

Appendix B

Overview of DSPLAY for the PC

DSPLAY is a HEC DSS utility program that allows the user to plot or tabulate data stored in an HEC DSS (HEC Data Storage System) file. The PC version of DSPLAY can generate plots on several different devices (such as monitors, printers, and plotters) and also generate metafiles.

Executing DSPLAY

DSPLAY can be executed through the menu programs (e.g. MENU1, MENU5, etc.) or a special batch file labeled DSP.BAT. Before running DSPLAY, the GSS device drivers must be loaded into memory. Loading the device drivers is accomplished by executing the DRIVERS.EXE program. The menu programs, as well as the DSP batch file, automatically load the device drivers, execute the DSPLAY program, and unload the device drivers when the user is finished working in DSPLAY. DSPLAY and the device drivers require about 550 Kb of free base memory. If the DSPLAY program aborts with the message "Program too big to fit in memory," remove any RAM resident programs that you may have loaded in the AUTOEXEC.BAT file. Reboot your computer and try running DSPLAY again.

User Input Commands

DSPLAY is a "command" driven program, rather than being menu driven. Input consists of a command, option(s), and parameter(s) in the following format:

Command.Option(s), Parameter(s)

A list of the most frequently used DSPLAY commands is shown in Table 1. In general, the user enters a sequence of commands to generate a plot. The following is an example sequence of commands to plot data stored in a DSS file. These commands would be entered after selecting DSPLAY on a menu or running DSP.BAT.

Command	Description
CA.NA	Develop a new catalog of all the data stored in the currently opened DSS file and display it in an abbreviated format on the screen.
TI 17JAN90 1200 18JAN90 1800	Establish a time window for retrieving and plotting data.
PL 1,3	Plot on the screen (default device) data referenced by pathnames 1 and 3 in the DSS file catalog listing.

DEV PRINTER	Change device option to the printer.
PL	Send the previously defined plot (PL 1,3) to the printer.
DEV SCREEN	Reset current device to the screen.
FI	End DSPLAY session and return to main menu or DOS.

For more information on DSPLAY's capabilities and commands, refer to "HECDSS Users Guide and Utility Program Manuals," or type "HELP" while in DSPLAY. The online help system in DSPLAY has the most current information on commands.

Table B-1
Frequently Used DSPLAY Commands

Command	Purpose	Examples
CATALOG	Catalog of all pathnames in the opened DSS file.	CA (List files in catalog) CA.N (New Catalog) CA.A (Abbreviated List)
PLOT	Used to plot data in the DSS file opened.	PL 1,3 (Plot Paths 1 and 3) PL A=SCIOTO,C=FLOW (plot data with pathnames that have A=SCIOTO and C=FLOW) PL (Plot last specified plot)
OPEN	Open a new DSS file.	OP filename
FINISH	Terminate the DSPLAY session.	FI
DEVICE	Used to specify which device the plot will be sent to.	DEV SCREEN (This is the default) DEV PRINTER (PLOTTER, MOUSE, or META)
HELP	List or define available DSPLAY commands.	HE (List all available commands) HE PL (Define PLOT command)
TABULATE	Display the data in tabular form.	TA 2 (Tabulate data in path 2) TA A=SCIOTO C=FLOW
TIME	Used to specify a time window for retrieving and plotting data.	TI 01DEC88 0900 02DEC88 1200 (set time for retrieving window from beginning date and time to ending date and time)
STATUS	List the current DSPLAY settings.	ST (List all status settings)

Advanced DISPLAY Operations: Environment Settings

The default attributes of most device drivers can be changed using the DOS SET command before running DISPLAY. The following is a description of the most commonly used **SET** commands dealing with the GSS software.

A. Printers

Printers have a wide selection of **SET** commands, though not all printers recognize each SET command.

ORIENTATION=[PORTRAIT, LANDSCAPE] rotates the printer output.

PORTRAIT no rotation (default)

LANDSCAPE rotates the plot by ninety degrees

C:\> SET ORIENTATION=LANDSCAPE

PAPER=[NARROW, WIDE, ISOA4] the paper size can be changed, which will scale the plot to fill the page. Not all page sizes are supported by every printer.

