



INDUSTRY STANDARD PLOTTING PACKAGE 17580A

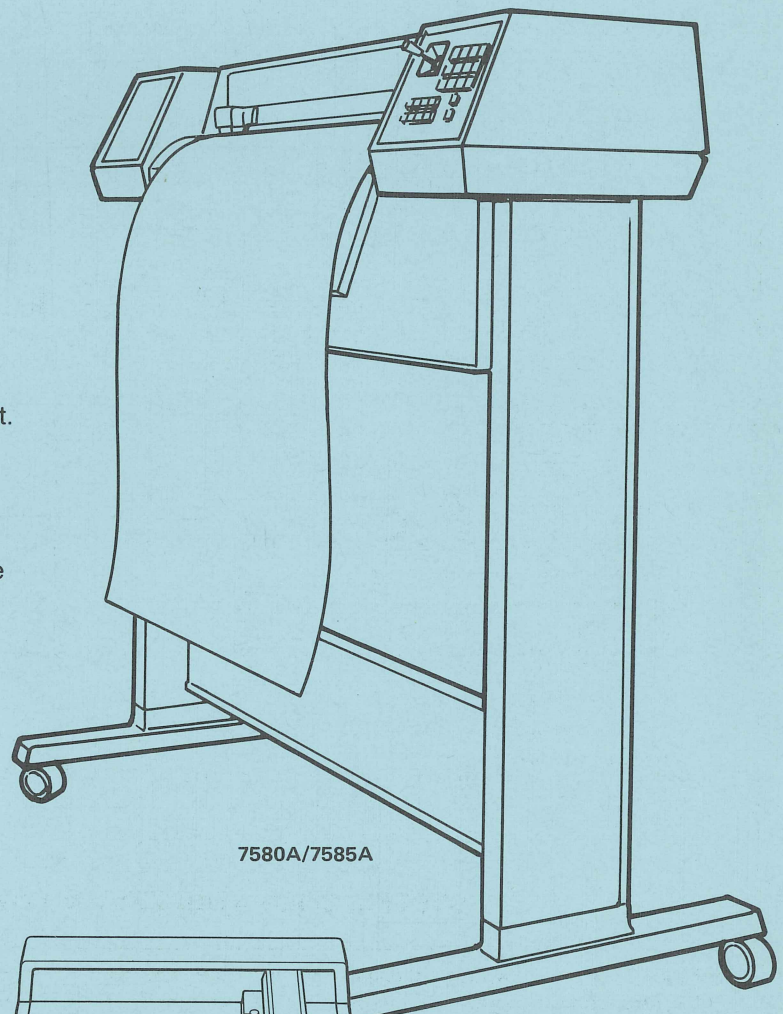
TECHNICAL DATA, JUNE 1982

Hewlett-Packard's Industry Standard Plotting Package (ISPP) provides the user with a means of developing complicated plots on RS-232-C/HP-GL versions of HP's graphics plotters — 7220, 7225, 7470, 7580, and 7585. Besides being an excellent tool for data plotting, ISPP's

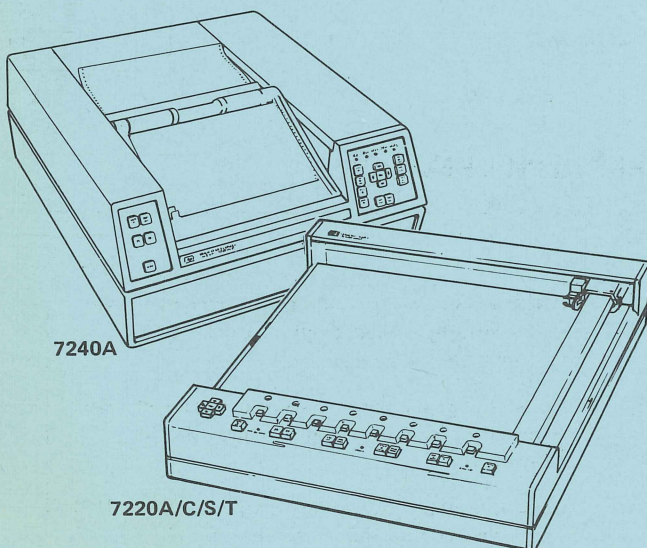
thirteen ANSI standard FORTRAN subroutines emulate Calcomp's basic plotting software. This should minimize the user's effort in adapting existing higher level software to powerful HP plotters.

