CHAPTER 10   SET Subcommands

The SET command defines the values of certain internal underlying Fortran variables. This command also allows access to information which can assist in implementation, tracing, and debugging. The complementary PROBE command returns the current value of the variables which can be modified by the SET command. The subcommands in this category (all to be preceded by SET or PROBE) are:

General Purpose (these are documented in this chapter)

FOURIER EXPONENT	Sets the form of the equation for Fourier transforms.
HELP LINES	Set the number of lines per screen for the HELP command.
IO	Specify whether subsequent READs are done from the terminal or from the macro file.
IPR	Set the Fortran unit number for alphanumeric output.
IRD	Set the Fortran unit number for alphanumeric input.
LIST LINES	Sets the number of lines per screen for the LIST command.
MINMAX	Specify whether a minimum or maximum type Weibull distribution is used.
PATH	Specify the path (or directory or catalog) where DATAPLOT's on-line auxiliary, data, macro, and program files are stored.

I/O Commands (documented in the I/O Commands chapter)

READ FORMAT	Specify a Fortran like format for subsequent READ commands.
READ REWIND	Specify whether the input file is rewound on subsequent reads.
WRITE DECIMALS	Set the number of decimals for WRITE output.
WRITE FORMAT	Specify a Fortran like format for subsequent WRITE commands.
WRITE REWIND	Specify whether the output file is rewound on subsequent writes.

Device Specific (documented in the Output Devices chapter under the specific device)

GENERAL REGION FILL	Specifies hardware or software region fills.
GENERAL JUSTIFICATION	Specifies whether string justification is done by DATAPLOT or the post-processor.
GENERAL FONT	Specifies whether software fonts are drawn by DATAPLOT or the post-processor.
GENERAL PEN WIDTH	Specifies whether wide lines are drawn by DATAPLOT or the post-processor.
GENERAL PEN THICKNESS	Specifies the width DATAPLOT uses for wide lines.
POSTSCRIPT FONT	Specifies the Postscript font to use.

POSTSCRIPT PPI	Specifies the Postscript points per inch.
POSTSCRIPT SPACE	Specifies whether the Postscript "magic number" starts in column 1 or column 2.
POST LAND BOTTOM MARGIN	Specifies the bottom margin for landscape Postscript.
POST LAND LEFT MARGIN	Specifies the left margin for landscape Postscript.
POST LAND RIGHT MARGIN	Specifies the right margin for landscape Postscript.
POST LAND TOP MARGIN	Specifies the top margin for landscape Postscript.
POST PORT BOTTOM MARGIN	Specifies the bottom margin for portrait Postscript.
POST PORT LEFT MARGIN	Specifies the left margin for portrait Postscript.
POST PORT RIGHT MARGIN	Specifies the right margin for portrait Postscript.
POST PORT TOP MARGIN	Specifies the top margin for portrait Postscript.
QMS FONT	Specifies the QMS font to use.
QMS PPI	Specifies the QMS points per inch.
QMS LAND BOTTOM MARGIN	Specifies the bottom margin for landscape QMS.
QMS LAND LEFT MARGIN	Specifies the left margin for landscape QMS
QMS LAND RIGHT MARGIN	Specifies the right margin for landscape QMS.
QMS LAND TOP MARGIN	Specifies the top margin for landscape QMS.
QMS PORTRAIT BOTTOM MARGIN	Specifies the bottom margin for portrait QMS.
QMS PORTRAIT LEFT MARGIN	Specifies the left margin for portrait QMS.
QMS PORTRAIT RIGHT MARGIN	Specifies the right margin for portrait QMS.
QMS PORTRAIT TOP MARGIN	Specifies the top margin for portrait QMS
X11 NAME	Sets the name for the X11 display.
X11 PIXMAP	Control whether the X11 graphics window is automatically refreshed when corrupted.
X11 FONT	Specify the X11 font to use.
X11 CAP	Specify how X11 draws the end of lines.
X11 JOIN	Specify how X11 connects points on a line.

DATAPLOT limits and workspace (not documented further)

The following parameters define certain maximum limits. These parameters are NOT modifiable with user specified SET commands. They may occasionally be used with the PROBE command to determine maximum limits on a given installation (or to see how much room is left).

Although these parameters cannot be modified within a given session, sites that need larger maximums can modify the file DPCOPA.INC and then rebuild DATAPLOT. Contact the person who installed DATAPLOT on your system for assistance. If you are the installer and need assistance, contact Alan Heckert (e-mail and phone number given in the Preface).

MAXNK	The maximum total number of observations (i.e., the number of rows times the number of columns). The default is 100,000 on the IBM/PC version and 200,000 on most other installations. This value cannot be changed without rebuilding DATAPLOT.
NK	The current total number of observations.
MAXCOL	The maximum number of columns allowed. This can be modified by the DIMENSION command. The default is 10 .
NUMCOL	The number of columns currently defined.

