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1
2          ****COPYRIGHT 1969, DIGITAL EQUIPMENT CORP., MAYNARD, MASS.***
3
4          ;THIS SUB-PROGRAM ASSEMBLED WITH SYSTEM PARAMETER FILE - S.MAC(V414)
5          XLIST
6          LIST
7          TITLE PLTSER - PLOTTER SERVICE ROUTINE
8          SUBTTL T. EGGERS/GRH/TNM 20 MAY 1969 V012
9          XP          VPLTSR,012          ;PUT VERSION NUMBER IN STORAGE MAP AND GLOB LISTING
10
11          000140 PLT=140          ;DEFINE DEVICE CODE
12          200000 PLTUP=200000    ;LIFT PEN WHEN OUTPUT FINISHED
13
14          ENTRY PLTSER
15          PLTSER:
16
17          ;PLOTTER DEVICE DATA BLOCK
18          000000 605464 000000 PLTDOB: SIXBIT /PLT/
19          000001 000012 000044 PLTCHR: XWD HUNGST*12,*036 ;XWD (HUNG TIMEOUT),(BUFFER SIZE)
20          000002 000000 000000 PLTIOS: 0
21          000003 000000 000014 PLTDSP          ;DISPATCH TABLE ADDRESS
22          000004 000001 014403 XWD DVOUT,14403 ;XWD (OUTPUT DEVICE),(BIN,IMAGE,TEXT LEGAL)
23          000005 000000 000000 ?
24          000006 000000 000000 ?
25          000007 000000 000000 PLTPTR: 0 ;OUTPUT BYTE POINTER
26          000010 000007 000000 PLTADR: XWD PROG,0
27          000011 000000 000000 PLTCTR: 0 ;OUTPUT BYTE COUNTER
28
29          EXTERNAL OUT,SETACT,PLTCHN,PLTCHL,IOSET,ADVBFE,ADRERR,CPOPJ1
30          EXTERNAL SETIOD,STOIOS,CLRACT,ILLINP,PLTSAV,IADRCK
31
32          INTERN PLTDOB,PLTINT,PLTDSP

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33
34
35
36 000012 254000 000023'          JRST PLTINI          ;INITIALIZE
37 000013 254000 000023'          JRST PLTHNG         ;HUNG DEVICE ERROR
38 000014 254000 000023' PLTDSP: JRST PLTREL         ;RELEASE
39 000015 254000 000020'          JRST PLTCLS         ;CLOSE
40 000016 254000 000026'          JRST PLTOUT         ;OUTPUT
41 000017 254000 000000          JRST ILLINP         ;INPUT
42
43 000020 661000 200000 PLTCLS: TLO IOS,PLTUP          ;PLOTTER END FLAG SET
44 000021 202000 000002'          MOVEM IOS,PLTIOS
45 000022 254000 000000          JRST OUT           ;DO AN OUTPUT
46
47 000023          PLTINI:
48 000023          PLTHNG:
49 000023 714200 000000 PLTREL: CONO PLT,0          ;DEASSIGN PI CHANNEL, CLEAR DONE
50 000024 513000 000044'          HLLZS PLTINT        ;REMOVE PLOTTER FROM DEVICE CHAIN
51 000025 263140 000000          POPJ PDP,

52
53
54
55 000026 260140 000075' PLTOUT: PUSHJ PDP,PLTSET        ;SETUP BYTE POINTER AND COUNTER
56 000027 254000 000000          JRST ADRERR         ;ADDRESS ERR RETURN FROM PLTSET
57 000030 260140 000000          PUSHJ PDP,SETACT      ;SET DEVICE ACTIVE BIT
58 000031 661000 000020          TLO IOS,IO
59 000032 714200 000000          CONO PLT,PLTCHN      ;ASSIGN PRIORITY CHANNEL
60 000033 205040 000010          MOVSI TAC,10
61 000034 546040 000044'          HLRM TAC,PLTINT      ;PUT PLOTTER INTO DEVICE CHAIN
62 000035 627000 000002          TL7N IOS,IOBEG       ;FIRST OUTPUT UUO?
63 000036 254000 000041'          JRST .+3
64 000037 201040 000040          MOVEI TAC,40
65 000040 621000 200000          TL7 IOS,PLTUP
66 000041 202000 000002'          MOVEM IOS,PLTIOS
67 000042 714140 000001          DATA PLT,TAC
68 000043 263140 000000          POPJ PDP,
    
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69                                            ;FROM HERE THROUGH PLTOFF IS INTERRUPT SERVICE
70
71 000044 714340 000010 PLTINT: CONSO PLT,10                    ;PLOTTER DONE FLAG SET?
72 000045 254000 000044'                    JRST .-1                    ;NO, CHAIN TO NEXT DEVICE
73 000046 375000 000011'                    SOSGE PLTCTR                ;OUTPUT CHARACTERS LEFT?