FEATURES

- Moves from one point to another with pen up or down.
- Scales the plot larger or smaller.
- Changes plot origin.
- Draws symbol strings at various angles and sizes.
- Allows selection of multiple pens.
- Plots floating point numbers in FORTRAN 'F' format.
- Ascertains current location of plotter pen.
- Facilitates data plotting:
 - draws and annotates axes for a graph
 - scales user data to fit on a graph of a given size
 - connects a set of data points with straight lines
 - generates special centered characters at data points

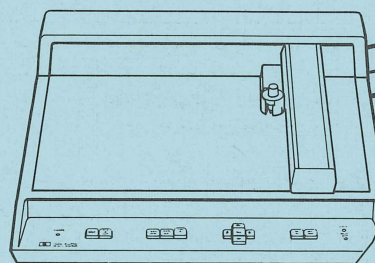


7580A/7585A

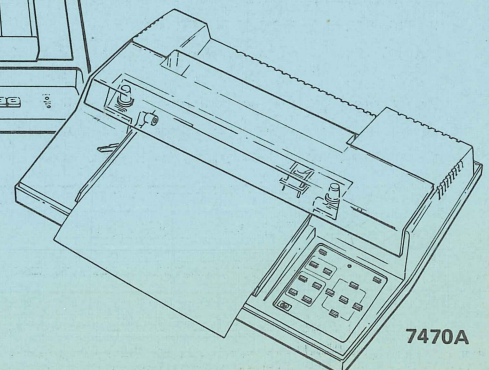


7240A

7220A/C/S/T



7225A/B



7470A

SUBROUTINES

SYNTAX

PURPOSE

HPINIT (L10,LMON,LCHAR,LUNIT,LDEV)
BUFF (MODE,IBUFF,XBUFF,INUM)
PLOTS (LDUM1,LDUM2,LUNIT)
PLOT (X,Y,IPEN)
FACTOR (FACT)
OFFSET (XOFF,XFACT,YOFF,YFACT)
SCALE (ARRAY,ALEN,NPTS,INC)
AXIS (X,Y,LABEL,NCHAR,ALEN, ANGLE,FIRST,DELTA)
LINE (XARRAY,YARRAY,NPTS,INC, LINTYP,ICODE)
SYMBOL (X,Y,HEIGHT,LABEL,ANGLE, NCHAR)
NUMBER (X,Y,HEIGHT,FNUM,NDIGIT)
NEWPEN (NUMB)
WHERE (XLOC,YLOC,FACTR)

Initializes the plotter and software variables
 Coordinates input and output of plotter data
 Turns on the plotter
 Makes the plotter move to specified x,y using a given pen control
 Enables the user to enlarge or reduce the size of the entire plot
 Allows user to alter the scale factor and/or current origin of plot
 Examines data values and determines starting value and scaling factor
 Draws an axis with annotated divisions and a centered title
 Produces a line plot of pairs of data values
 Draws a string at a given location, angle and height
 Plots a floating point number in FORTRAN 'F' type format
 Enables selection of any pen
 Permits programs to ascertain current location of the pen

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PROGRAM SAMPLE
DIMENSION L1(4),L2(4),L3(10),L4(12)
DIMENSION X(153),Y(153)
DATA L1 /2HX ,2HAX,2HIS,2H /
DATA L2 /2HY ,2HAX,2HIS,2H /
DATA L3 /2HFU,2HNC,2HTI,2HON,2HAL,2H P,2HLO,2HT ,2HOF,2H /
DATA L4 /2HY ,2H= ,2H(F,2H**,2H-X,2H) ,2H* ,2HSI,2HN(,2HPI,
+ 2H*X,2H) /
DATA PI /3.1415/
DATA E /2.71828183/

