;
1515 AD CC 13 597          lda FRMTVAL
1518 29 20    598          and #HIGHLOW
151A D0 09    599          bne >1
151C          600 ;
151C 8E C9 13 601          stx PRNTNUM
151F 8C CA 13 602          sty PRNTNUM+1
1522          603 ;
1522 4C 2B 15 604          jmp >2
1525          605 ;
1525 8C C9 13 606 ^1          sty PRNTNUM
1528 8E CA 13 607          stx PRNTNUM+1
152B          608 ;
152B A2 03    609 ^2          ldx #3

```

```

152D      610 ;
152D 2C CC 13 611      bit FRMTVAL
1530 70 18    612      bvs >6
1532      613 ;
1532 20 85 15 614 ^3      jsr GETDIGIT
1535 D0 16    615      bne >7
1537      616 ;
1537 2C CC 13 617      bit FRMTVAL
153A 10 05    618      bpl >4
153C      619 ;
153C A9 A0    620      lda #SPACE
153E 20 A7 13 621      jsr PRNTOUT
1541      622 ;
1541 CA      623 ^4      dex
1542 10 EE    624      bpl <3
1544      625 ;
1544 AD C9 13 626 ^5      lda PRNTNUM
1547      627 ;
1547 4C 5E 15 628      jmp PRNTHEx
154A      629 ;
154A 20 85 15 630 ^6      jsr GETDIGIT
154D      631 ;
154D 20 5E 15 632 ^7      jsr PRNTHEx
1550      633 ;
1550 CA      634      dex
1551 10 F7    635      bpl <6
1553      636 ;
1553 30 EF    637      bmi <5          ; always taken
1555      638 ;
1555      639 ;
1555      640 PRNTBYTE:
1555 48      641      pha
1556      642 ;
1556 4A      643      lsr
1557 4A      644      lsr
1558 4A      645      lsr
1559 4A      646      lsr
155A      647 ;
155A 20 60 15 648      jsr PRNTHEx2
155D      649 ;
155D 68      650      pla
155E      651 ;
155E      652 ;
155E      653 PRNTHEx:
155E 29 0F    654      and #NIBLMASK
1560      655 ;
1560 09 B0    656 PRNTHEx2 ora #"0"
1562      657 ;
1562 C9 BA    658      cmp #"9"+1
1564 90 02    659      bcc >1
1566      660 ;
1566 69 06    661      adc #6
1568      662 ;
1568 4C A7 13 663 ^1      jmp PRNTOUT
156B      664 ;
156B      665 ;
156B      666 HEXTODEC:
156B B1 FA    667      lda (DATAPTR),Y
156D      668 ;
156D      669 HEXTODC2:
156D A2 00    670      ldx #ZERO

```



```

156F      671 ;
156F C9 64 672 ^1      cmp #100
1571 90 05 673      bcc >2
1573      674 ;
1573 E9 64 675      sbc #100
1575      676 ;
1575 C8    677      iny
1576 D0 F7 678      bne <1
1578      679 ;
1578 C9 0A 680 ^2      cmp #10
157A 90 05 681      bcc >3
157C      682 ;
157C E9 0A 683      sbc #10
157E      684 ;
157E E8    685      inx
157F D0 F7 686      bne <2
1581      687 ;
1581 8D C8 13 688 ^3      sta PRNTSAV
1584      689 ;
1584 60      690      rts
1585      691 ;
1585      692 ;
1585      693 GETDIGIT:
1585 A0 00 694      ldy #ZERO
1587      695 ;
1587 38      696 ^1      sec
1588      697 ;
1588 AD C9 13 698      lda PRNTNUM
158B FD 4B 16 699      sbc DECTBLL+1,X
158E 48      700      pha
158F      701 ;
158F AD CA 13 702      lda PRNTNUM+1
1592 FD 50 16 703      sbc DECTBLH+1,X
1595 90 0A    704      bcc >2
1597      705 ;
1597 8D CA 13 706      sta PRNTNUM+1
159A      707 ;
159A 68      708      pla
159B 8D C9 13 709      sta PRNTNUM
159E      710 ;
159E C8      711      iny
159F D0 E6    712      bne <1
15A1      713 ;
15A1 68      714 ^2      pla
15A2      715 ;
15A2 98      716      tya
15A3      717 ;
15A3 60      718      rts
15A4      719 ;
15A4      720 ;
15A4      721 PRNTGRPH:
15A4      722 ;
15A4      723      .if DISPLAY=GRPHMODE
15A4      724 ;
15A4      725      cmp #SPACE
15A4      726      bcs >3
15A4      727 ;
15A4      728      cmp #ASCIFLAG
15A4      729      bcc >3
15A4      730 ;
15A4      731      cmp #BELLCHAR

```

