



# Assembly Listing

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*****
** FILLSUB 64 **
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*****
***** PLOTSUB VALUES ****
PLTSUB = $C183
XLO = $C183
XHI = $C184
YLO = $C185
YHI = $C186
PREX = $C187
PREY = $C188
PROXLO = $C189
PROXHI = $C18A
PROYLO = $C18B
PROYHI = $C18C
***** FILLSUB VARIABLES ****
PXLO ****
PXHI ****
PYLO ****
PYHI ****
PREX ****
PREY ****
PROXLO ****
PROXHI ****
PROYLO ****
PROYHI ****
***** TRANS START PT TO FX,FY ****
AD 08 C7 LDA XSTLO
AD 14 C7 STA FXLO
AD 0C C7 LDA XSTHI
AD 15 C7 STA FYHI
AD 0D C7 LDY YST
***** SET FLAGS ****
AD 01 C7 LDA #001
AD 12 C7 STA RTFLAG
AD 13 C7 STA UPFLAG
***** PLOT POINT ****
NEXT
9C 05 C1 STY YLO
AD 14 C7 LDA FXLO
AD 03 C1 STA XLO
AD 15 C7 LDA FYHI
AD 04 C1 STA XHI
20 03 C1 JSR PLTSUB
***** INC / DEC Y COORD ****
AD 13 C7 LDA UPFLAG
AD 08 C7 BNE DECRY
C8 INY
C8 C8 CPY #0C8 ;HRS Y REACHED MAX
F0 13 BEQ NEXLIN
4C 52 C7 DECRY
98 DEV
C0 00 CPY #000 ;HRS Y REACHED MIN
90 08 BCC NEXLIN
TESTPT JSR POINT ;IS POINT LIT ?
AD 16 C7 LDA PTFLAG
D0 03 BNE NEXLIN ;IF YES BRANCH
4C 2E C7 JMP NEXT
***** START NEXT LINE ****
NEXLIN
AD 12 C7 LDA RTFLAG
D0 1F BNE INCRX ;TEST RIGHT FLAG
AD 14 C7 LDA FXLO
38 SEC
E9 01 SBC #001 ;DEC X LOBYTE
AD 14 C7 STA FXLO
AD 15 C7 LDA FYHI
E3 00 SBC #000 ;DEC X HIBYTE
AD 15 C7 STA FYHI
C0 0F C7 CMP XHI
D0 41 BNE MOVE ;HRS X REACHED MIN
AD 14 C7 LDA FXLO
C0 0E C7 CMP XHI
D0 3F BNE MOVE ;END OF ROUTINE
6A RTS
INCRX
AD 14 C7 LDA FXLO
18 CLC
E9 01 ADC #001 ;INC X LOBYTE
AD 14 C7 STA FXLO
AD 15 C7 LDA FYHI
E3 00 ADC #000 ;INC X HIBYTE
AD 15 C7 STA FYHI
C0 11 C7 CMP XHI
D0 22 BNE MOVE ;HRS X REACHED MAX
AD 14 C7 LDA FXLO
C0 10 C7 CMP XHI
D0 1A BNE MOVE
AD 08 C7 LDA XSTLO
AD 14 C7 STA FXLO
AD 0C C7 LDA XSTHI
AD 15 C7 STA FYHI
AC 0D C7 LDY YST
AD 08 C7 LDA #000
AD 13 C7 STA UPFLAG
AD 12 C7 STA RTFLAG
4C 2E C7 JMP NEXT
***** FIND START OF NEXT LINE ****
MOVE
AD 13 C7 LDA UPFLAG
D0 1C BNE DOWN ;TEST UPFLAG
98 DEY
A0 10 LSR POINT
AD 16 C7 LDA PTFLAG
D0 04 BNE CONT1
C8 INY
4C BF C7 JMP A0 10
CONT1 INC UPFLAG ;SET TO ONE
A0 12 LSR POINT
AD 16 C7 LDA PTFLAG
D0 07 BNE A0 12
4C 2E C7 JMP NEXT
DOWN
C8 INY ;VHY+1
A0 13 LSR POINT
AD 16 C7 LDA PTFLAG
D0 04 BNE CONT2
98 DEY
4C D8 C7 JMP A0 13
CONT2 DEC UPFLAG ;SET TO ZERO
C8 INY
A0 14 LSR POINT
AD 16 C7 LDA PTFLAG
D0 07 BNE A0 14
4C 2E C7 JMP NEXT
***** END OF MAIN PROGRAM ****
***** TEST POINT SUBROUTINE ****
POINT
48 PHA
0A TBA
48 PHA ;PUSH REGS ONTO STACK
38 TBA
48 PHA
9C 02 C7 STY PYLO
AD 14 C7 LDA PXLO
AD 08 C7 STA PYLO ;TRANSFER COORDS
AD 15 C7 LDA FYHI
AD 01 C7 STA PYHI
***** CALCULATE ADDRESS OF POINT ****
AD 01 C7 LDA PYHI
AD 04 C7 STA PHYHI
AD 00 C7 LDA PYLO
29 F8 AND #0F8
AD 03 C7 STA PHYLO
AD 06 C7 LDA PXLO
29 07 AND #007
AD 05 C7 STA PHEX
AD 02 C7 LDA PYLO
29 07 AND #007
AD 07 C7 STA PREY
A2 03 LDX #003
4E 02 C7 LSR PYLO
CA DEX
D0 FA BNE SHIFT
AD 02 C7 LDA PYLO
AD 06 C7 STA PYBYTE
AD 00 C7 LDA #000
AD 08 C7 STA PROMLO
AD 09 C7 STA PROMHI
A2 05 LDX #005
FIVE
AD 09 C7 LDA PROMLO
18 CLC
6D 06 C7 ADC PYBYTE
AD 08 C7 STA PROMLO
CA DEX
D0 F3 BNE FIVE
A2 06 LDX #006
MULT
AD 08 C7 ASL PROMLO
2E 09 C7 ROL PROMHI
CA DEX
D0 F7 BNE MULT
AD 08 C7 LDA PROMLO
18 CLC
6D 03 C7 ADC PHYLO
AD 08 C7 STA PROMLO
AD 09 C7 LDA PROMHI
AD 04 C7 ADC PHYHI
AD 09 C7 STA PROMHI
AD 06 C7 LDA PROMLO
18 CLC
6D 00 C7 ADC #000
AD 08 C7 STA PROMLO
AD 09 C7 LDA PROMHI
AD 02 C7 ADC #000
AD 09 C7 STA PROMHI
AD 08 C7 LDA PROMLO
18 CLC
6D 07 C7 ADC PREY
AD 09 C7 STA PTR
AD 09 C7 LDA PROMHI
AD 09 C7 ADC #000
AD 09 C7 STA PTR+1
AD 01 C7 LDA #001
AD 0A C7 STA PBPOS
38 SEC
AD 07 C7 LDA #007
E3 05 C7 SBC PREX
F0 07 BEQ BITON
AD 08 C7 POWER
AD 0A C7 ASL PBPOS
CA DEX
D0 FA BNE POWER
***** TEST FOR BIT ON ****
BITON
AD 00 LDX #000
AD 01 C7 LDA (PTR),Y ;LOAD ADDRESS CONTENTS
2D 0A C7 AND PBPOS
AD 16 C7 STA PTFLAG ;STORE RESULT
68 PLA
AD 08 PLA
AD 08 PLA ;PULL REGS OFF STACK
AD 08 PLA
68 RTS

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