MAXN	The maximum number of observations per variable. This can be modified by the DIMENSION command. The default is 10,000 on the IBM/PC version and 20,000 on most other versions.
N	The current number of observations per variable.
MAXNAM	The maximum number of names (includes variables, parameters, matrices, strings, and functions). The default is 500.
NUMNAM	The current number of names.
MAXCHF	The maximum number of characters for all functions and strings. The default is 10,000.
NUMCHF	The number of characters used for all currently defined functions and strings.
MAXFUN	The maximum number of functions and strings allowed. The default is 200.
NUMFUN	The number of currently defined strings and functions.
MAXCHM	The maximum number of characters used in printing the most recently defined model. The default is 200.
MAXWID	The maximum width of a command line. The default is 80 .
IWIDTH	The width of the current command line.
MAXWSV	The maximum width of a saved line. The default is 80.
IWIDSV	The width of the current saved line.
NPLOTP	The number of plot points on the most recent plot.
ITRANS	ON if translation is in effect, OFF if it is not (see the TRANSLATE command in the Support chapter).

Machine constants (not documented further)

These values are normally defined by the DATAPLOT installer before building DATAPLOT. The analyst typically will not modify them with the SET command. However, they can be used with the PROBE command if you want to see the value for your particular installation. As a note to DATAPLOT installers, these values are defined in the Fortran subroutine INITMC in the file DP1.FOR.

CPUMIN	Value for the smallest real number.
CPUMAX	Value for the largest real number.
NUMBPC	The number of bits per character.
NUMCPW	The number of characters per word.
NUMBPW	The number of bits per word.

DATAPLOT file names and unit numbers (not documented further)

These contain the names and unit numbers used by various DATAPLOT files. The permanent files used by DATAPLOT (e.g., the on-line help files) should be set correctly by the DATAPLOT installer and should not need to be modified by the analyst. The PROBE command can be used to show the location of these files on your installation. Files created during a DATAPLOT session (e.g., the plot files) can be given different names. However, there is usually little reason for doing so.

One exception to the above rule might be if the analyst is generating encapsulated Postscript files. In this case, the analyst would ideally like each encapsulated Postscript plot to be in a separate file. This can be accomplished with the following:

```
SET IPL1NA PLOT_1.DAT
DEVICE 2 POSTSCRIPT ENCAPSULATED
PLOT ...
DEVICE 2 CLOSE
```

.
SET IPL1NA PLOT_2.DAT
DEVICE 2 POSTSCRIPT ENCAPSULATED
PLOT ...
DEVICE 2 CLOSE

This same idea can be used for other devices if for some reason you want each plot to be in a separate file.

IMESNU	The Fortran unit for the message file.
INEWNU	The Fortran unit for the news file.
IMAINU	The Fortran unit for the mail file.
IHELNU	The Fortran unit for the help file.
IBUGNU	The Fortran unit for the bugs file.
IQUENU	The Fortran unit for the query file.
ILOGNU	The Fortran unit for the log file.
IREANU	The Fortran unit for the user file to be read.
IWRINU	The Fortran unit for the user file to be written to.
ICRENU	The Fortran unit for the create macro file.
ISAVNU	The Fortran unit for the save memory file.
ISCRNU	The Fortran unit for the scratch file.
IDATNU	The Fortran unit for the data file.
IPL1NU	The Fortran unit for the DEVICE 2 graphics output file.
IPL2NU	The Fortran unit for the DEVICE 3 graphics output file.
IMESNA	The name for the message file.
INEWNA	The name for the news file.
IMAINA	The name for the mail file.
IHELNA	The name for the help file.
IBUGNA	The name for the bugs file.
IQUENA	The name for the query file.
ILOGNA	The name for the log file.
IREANA	The name for the user file to be read.
IWRINA	The name for the user file to be written to.
ICRENA	The name for the create macro file.
ISAVNA	The name for the save memory file.
ISCRNA	The name for the scratch file.
IDATNA	The name for the data file.
IPL1NA	The name for the DEVICE 2 graphics output file.
IPL2NA	The name for the DEVICE 3 graphics output file.
IMESST	The status of the message file.
INEWST	The status of the news file.
IMAIST	The status of the mail file.
IHELST	The status of the help file.
IBUGST	The status of the bugs file.
IQUEST	The status of the query file.
ILOGST	The status of the log file.
IREAST	The status of the user file to be read.
IWRIST	The status of the user file to be written to.
ICREST	The status of the create macro file.

ISAVST	The status of the save memory file.
ISCRST	The status of the scratch file.
IDATST	The status of the data file.
IPL1ST	The status of the DEVICE 2 graphics output file.
IPL2ST	The status of DEVICE 3 graphics output file.