```
15A4      732      bne >1
15A4      733      ;
15A4      734      jmp BELL
15A4      735      ;
15A4      736      ^1    cmp #RETURN
15A4      737      beq >2
15A4      738      ;
15A4      739      cmp #LARROW
15A4      740      bne >1
15A4      741      ;
15A4      742      dec CH
15A4      743      ;
15A4      744      ^1    cmp #DARROW
15A4      745      bne >1
15A4      746      ;
15A4      747      inc CV
15A4      748      ;
15A4      749      ^1    cmp #UARROW
15A4      750      bne >1
15A4      751      ;
15A4      752      dec CV
15A4      753      ;
15A4      754      ^1    cmp #RARROW
15A4      755      bne >1
15A4      756      ;
15A4      757      inc CH
15A4      758      ;
15A4      759      ^1    rts
15A4      760      ;
15A4      761      ^2    lda WNDLFT
15A4      762      sta CH
15A4      763      ;
15A4      764      inc CV
15A4      765      ;
15A4      766      lda CV
15A4      767      cmp WNDBTM
15A4      768      bcc >8
15A4      769      ;
15A4      770      jmp SCROLL
15A4      771      ;
15A4      772      ^3    stx SCRNSAVX+1
15A4      773      sty SCRNSAVY+1
15A4      774      ;
15A4      775      ldx /CHARTBL
15A4      776      ;
15A4      777      ldy #ZERO
15A4      778      ;
15A4      779      asl
15A4      780      bcs >4
15A4      781      ;
15A4      782      ldy #INVRMASK
15A4      783      ;
15A4      784      sec
15A4      785      ;
15A4      786      ^4    sty SCRNMOD2+1
15A4      787      ;
15A4      788      sbc #$40
15A4      789      ;
15A4      790      asl
15A4      791      bcc >5
15A4      792      ;
```

```
15A4      793      ldx /CHARTBL+$200
15A4      794      ;
15A4      795      ^5      asl
15A4      796      bcc >6
15A4      797      ;
15A4      798      inx
15A4      799      ;
15A4      800      clc
15A4      801      ;
15A4      802      ^6      adc #CHARTBL
15A4      803      sta SCRNMOD1+1
15A4      804      bcc >7
15A4      805      ;
15A4      806      inx
15A4      807      ;
15A4      808      ^7      stx SCRNMOD1+2
15A4      809      ;
15A4      810      clc
15A4      811      ;
15A4      812      ldx CV
15A4      813      ;
15A4      814      lda YBASELO,X
15A4      815      sta SCRNMOD3+1
15A4      816      ;
15A4      817      lda YBASEHI,X
15A4      818      sta SCRNMOD3+2
15A4      819      ;
15A4      820      ldY CH
15A4      821      ldX #CHARCELL
15A4      822      ;
15A4      823      SCRNMOD1 lda *-,X
15A4      824      ;
15A4      825      SCRNMOD2 eor #ZERO
15A4      826      ;
15A4      827      SCRNMOD3 sta *-,Y
15A4      828      ;
15A4      829      lda SCRNMOD3+2
15A4      830      adc #NEXTLINE
15A4      831      sta SCRNMOD3+2
15A4      832      ;
15A4      833      dex
15A4      834      bpl SCRNMOD1
15A4      835      ;
15A4      836      iny
15A4      837      ;
15A4      838      SCRNMOD4 cpy #MAXWDTH
15A4      839      bcs <2
15A4      840      ;
15A4      841      sty CH
15A4      842      ;
15A4      843      SCRNSAVY ldY #ZERO
15A4      844      SCRNSAVX ldX #ZERO
15A4      845      ;
15A4      846      ^8      rts
15A4      847      ;
15A4      848      ;
15A4      849      SCRNINIT:
15A4      850      bit HIRES
15A4      851      bit MIXCLR
15A4      852      bit TXTCLR
15A4      853      ;
```