C
C**** CALCULATE THE DATA POINTS
C
DO 10 I = 1,151
  A=I-1
  XARG=0.04*A
  X(I)=XARG
  Y(I)=(E**(-XARG))*SIN(PI*XARG)
10 CONTINUE
C
C**** INITIALIZE THE PLOTTER SOFTWARE SYSTEM AND SCALE THE DATA
C
CALL HPINIT(1,0,0,0,20)
CALL SCALE(X,8.0,151,1)
CALL SCALE(Y,8.0,151,1)

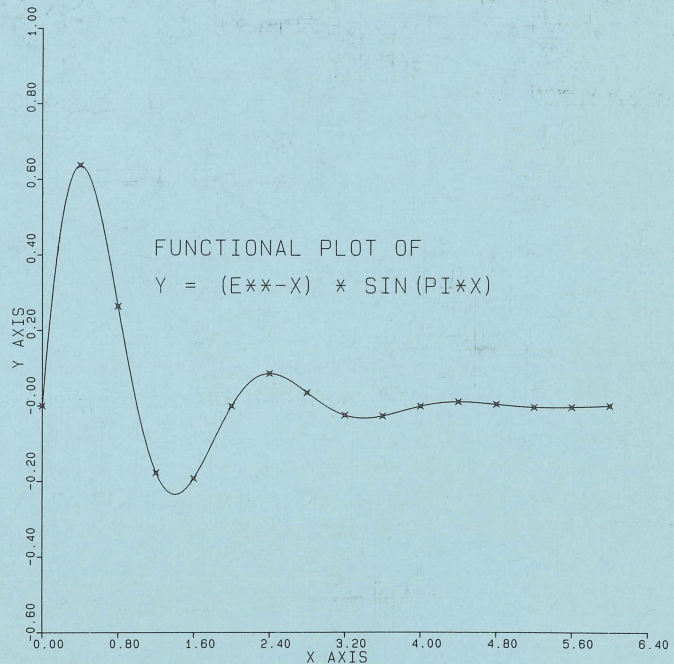
C
C**** DRAW THE X AND Y AXES
C
CALL AXIS(.5,.5,L1,-7,8.0,0.0,X(152),X(153))
CALL AXIS(.5,.5,L2,7,8.0,90.0,Y(152),Y(153))

C
C**** PLOT THE DATA POINTS WITH CONNECTING LINES
C
CALL NEWPEN(2)
CALL PLOT(.5,.5,-3)
CALL LINE(X,Y,151,1,10,10)

C
C**** PRODUCE THE TITLE
C
CALL NEWPEN(3)
CALL SYMBOL(1.5,5.0,.2,L3,0.0,19)
CALL SYMBOL(1.5,4.5,.2,L4,0.0,23)

C
C**** PUT THE PEN AWAY
C
CALL NEWPEN(0)

C
C**** TERMINATE THE PLOT
C
CALL PLOT(0.0,0.0,999)
STOP
END
    
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SYSTEM COMPATIBILITY AND ORDERING INFORMATION

HP's ISPP software is written entirely in ANSI standard FORTRAN (X3.9-1966) and is provided in a source language form suitable for ASCII-based computer systems. All input and output to the plotter is accomplished through standard FORTRAN formatted read/write statements. A standard asynchronous ASCII terminal driver, or equivalent I/O communication software, must be provided by the host system. Each ISPP package includes a User's Manual and an Installation Guide. An annotated sample program is included with the source program. Specify model number 17580A, and choose the desired media option number noted at right.

MODEL 17580A \$300

OPTION NUMBER		PRICE
Opt. 001	800 BPI magnetic tape nine track unlabeled, unblocked 72 byte fixed length records. ASCII character code.	N/C
Opt. 002	1600 BPI magnetic tape nine track, unlabeled unblocked 72 byte fixed length records. ASCII character code.	N/C
Opt. 003	Floppy Diskette, single sided, single density compatible with Digital Equipment Corporation RX01 dual drive used under RT-11 operating system.	N/C