74 000047 254000 000055'                    JRST PLT1                    ;NO
75 000050 202040 000117'                    MOVEM TAC,TACSAV#           ;YES, SAVE TAC
76 000051 134040 000007'                    ILDB TAC,PLTPTR             ;GET NEXT CHARACTER
77 000052 714140 000001                    DATAO PLT,TAC              ;SEND CHARACTER
78 000053 200040 000117'                    MOVE TAC,TACSAV#            ;RESTORE TAC
79 000054 254520 000000                    JEN @PLTCHL                 ;DISMISS INTERRUPT
80
81 000055 264000 000000 PLT1:    JSR PLTSAV                    ;SAVE AC'S, SET UP PUSH DOWN POINTER
82 000056 201300 000000'                    MOVEI DEVDAT,PLTDDB
83 000057 260140 000000                    PUSHJ PDP,IOSET             ;SETS UP PROG AND IOS
84 000060 260140 000000                    PUSHJ PDP,ADVBFE            ;ADVANCE AND LOOK AT NEXT BUFFER
85 000061 254000 000067'                    JRST PLTOFF                 ;NO MORE DATA AVAILABLE
86 000062 260140 000075'                    PUSHJ PDP,PLTSET            ;SETUP BYTE POINTER AND COUNTER
87 000063 254000 000067'                    JRST PLTOFF                 ;ADDRESS ERR RET FROM PLTSET
88 000064 623000 000001 PLT2:    TLZE IOS,IOW                 ;LET JOB START AGAIN
89 000065 260140 000000                    PUSHJ PDP,SETIOD            ;EVENTUALLY DISMISS INTERRUPT, IF ADVBFE
90 000066 254000 000000                    JRST STOIOS                 ;FOUND MORE DATA (IT SKIPPED), ANOTHER
91                                            ;INTERRUPT WILL IMMEDIATELY OCCUR BUT
92                                            ;IT WILL BE HANDLED WITHOUT GOING TO PLT1
93
94
95 000067 714200 000000 PLTOFF: CONO PLT,0                    ;SHUT DOWN PLOTTER
96 000070 513000 000044'                    HLLZS PLTINT                ;REMOVE PLOTTER FROM CHAIN
97 000071 260140 000000                    PUSHJ PDP,CLRACT
98 000072 623000 200000                    TLZE IOS,PLTUP              ;HAS THE "CLOSE" BEEN DONE?
99 000073 714140 000115'                    DATAO PLT,[40]             ;YES, LIFT PEN
100 000074 254000 000064'                    JRST PLT2

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101  
102  
103                    ;THIS SUBROUTINE CALCULATES A BYTE POINTER AND A BYTE COUNTER FOR  
104                    ;THE BUFFER TO BE OUTPUT. THE LAST WORD OF BUFFER IS ADR CHECKED TO BE IN USER AREA  
105                    ;                    PUSHJ PDP,PLTSET  
106                    ;                    RETURN 1                    ;ADDRESS ERROR RETURN  
107                    ;                    RETURN 2                    ;GOOD RETURN  
108 000075 201060 000010' PLTSET: MOVEI TAC,@PLTADR                    ;GET ADDRESS OF CURRENT BUFFER  
109 000076 270040 000116'                    ADD TAC,[POINT 6,1,35]                    ;CONVERT TO 6 BIT BYTE POINTER WITH  
110                                                                             ;ADDRESS OF BUFFER WORD COUNT  
111 000077 606020 000016                    TRNN IOS,16                    ;IS THIS A TEXT DATA MODE?  
112 000100 661040 000700                    TLO TAC,(POINT 7,0,35)                    ;YES, CONVERT TO 7 BIT BYTE POINTER  
113 000101 202040 000007'                    MOVEM TAC,PLTPTR                    ;SAVE BYTE POINTER  
114 000102 550060 000001'                    HRRZ TAC,@TAC                    ;GET BUFFER WORD COUNT  
115 000103 202040 000011'                    MOVEM TAC,PLTCTR                    ;SAVE AS POSITIVE WORD COUNT  
116 000104 270040 000010'                    ADD TAC,PLTADR                    ;CALCULATE (LAST ADR IN BUF)-1 (RELATIVE)  
117 000105 201041 000001'                    MOVEI TAC,1(TAC)                    ;GET LAST ADR IN BUF (RELATIVE)  
118 000106 260140 000000                    PUSHJ PDP,IADRC                    ;ADDRESS CHECK, OK?  
119 000107 263140 000020                    POPJ PDP,                    ;NO, OUTSIDE, RETURN WITH NO SKIP  
120 000110 201040 000006                    MOVEI TAC,6                    ;IMAGE OR BIN MODES - 6 BYTES/WORD  
121 000111 606020 000016                    TRNN IOS,16                    ;IS OUTPUT A TEXT MODE (0 OR 1)?  