```
15A4      854      clc
15A4      855      ;
15A4      856      lda #MAXWDTH
15A4      857      adc WNDLFT
15A4      858      sta SCRNMOD4+1
15A4      859      sta EOLMOD1+1
15A4      860      sta SCRLMOD3+1
15A4      861      ;
15A4      862      rts
15A4      863      ;
15A4      864      ;
15A4      865      SCROLL:
15A4      866      lda WNDLFT
15A4      867      sta CH
15A4      868      ;
15A4      869      ldx WNDBTM
15A4      870      dex
15A4      871      stx SCRLMOD4+1
15A4      872      ;
15A4      873      ldx WNDTOP
15A4      874      stx CV
15A4      875      ;
15A4      876      ^1      lda YBASELO,X
15A4      877      sta SCRLMOD2+1
15A4      878      ;
15A4      879      lda YBASEHI,X
15A4      880      sta SCRLMOD2+2
15A4      881      ;
15A4      882      inx
15A4      883      stx CV
15A4      884      ;
15A4      885      lda YBASELO,X
15A4      886      sta SCRLMOD1+1
15A4      887      ;
15A4      888      lda YBASEHI,X
15A4      889      sta SCRLMOD1+2
15A4      890      ;
15A4      891      ldx #CHARCELL
15A4      892      ;
15A4      893      ^2      ldY CH
15A4      894      ;
15A4      895      SCRLMOD1 lda *-,Y
15A4      896      SCRLMOD2 sta *-,Y
15A4      897      ;
15A4      898      iny
15A4      899      ;
15A4      900      SCRLMOD3 cpy #MAXWDTH
15A4      901      bcc SCRLMOD1
15A4      902      ;
15A4      903      lda SCRLMOD1+2
15A4      904      adc #NEXTLINE-1
15A4      905      sta SCRLMOD1+2
15A4      906      ;
15A4      907      lda SCRLMOD2+2
15A4      908      adc #NEXTLINE
15A4      909      sta SCRLMOD2+2
15A4      910      ;
15A4      911      dex
15A4      912      bpl <2
15A4      913      ;
15A4      914      ldx CV
```

```
15A4      915  SCRLMOD4  cpx #LOC0
15A4      916          bne <1
15A4      917  ;
15A4      918  ;
15A4      919  SCRNEOL:
15A4      920          ldx CV
15A4      921  ;
15A4      922          lda YBASELO,X
15A4      923          sta EOLMOD2+1
15A4      924  ;
15A4      925          lda YBASEHI,X
15A4      926          sta EOLMOD2+2
15A4      927  ;
15A4      928          ldx #CHARCELL
15A4      929  ;
15A4      930  ^1      ldy CH
15A4      931  ;
15A4      932          lda #ZERO
15A4      933  ;
15A4      934  EOLMOD1  cpy #MAXWDTH
15A4      935          bcs >2
15A4      936  ;
15A4      937  EOLMOD2  sta *-*,Y
15A4      938  ;
15A4      939          iny
15A4      940          bne EOLMOD1
15A4      941  ;
15A4      942  ^2      lda EOLMOD2+2
15A4      943          adc #NEXTLINE-1
15A4      944          sta EOLMOD2+2
15A4      945  ;
15A4      946          dex
15A4      947          bpl <1
15A4      948  ;
15A4      949          rts
15A4      950  ;
15A4      951  ;
15A4      952  SCRNHOM:
15A4      953          lda WNDLFT
15A4      954          sta CH
15A4      955  ;
15A4      956          lda WNDTOP
15A4      957          sta CV
15A4      958  ;
15A4      959  ;
15A4      960  SCRNEOP:
15A4      961          jsr SCRNEOL
15A4      962  ;
15A4      963          lda CH
15A4      964          pha
15A4      965  ;
15A4      966          lda CV
15A4      967          pha
15A4      968  ;
15A4      969          lda WNDLFT
15A4      970          sta CH
15A4      971  ;
15A4      972  ^1      inc CV
15A4      973  ;
15A4      974          lda CV
15A4      975          cmp WNDBTM
```