Housekeeping variables (not documented further)

These values are only of interest to users modifying the DATAPLOT source code or for debugging purposes.

IFEEDB	Value for the feedback switch (ON/OFF).
IPRINT	Value for the print switch (ON/OFF).
IECHO	Value for the echo switch (ON/OFF).
ICOM	The current command (characters 1-4).
ICOM2	The current command (characters 5-8).
MAXARG	The maximum number of arguments on a command line.
NUMARG	The number of arguments in the current command.
IARG	The command arguments in integer format.
ARG	The command arguments in real format.
IHARG	The command arguments in character format.
IHNAME	The names for variables, parameters, matrices, strings, and functions (characters 1-4).
IHNAM2	The names for variables, parameters, matrices, strings, and functions (characters 5-8).
IUSE <elem>	The type for the <elem> entry in the internal DATAPLOT name table. V means variable, P means parameter, F means function or string, and M means matrix,
IVALUE <elem>	The column in the internal data storage area where the <elem> entry in the internal DATAPLOT name table is stored.
VALUE <elem>	The parameter value for the <elem> entry in the internal DATAPLOT name table. This value is irrelevant if the type is not a parameter.
IN <elem>	The number of observations for the <elem> entry in the internal DATAPLOT name table. This is only relevant for variables.
IVSTAR <elem>	The starting position in the internal data storage area for the <elem> entry in the internal DATAPLOT name table.
IVSTOP <elem>	The stopping position in the internal data storage area for the <elem> entry in the internal DATAPLOT name table.

Debugging (not documented further)

These are typically only used for debugging the DATAPLOT source code. They activate the printing of certain variables, parameters, and output at specific points in the code.

ISUBRO <string>	Turns on debugging for a specific subroutine. Enter the last 4 characters of the subroutine name for <string>.
IBUGMA <ON/OFF>	Debugging for machine constants.
IBUGIN <ON/OFF>	Debugging for initialization.
IBUGLS <ON/OFF>	Debugging for LET subcommands.
IBUGMS <ON/OFF>	Not used.

IBUGGC <ON/OFF>	Used by the DPGETC routine (DPGETC parses the command line).
IBUGTY <ON/OFF>	Used by the DPTYPE routine (DPTYPE creates Hollerith, integer, and floating point equivalents for each component of the command line).
IBUGTE <ON/OFF>	No longer used.
IBUGPC <ON/OFF>	Debugging for plot control commands.
IBUGP2 <ON/OFF>	Debugging for plot control commands.
IBUGOD <ON/OFF>	Debugging for output devices.
IBUGO2 <ON/OFF>	Debugging for output devices.
IBUGSU <ON/OFF>	Debugging for support commands.
IBUGS2 <ON/OFF>	Debugging for support commands.
IBUGGR <ON/OFF>	Debugging for graphics commands.
IBUGG2 <ON/OFF>	Debugging for graphics commands.
IBUGG3 <ON/OFF>	Debugging for graphics commands.
IBUGAN <ON/OFF>	Debugging for analysis commands.
IBUGA2 <ON/OFF>	Debugging for analysis commands.
IBUGA3 <ON/OFF>	Debugging for analysis commands.
IBUGPL <ON/OFF>	Used by some routines in the plotting process (e.g., the routines that perform clipping and determine frame limits).
IBUGP1 <ON/OFF>	Used by some routines in the plotting process (e.g., the routines that perform clipping and determine frame limits).
IBUGP3 <ON/OFF>	Used by some routines in the plotting process (e.g., the routines that perform clipping and determine frame limits).
IBUGDG <ON/OFF>	Debugging for diagrammatic graphics commands.
IBUGD2 <ON/OFF>	Debugging for diagrammatic graphics commands.
IBUGCO <ON/OFF>	Debugging for function evaluation (the COMPIM and COMPID routines).
IBUGEV <ON/OFF>	Debugging for function evaluation (the EVALM routine).
IBUGQ <ON/OFF>	Not used.
IBUGRE <ON/OFF>	Debugging for reading.
IBUGWR <ON/OFF>	Debugging for writing.
IBUGSO <ON/OFF>	Not used.
IBUGTO <ON/OFF>	Not used.
IBUGUG <ON/OFF>	Debugging for underlying graphics.
IBUGU2 <ON/OFF>	Debugging for underlying graphics.
IBUGU3 <ON/OFF>	Debugging for underlying graphics.
IBUGU4 <ON/OFF>	Debugging for underlying graphics.
IBUGEX <ON/OFF>	Debugging for expert subsystem.
IBUGE2 <ON/OFF>	Debugging for expert subsystem.
IBUGHE <ON/OFF>	Debugging for help command.
IBUGH2 <ON/OFF>	Debugging for help command.