122 000112 201040 000005                    MOVEI TAC,5                    ;YES, 5 BYTES/WORD  
123 000113 222040 000011'                    IMULM TAC,PLTCTR                    ;CHANGE WORD COUNT TO BYTE COUNT  
124 000114 254000 002000                    JRST CPOPJ1                    ;RETURN WITH A SKIP  
125  
126 000115                    LIT  
127 000115 000000 000040  
128 000116 000600 002001  
129 000117                    VAR  
130 000120                    PLTEND: END
```

NO ERRORS DETECTED

PROGRAM BREAK IS 000120

PLTSCR - PLOTTER SERVICE ROUTINE  
SYMBOL TABLE

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ADPFER	000227' EXT	ADVFEE	000260' EXT	CLRACT	000271' EXT
CPDP J1	000114' EXT	DEVSAT	000276' INT	DVOUT	000201' INT
HUNGST	000221' INT	IADROK	000126' EXT	ILLINP	000217' EXT
IO	000220' INT	ICREQ	000272' INT	IOS	000222' INT
IOSET	000257' EXT	IOX	000271' INT	OUT	000222' EXT
RDP	000273' INT	PLT	000142' INT	PLT1	000255' INT
PLT2	000264' INT	PLTADR	000210' INT	PLTCHL	000254' EXT
PLTCHN	000232' EXT	PLTCHR	000201' INT	PLTCLS	000220' INT
PLTCTR	000211' INT	PLTCDB	000220' INT	PLTDSP	000214' INT
PLTEND	000120' INT	PLTHNG	000223' INT	PLTINI	000223' INT
PLTINT	000244' INT	PLTINS	000222' INT	PLTOFF	000267' INT
PLTOBT	000226' INT	PLTPTR	000227' INT	PLTREL	000223' INT
PLTSAV	000255' EXT	PLTSCR	000220' INT	PLTSET	000275' INT
PLTUP	000202' INT	PROG	000227' INT	SETACT	000230' EXT
SETIAD	000265' EXT	STOIDS	000266' EXT	TAC	000201' INT
TACSAV	000117' INT	VPLTSC	000212' INT		

A	6#	6
AC1	6#	6
AC2	6#	6
AC3	6#	
ADRERR	29	56
ADVBFE	29	84
AEFERR	6#	6
AL	6#	6
ASSCON	6#	6
ASSPRG	6#	6
B	6#	6
BUFFMT	6#	6
BUFFWD	6#	6
CLKR	6#	6
CLPACT	30	97
CLSIN	6#	6
CLSOUT	6#	6
CMWB	6#	6
COMPNT	6#	6
CPDPJ1	29	124
D	6#	6
DAT	6#	6
DCL	6#	6
DCLI	6#	6
DCLD	6#	6
DCLR	6#	6
DDI	6#	6
DDO	6#	6
DEN	6#	6
DEVARR	6#	6
DEVBUF	6#	6
DEVCHR	6#	6
DEVCTR	6#	6
DEVDAT	6#	6
DEVEXT	6#	6
DEVFIL	6#	6
DEVIAD	6#	6
DEVIDS	6#	6
DEVLOG	6#	6
DEVMOD	6#	6
DEVNAM	6#	6
DEVQAD	6#	6
DEVPPN	6#	6
DEVPTR	6#	6
DEVSER	6#	6
DGF	6#	6
DHNG	6#	6
DIN	6#	6
DINI	6#	6
DLK	6#	6
DMT	6#	6
DNAERR	6#	6
DOU	6#	6

DR	6#	6
DRL	6#	6
DRN	6#	6
DSEB	6#	6
DSI	6#	6
DSKRLB	6#	6
DSO	6#	6
DVAVAL	6#	6
DVCDP	6#	6
DVDIR	6#	6
DVDIRI	6#	6
DVDIS	6#	6
DVDSK	6#	6
DVDTA	6#	6
DVIN	6#	6
DVLNG	6#	6
DVLPT	6#	6
DVMTA	5#	6
DVOUT	6#	6
DVPTP	6#	6
DVPTB	6#	6
DVTTY	5#	6
ENTRP	6#	6
FBMERR	6#	6
FNFEPR	6#	6
FRGSCG	6#	6
FT2RFL	6#	
FTATTA	6#	
FTCHTC	6#	
FTEXAM	5#	
FTFI I	6#	
FTGETT	6#	
FTHALT	6#	
FTKCT	6#	
FTMDIP	6#	
FTPRV	6#	
FTRA10	6#	
FTPCNK	6#	
FTPEAS	5#	
FTSLFE	6#	
FTTALK	6#	
FTTIME	6#	
FTTRAC	6#	
FTTRPS	6#	
FTTYS	6#	
HSAMSK	6#	6
HSAPRS	6#	6
HSASTZ	6#	6
HUNGST	6#	6
HUNGST	5#	6
I	6#	6
IADPCK	7#	118
IB	6#	6

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CODES	6#		
DISABL	6#		
ENABLE	6#		
NOSCHE	6#		
NOSHIIF	6#		
QUEUES	6#		
SCHEDU	6#		
SHUFFL	6#		
STARTD	6#		
XP	6#	6	9