```

15A4      976      bcs >2
15A4      977      ;
15A4      978      jsr SCRNEOL
15A4      979      bmi <1
15A4      980      ;
15A4      981      ^2      pla
15A4      982      sta CV
15A4      983      ;
15A4      984      pla
15A4      985      sta CH
15A4      986      ;
15A4      987      rts
15A4      988      ;
15A4      989      ;
15A4      990      YBASELO:
15A4      991      ;
15A4      992      hex 0080008000800080
15A4      993      hex 28A828A828A828A8
15A4      994      hex 50D050D050D050D0
15A4      995      ;
15A4      996      YBASEHI:
15A4      997      ;
15A4      998      hex 2020212122222323
15A4      999      hex 2020212122222323
15A4     1000      hex 2020212122222323
15A4     1001      ;
15A4     1002      ;
15A4     1003      CHARTBL:
15A4     1004      ;
15A4     1005      hex 0000000000000000 ;
15A4     1006      hex 0008000808080808 ; !
15A4     1007      hex 0000000000141414 ; "
15A4     1008      hex 0014143E143E1414 ; #
15A4     1009      hex 00081E281C0A3C08 ; $
15A4     1010      hex 0030320408102606 ; %
15A4     1011      hex 002C122A040A0A04 ; &
15A4     1012      hex 0000000000080808 ; ??
15A4     1013      hex 0010080404040810 ; (
15A4     1014      hex 0004081010100804 ; )
15A4     1015      hex 0000082A1C1C2A08 ; *
15A4     1016      hex 000008083E080800 ; +
15A4     1017      hex 04080C0000000000 ; ,
15A4     1018      hex 000000003E000000 ; -
15A4     1019      hex 000C0C0000000000 ; .
15A4     1020      hex 0000020408102000 ; /
15A4     1021      ;
15A4     1022      hex 001C22262A32221C ; 0
15A4     1023      hex 001C080808080C08 ; 1
15A4     1024      hex 003E02041820221C ; 2
15A4     1025      hex 001C22201820221C ; 3
15A4     1026      hex 0010103E12141810 ; 4
15A4     1027      hex 001E20201E02023E ; 5
15A4     1028      hex 001C22221E02021C ; 6
15A4     1029      hex 000808081010203E ; 7
15A4     1030      hex 001C22221C22221C ; 8
15A4     1031      hex 001C20203C22221C ; 9
15A4     1032      hex 000C0C000C0C0000 ; :
15A4     1033      hex 04080C000C0C0000 ; ;
15A4     1034      hex 0020100804081020 ; <
15A4     1035      hex 0000003E003E0000 ; =
15A4     1036      hex 0002040810080402 ; >

```

```
15A4      1037      hex 000800081020221C ; ?
15A4      1038      ;
15A4      1039      hex 001C2A2A2C20221C ; @
15A4      1040      hex 0022223E22221408 ; A
15A4      1041      hex 001E24241C24241E ; B
15A4      1042      hex 001C22020202221C ; C
15A4      1043      hex 001E24242424241E ; D
15A4      1044      hex 003E02021E02023E ; E
15A4      1045      hex 000202021E02023E ; F
15A4      1046      hex 001C22223202221C ; G
15A4      1047      hex 002222223E222222 ; H
15A4      1048      hex 001C08080808081C ; I
15A4      1049      hex 000C121010101038 ; J
15A4      1050      hex 0022120A060A1222 ; K
15A4      1051      hex 003E020202020202 ; L
15A4      1052      hex 002222222A2A3622 ; M
15A4      1053      hex 002222322A262222 ; N
15A4      1054      hex 001C22222222221C ; O
15A4      1055      ;
15A4      1056      hex 000202021E22221E ; P
15A4      1057      hex 002C122A2222221C ; Q
15A4      1058      hex 0022120A1E22221E ; R
15A4      1059      hex 001C22201C02221C ; S
15A4      1060      hex 000808080808083E ; T
15A4      1061      hex 001C222222222222 ; U
15A4      1062      hex 0008142222222222 ; V
15A4      1063      hex 00142A2A2A222222 ; W
15A4      1064      hex 0022221408142222 ; X
15A4      1065      hex 0008080814222222 ; Y
15A4      1066      hex 003E02040810203E ; Z
15A4      1067      hex 0038080808080838 ; [
15A4      1068      hex 0000201008040200 ; \
15A4      1069      hex 000E08080808080E ; ]
15A4      1070      hex 0000000000221408 ; ^
15A4      1071      hex 7F00000000000000 ; _
15A4      1072      ;
15A4      1073      hex 0000000000100804 ; `
15A4      1074      hex 003C223C201C0000 ; a
15A4      1075      hex 001E2222221E0202 ; b
15A4      1076      hex 003C0202023C0000 ; c
15A4      1077      hex 003C2222223C2020 ; d
15A4      1078      hex 003C023E221C0000 ; e
15A4      1079      hex 000404041E042418 ; f
15A4      1080      hex 1C203C22223C0000 ; g
15A4      1081      hex 00222222261A0202 ; h
15A4      1082      hex 001C0808080C0008 ; i
15A4      1083      hex 06080808080C0008 ; j
15A4      1084      hex 00120A060A120202 ; k
15A4      1085      hex 001C08080808080C ; l
15A4      1086      hex 002A2A2A2A160000 ; m
15A4      1087      hex 00222222261A0000 ; n
15A4      1088      hex 001C2222221C0000 ; o
15A4      1089      ;
15A4      1090      hex 02021E22221E0000 ; p
15A4      1091      hex 20203C22223C0000 ; q
15A4      1092      hex 00020202261A0000 ; r
15A4      1093      hex 001E201C023C0000 ; s
15A4      1094      hex 00182404041E0404 ; t
15A4      1095      hex 002C322222220000 ; u
15A4      1096      hex 0008142222220000 ; v
15A4      1097      hex 00142A2A22220000 ; w
```