NARROW 8.5x11 (default)

WIDE 11x14

ISOA4 210x297mm

C:\> SET PAPER=WIDE

TEMPDIR=<directory> specifies the directory where the printer driver writes a temporary file. Unless a directory is specified, the file is written to the current directory. If DISPLAY isn't aborted the temporary file is automatically deleted when the printer is finished. Example:

C:\> SET TEMPDIR=C:\GSS

PLISTSIZ=<buffer size> allocates space for a printer I/O buffer. Increasing its size will reduce the amount of disk access. The default buffer size is 512 bytes, and the maximum buffer size allowed is 64K. Example:

C:\> SET PLISTSIZ=2048

RESOLUTION=<resolution> several printers will support multiple resolutions. The coarser the resolution, the faster the plot will be completed.

Printer	Resolution (bpi)			
Canon Laser Beam Printer 8II	300	150		
Epson LQ	180	120		
HP DeskJet	300	150	75	
HP LaserJet	300	150	100	75
HP ThinkJet	192	96		
IBM Proprinter II/XL	120	60		
IBM Proprinter X24 and XL24	180	120		
NEC Pinwriter P5	180	120		
Okidata 290-Series Printers	120	60		
IBM Quietwriter II	120	60		
Toshiba P321SL/P351	360	180		
Xerox 4045 Laser Printer	300	150		

C:\> SET RESOLUTION=192

B. Versatec Printers

The Versatec printer driver recognizes ORIENTATION, TEMPDIR and PLISTSIZ set commands.

PAPER=[A,B,C,D,E,F] set the page size according to the ANSI standard:

C:\> SET PAPER=B

VERSA=<printer code> tells the printer driver which Versatec Printer it is controlling.

Printer	Printer Code
V-80	V80 (default)
C25xx	25xx
CE 32xx	32xx
CE 34xx	34xx
72xx	72xx
74xx	74xx
ECP 42	9242
Versacolor	VERSACO

C:\> SET VERSA=7236

C. Plotters

ORIENTATION=[LANDSCAPE, PORTRAIT] works the same for either printers or plotters.

FLAGGING=[HARDWARE, XONOFF] will change the handshaking protocol for HP and HP Graphics Language Plotters.

C:\> SET FLAGGING=XONOFF

The plotter redirect and type set commands, while having the same form, don't have a specific set command.

Plotter Driver	<device driver>	<device type>
HP Pen Plotter	HP PLOT	
HP Graphics Language	HPGLPLTR	HP_TYPE
Houston Instruments	HI PLOTTR	HI_TYPE
Roland DG Plotters	ROLAND	RD_TYPE

<DEVICE DRIVER>=[COM1, COM2, COM3, COM4] will redirect the plotter to a different serial port. The Roland DG Plotter driver only supports COM1. If the plotter is redirected, remember to set the Baud rate for that serial port as well.

C:\> SET HP PLOT=COM3

<DEVICE DRIVER>=<output file> will redirect the plotter instructions to a file. This set command is only supported by the HP Graphics Language and Houston Instrument drivers.

C:\> SET HI_PLOTTR=PLOTTER.GLP

<DEVICE TYPE>=<plotter code>,<page size>,<number of pens> tells the plotter driver what model plotter it is controlling.

Plotter	Plotter Code	Defaults (Page size & Number of Pens)
Roland DG		
880 and 980	980	A 8
885 and 990	990	B 8
2000	2000	C 8
3300	3300	D 8
Hewlett Packard		
6180, 7370 or 7440	7440	A 8
7371 and 7470	7470	A 2
7372 and 7475	7475	B 6
6182 and 7550	7550	A 8
6184, 6186, 7374, 7375, 7570, 7580, 7585, 7586, 7595 and 7596	7580	D 8
Houston Instruments DMP		
29	29	B 8
40	40	B 1
41	41	C 1
42	42	A 1
51	51	C 1
52	52	A 1
56	56	B 1
61	61	B 1
62	62	B 1

The Page Size is the ANSI page size [A - F]. The Houston Instruments driver will also support the ISO European page sizes [A0 - A4].

C:\> SET HI_TYPE=29
C:\> SET HP_TYPE=7475,A,4
C:\> SET RD_TYPE=980,,6