```
15A4      1098      hex 0022140814220000 ; x
15A4      1099      hex 1C203C2222220000 ; y
15A4      1100      hex 003E0408103E0000 ; z
15A4      1101      hex 0030080804080830 ; {
15A4      1102      hex 0808080808080808 ; |
15A4      1103      hex 0006080810080806 ; }
15A4      1104      hex 0000000000001A2C ; ~
15A4      1105      hex 00002A142A142A00 ;
15A4      1106      ;
15A4      1107      ;
15A4      1108      ;
15A4      1109      .fi
15A4      1110      ;
15A4      1111      ;
```

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

```
15A4      1112      usr SEG03
15A4      1113      ;
15A4      1114      ;
15A4      1115      icl "DATA.L"
```

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



```
15A4      1          ttl "PROGRAM Source Code, DATA.L"
15A4      2      ;
15A4      3      ;
15A4      4      ; DATA.L
15A4      5      ;
15A4      6      ;
15A4      7          obj PAGE09
15A4      8          usr
15A4      9      ;
15A4     10      ;
15A4     11      SIGBYTES:
15A4     12      ;
15A4     13      CFFASIG:
15A4 A9 20     14          lda #$20
15A6 A2 00     15          ldx #$00
15A8 A9 03     16          lda #$03
15AA A9 00     17          lda #$00          ; or #$3C
15AC     18      ;
0008     19      SIGLEN equ *-CFFASIG
15AC     20      ;
15AC     21      DISKSIG1:
15AC A2 20     22          ldx #$20
15AE A0 00     23          ldy #$00
15B0 A2 03     24          ldx #$03
15B2 86 3C     25          stx $3C
15B4     26      ;
15B4     27      DISKSIG2:
15B4 A2 20     28          ldx #$20
15B6 A0 00     29          ldy #$00
15B8 A2 03     30          ldx #$03
15BA 84 3C     31          sty $3C
15BC     32      ;
15BC     33      ;
15BC     34      NUM      dfs 4,ZERO
15C0 00 00     35      VAL0    adr ZERO
15C2 09 00     36      VAL1    adr 9
15C4 2F 00     37      VAL2    adr 47
15C6 7B 00     38      VAL3    adr 123
15C8 2E 16     39      VAL4    adr 5678
15CA DD 87     40      VAL5    adr 34781
15CC     41      ;
15CC     42      ;
15CC     43      ;
15CC     44      SAVROMER dfs 2,ZERO
15CE     45      ;
15CE     46      SAVCH    dfs 1,ZERO
15CF     47      SAVCV    dfs 1,ZERO
15D0     48      ;
15D0     49      SAVA     dfs 1,ZERO
15D1     50      SAVX     dfs 1,ZERO
15D2     51      SAVY     dfs 1,ZERO
15D3     52      ;
15D3     53      SAVNUM   dfs 1,ZERO
15D4     54      TEMP     dfs 1,ZERO
15D5     55      YORN     dfs 1,ZERO
15D6     56      ;
15D6     57      SHOWCNT  dfs 1,ZERO
15D7     58      LINECNT  dfs 1,ZERO
15D8     59      PAGECNT  dfs 1,ZERO
15D9     60      ;
```

```

15D9          61  VSNBUFR  dfs VSNLEN+1,ZERO
15ED          62  VERSION  dfs VRSNLEN+1,ZERO
15FC          63  ;
15FC          64  ;
15FC          65  ;
15FC          66  ; Get entry parameters.
15FC          67  ;
15FC          68  NNUMS    dfs 1,ZERO
15FD          69  NENTRY   dfs 1,ZERO
15FE          70  ;
15FE          71  NUMVALS  dfs 8,ZERO
1606          72  ;
1606          73  HEXVALS  dfs 4,ZERO
160A          74  DECVALS  dfs 2,ZERO
160C          75  ;
000F          76  ENTRLEN  equ *-NENTRY
160C          77  ;
160C          78  ;
160C          79  VOLTITLE dfs NAMELEN+1,ZERO
1625          80  BOOTFILE dfs NAMELEN+1,ZERO
163E          81  FMDATE   dfs DATELEN,ZERO
1644          82  ;
1644          83  ;
1644          84  ; Time and Date separators.
1644          85  ;
1644 BA BA A0  86  DATIMSEP asc " :: // "
1647 AF AF A0
164A          87  ;
164A          88  ;
164A          89  ; Hex to decimal conversion tables.
164A          90  ;
164A 01 0A 64  91  DECTBL  byt 1,10,100,1000,10000
164D E8 10
164F 00 00 00  92  DECTBLH hby 1,10,100,1000,10000
1652 03 27
1654          93  ;
1654          94  ;
1654 A0 00     95  CHARBUFR byt SPACE,ZERO
1656          96  NAMEBUFR dfs NAMELEN+1,ZERO
166F          97  ;
166F          98  ;
166F A0 A8 F5  99  UNKNOWN  asc " (unknown)"
1672 EE EB EE
1675 EF F7 EE
1678 A9
1679 00        100          byt ZERO
167A          101 ;
167A          102 ;
167A D4 E8 E9  103  TESTMSG asc "This is a test message"
167D F3 A0 E9
1680 F3 A0 E1
1683 A0 F4 E5
1686 F3 F4 A0
1689 ED E5 F3
168C F3 E1 E7
168F E5
1690 00        104          byt ZERO
1691          105 ;
1691          106 ;
1691          107          dfs PAGE SIZE-* -PAGE SIZE** /PAGE SIZE,ZERO
1700          108 ;

```

1700                   109   ;

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

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	0002	QUIT	0922
SHOWVAL	0947	TESTVAL	0EAA	GETHEX2	1150	GETHEX4	1153	GETHEX6	1156
GETHEX8	1159	GETDEC1	115E	GETDEC2	1161	GETDEC3	1164	GETDEC5	1167
NUMLOOP	1178	NUMPROC	11D2	HEXPROC	11D5	DECPROC	1204	SELECT	122D
PRESKEY1	125D	PRESKEY2	1265	PRESKEY	126B	GETKEY	127D	READKEY	1291
PRNTCHAR	12A7	PRSPCHEX	12B3	SELCKEY	12BF	SPLITHEX	12D2	ASCIHEX	12DC
MAKEHEX	12E8	PRINTBUF	12FE	BUFRMOD	1314	PRINTIME	1318	PRINT	132D
PRNTLOOP	133C	PRNTMOD1	1368	PRNTMOD2	1383	PRNTBR1	1385	PRNTBR2	138B
PRNTBR3	1390	PRNTBR4	139E	PRNTMOD3	13A1	PRNTOUT	13A7	OUTMOD1	13A7
OUTMOD2	13A9	PRNTOUT2	13AB	OUTTBL1	13AE	OUTTBL2	13B4	OUT80COL	13BA
VTABADRS	13BC	OUTADRS	13C2	PRNTSAV	13C8	PRNTNUM	13C9	MODEVAL	13CB
FRMTVAL	13CC	PRNTBL	13CD	PRNTBLL	13DD	PRNTBLH	13ED	PRNTRTN	13FD
PRNTSAVY	1408	PRNTSAVX	140A	PRNTSAVA	140C	PRNTRTN	140F	PRNTMODE	1410
PRNTDISP	145B	PRNTSCRN	147A	PRNTCLR	148A	PRNTCNTR	1494	PRNTBUFR	14A6
PRNTNIBL	14C1	PRNTNBYT	14C6	PRNT1BYT	14CA	PRNT2BYT	14CD	PRNTBYT	14CF
PRNTADR	14D9	PRNT1DEC	14F1	PRNT2DEC	14F7	PRNTDEC	14FA	PRNT3DEC	1504
PRNTNDEC	150E	PRNTBYTE	1555	PRNTHEx	155E	PRNTHEx2	1560	HEXTODEC	156B
HEXTODC2	156D	GETDIGIT	1585	PRNTGRPH	15A4	SIGBYTES	15A4	CFFASIG	15A4
SIGLEN	0008	DISKSIG1	15AC	DISKSIG2	15B4	NUM	15BC	VAL0	15C0
VAL1	15C2	VAL2	15C4	VAL3	15C6	VAL4	15C8	VAL5	15CA
SAVROMER	15CC	SAVCH	15CE	SAVCV	15CF	SAVA	15D0	SAVX	15D1
SAVY	15D2	SAVNUM	15D3	TEMP	15D4	YORN	15D5	SHOWCNT	15D6
LINECNT	15D7	PAGECNT	15D8	VSNBUFR	15D9	VERSION	15ED	NNUMS	15FC
NENTRY	15FD	NUMVALS	15FE	HEXVALS	1606	DECVALS	160A	ENTRLen	000F
VOLTITLE	160C	BOOTFILE	1625	FMDATE	163E	DATIMSEP	1644	DECTBLL	164A
DECTBLH	164F	CHARBUFR	1654	NAMEBUFR	1656	UNKNOWN	166F	TESTMSG	167A
BUFFERS	1700								

# Symbols alphabetically sorted:

ADRCMD	005B	ASCIFLAG	0080	ASCIHEX	12DC	ASONERR	00D8	ASRUN	0076
BAR	00FC	BELL	FF3A	BELLCHAR	0087	BOOTFILE	1625	BUFFERS	1700
BUFRCMD	0056	BUFRMOD	1314	BYT1CMD	0058	BYT2CMD	0059	BYTNCMD	005A

CALLFM	03D6	CALLRWTS	03D9	CFFASIG	15A4	CH	0024	CHARBUFR	1654
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	1644	DEC1CMD	005C	DEC2CMD	005D	DEC3CMD	005E	DECNCMD	005F
DECPROC	1204	DECTBLH	164F	DECTBLL	164A	DECVALS	160A	DELETE	00FF
DIRECT	0000	DISKSIG1	15AC	DISKSIG2	15B4	DISKTBL	BFFB	DISPCMD	0052
DISPLAY	0002	DOSCOLD	03D3	DOSWARM	03D0	ENTRLEN	000F	EOLCLR	0000
EOPCLR	0001	ESCAPE	009B	FMDATE	163E	FRMTVAL	13CC	GENPTR	00F6
GETDEC1	115E	GETDEC2	1161	GETDEC3	1164	GETDEC5	1167	GETDIGIT	1585
GETFMCB	03DC	GETHEX2	1150	GETHEX4	1153	GETHEX6	1156	GETHEX8	1159
GETKEY	127D	GRPHMODE	0001	HEXPROC	11D5	HEXTODC2	156D	HEXTODEC	156B
HEXVALS	1606	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	15D7	LOC0	0000	LOWSCR	C054	LV80MODE	0003	LWRCASE	00E0
LWRMASK	00DF	MAKEHEX	12E8	MAXCH	0050	MAXWDTH	0028	MINCV	0060
MINUS	00AD	MIXCLR	C052	MODECMD	0051	MODEVAL	13CB	NAMEBUFR	1656
NAMELEN	0018	NEGONE	00FF	NENTRY	15FD	NEXTLINE	0004	NIBLCMD	0057
NIBLMASK	000F	NNUMS	15FC	NOPAD	0000	NORMDISP	0000	NUM	15BC
NUMLOOP	1178	NUMPROC	11D2	NUMVALS	15FE	OUT80COL	13BA	OUTADRS	13C2
OUTMOD1	13A7	OUTMOD2	13A9	OUTPORT	FE95	OUTTBL1	13AE	OUTTBL2	13B4
PAGE09	0900	PAGECNT	15D8	PAGESIZE	0100	PCMDMASK	000F	PERCENT	00A5
PERIOD	00AE	PRBYTE	FDDA	PRESKEY	126B	PRESKEY1	125D	PRESKEY2	1265
PRHEX	FDE3	PRINT	132D	PRINTBUF	12FE	PRINTIME	1318	PRINTRTN	140F
PRNT1BYT	14CA	PRNT1DEC	14F1	PRNT2BYT	14CD	PRNT2DEC	14F7	PRNT3DEC	1504
PRNTADR	14D9	PRNTAX	F941	PRNTBL	13CD	PRNTBLH	13ED	PRNTBLL	13DD
PRNTBR1	1385	PRNTBR2	138B	PRNTBR3	1390	PRNTBR4	139E	PRNTBUFR	14A6
PRNTBYT	14CF	PRNTBYTE	1555	PRNTCHAR	12A7	PRNTCLR	148A	PRNTCNTR	1494
PRNTDEC	14FA	PRNTDISP	145B	PRNTGRPH	15A4	PRNTHEx	155E	PRNTHEx2	1560
PRNTLOOP	133C	PRNTMOD1	1368	PRNTMOD2	1383	PRNTMOD3	13A1	PRNTMODE	1410
PRNTNBYT	14C6	PRNTNDEC	150E	PRNTNIBL	14C1	PRNTNUM	13C9	PRNTOUT	13A7
PRNTOUT2	13AB	PRNTPTR	00FC	PRNTRTN	13FD	PRNTSAV	13C8	PRNTSAVA	140C
PRNTSAVX	140A	PRNTSAVY	1408	PRNTSCRN	147A	PROMPT	0033	PRSPCHEX	12B3
PRTERADR	03ED	QUESTION	00BF	QUIT	0922	RARROW	0095	RDCLKADR	03E8
RDVSNADR	03E1	READKEY	1291	RETURN	008D	RTNCMD	0050	SAVA	15D0
SAVCH	15CE	SAVCV	15CF	SAVNUM	15D3	SAVROMER	15CC	SAVX	15D1
SAVY	15D2	SCRNCMD	0053	SELCKEY	12BF	SELECT	122D	SHOWCNT	15D6
SHOWVAL	0947	SIGBYTES	15A4	SIGLEN	0008	SPACE	00A0	SPCPAD	0080
SPLITHEX	12D2	STACK	0100	TEMP	15D4	TESTMESG	167A	TESTVAL	0EAA
TEXTMODE	0000	TX80MODE	0002	TXTCLR	C050	TXTSET	C051	UARROW	008B
UNKNOWN	166F	VAL0	15C0	VAL1	15C2	VAL2	15C4	VAL3	15C6
VAL4	15C8	VAL5	15CA	VERSION	15ED	VOLTITLE	160C	VRSNLEN	000E
VSNBUFR	15D9	VSNLEN	0013	VTAB	FC22	VTABADRS	13BC	WNBDM	0023
WNDLFT	0020	WNDTOP	0022	WNDWDTH	0021	YORN	15D5	ZERO	0000
ZEROPAD	0040								

Symbols numerically sorted:

ZERO	0000	TEXTMODE	0000	NORMDISP	0000	NOPAD	0000	LOC0	0000
INITSCRN	0000	EOLCLR	0000	DIRECT	0000	INVRDISP	0001	INDIRECT	0001
HOMESCRN	0001	GRPHMODE	0001	EOPCLR	0001	TX80MODE	0002	DISPLAY	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

MINC	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	0947	TESTVAL	0EAA	GETHEX2	1150	GETHEX4	1153
GETHEX6	1156	GETHEX8	1159	GETDEC1	115E	GETDEC2	1161	GETDEC3	1164
GETDEC5	1167	NUMLOOP	1178	NUMPROC	11D2	HEXPROC	11D5	DECPROC	1204
SELECT	122D	PRESKEY1	125D	PRESKEY2	1265	PRESKEY	126B	GETKEY	127D
READKEY	1291	PRNTCHAR	12A7	PRSPCHEX	12B3	SELCKEY	12BF	SPLITHEX	12D2
ASCIHEX	12DC	MAKEHEX	12E8	PRINTBUF	12FE	BUFRMOD	1314	PRINTIME	1318
PRINT	132D	PRNTLOOP	133C	PRNTMOD1	1368	PRNTMOD2	1383	PRNTBR1	1385
PRNTBR2	138B	PRNTBR3	1390	PRNTBR4	139E	PRNTMOD3	13A1	PRNTOUT	13A7
OUTMOD1	13A7	OUTMOD2	13A9	PRNTOUT2	13AB	OUTTBL1	13AE	OUTTBL2	13B4
OUT80COL	13BA	VTABADRS	13BC	OUTADRS	13C2	PRNTSAV	13C8	PRNTNUM	13C9
MODEVAL	13CB	FRMTVAL	13CC	PRNTBL	13CD	PRNTBLL	13DD	PRNTBLH	13ED
PRNTRTN	13FD	PRNTSAVY	1408	PRNTSAVX	140A	PRNTSAVA	140C	PRINTRTN	140F
PRNTMODE	1410	PRNTDISP	145B	PRNTSCRN	147A	PRNTCLR	148A	PRNTCNTR	1494
PRNTBUFR	14A6	PRNTNIBL	14C1	PRNTNBYT	14C6	PRNT1BYT	14CA	PRNT2BYT	14CD
PRNTBYT	14CF	PRNTADR	14D9	PRNT1DEC	14F1	PRNT2DEC	14F7	PRNTDEC	14FA
PRNT3DEC	1504	PRNTNDEC	150E	PRNTBYTE	1555	PRNTHEx	155E	PRNTHEx2	1560
HEXTODEC	156B	HEXTODC2	156D	GETDIGIT	1585	SIGBYTES	15A4	PRNTGRPH	15A4
CFFASIG	15A4	DISKSIG1	15AC	DISKSIG2	15B4	NUM	15BC	VAL0	15C0
VAL1	15C2	VAL2	15C4	VAL3	15C6	VAL4	15C8	VAL5	15CA
SAVROMER	15CC	SAVCH	15CE	SAVCV	15CF	SAVA	15D0	SAVX	15D1
SAVY	15D2	SAVNUM	15D3	TEMP	15D4	YORN	15D5	SHOWCNT	15D6
LINECNT	15D7	PAGECNT	15D8	VSNBUFR	15D9	VERSION	15ED	NNUMS	15FC
NENTRY	15FD	NUMVALS	15FE	HEXVALS	1606	DECVALS	160A	VOLTITLE	160C
BOOTFILE	1625	FMDATE	163E	DATIMSEP	1644	DECTBL	164A	DECTBLH	164F
CHARBUFR	1654	NAMEBUFR	1656	UNKNOWN	166F	TESTMSG	167A	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								