

## CHAPTER 8      Keywords

These are not commands per se but are reserved words which may appear within a command statement to achieve an effect. Examples include specifying subsets in a plot/analysis or using predicted values and residuals after a fit. The elements in this category are:

### Multi-trace plots

AND	Used with the PLOT and 3D-PLOT commands to generate multi-trace plots.
VERSUS	Used with the PLOT command to generate multi-trace plots.

### Data and variable subsets

SUBSET	Qualifier denoting a subset of interest.
EXCEPT	Qualifier denoting an excluded subset.
FOR	Qualifier denoting a variable or elements of a variable of interest.
I	A dummy index variable used by the FOR command.
TO	Specify an interval of values within a variable. Also used to specify a range of variables.

### Pre-defined parameters

PI	A parameter with the value 3.1415926.
INFINITY	A parameter with the value “infinity.”

### Automatically saved variables

PRED	A variable with predicted values from the FIT and other commands.
RES	A variable with residuals from the FIT and other commands.
XPLOT	A variable that contains the horizontal coordinates of the most recent plot.
YPLOT	A variable that contains the vertical coordinates of the most recent plot.
TAGPLOT	A variable that contains the trace identifiers of the most recent plot.
X2PLOT	A variable that contains the second horizontal axis (i.e., for a 3-d plot) coordinates of the most recent plot.

### Automatically saved parameters (various analysis commands)

RESSD	A parameter with the residual standard deviation from the FIT, ANOVA, and other commands.
RESDF	A parameter with the residual degrees of freedom from the FIT and other commands.
REPSD	A parameter with the replication standard deviation from the FIT, ANOVA, and other commands.

REPDF	A parameter with the replication degrees of freedom from the FIT and other commands.
LOFCDF	A parameter with the lack of fit cdf value from the FIT and other commands.
<b>Setting switches</b>	
ON	Set a switch to the “on” position.
OFF	Set a switch to the “off” position.
AUTOMATIC	Set a switch to the “automatic” position.
DEFAULT	Set a switch to the “default” position.
<b>Special files</b>	
COMMANDS	Symbolic name for DATAPLOT’s command file.
CONCLUSIONS	Symbolic name for DATAPLOT’s conclusions file.
DATASETS	Symbolic name for DATAPLOT’s data sets file.
DESIGNS	Symbolic name for DATAPLOT’s design of experiments file.
DICTIONARY	Symbolic name for DATAPLOT’s dictionary file.
DIRECTORY	Symbolic name for DATAPLOT’s directory file.
DISTRIBU	Symbolic name for DATAPLOT’s distributions file.
FUNCTION	Symbolic name for DATAPLOT’s functions file.
MACROS	Symbolic name for DATAPLOT’s macros file.
PROGRAMS	Symbolic name for DATAPLOT’s programs file.
SYNTAX	Symbolic name for DATAPLOT’s syntax file.
<b>Logical operators</b>	
NOT EXIST	Test for the existence of a variable in an IF command.
=	Equal; used in the FIT, PRE-FIT, FOR, and other commands.
<>	Not equal to.
<	Less than.
<=	Less than or equal to.
>	Greater than.
>=	Greater than or equal to.
<b>Special characters</b>	
;	The default terminator character for a command (allows multiple commands per line).
...	The default continuation character to extend a command onto a second line.
^	The default substitution character.
()	Specify math/Greek characters in the TEXT, LABEL, and other commands.
<b>Miscellaneous</b>	
WRT	“With respect to;” used with the LET command for roots, derivatives, and integrals.
VERTICALLY	Rotate the contents (but not the frame) of a plot.

DATAPLOT automatically saves many other parameters in addition to the few listed above. However, since these additional automatically saved parameters are typically only generated by a single command, they are not documented in this chapter. They are documented under the command that creates them. The following lists the most common automatically saved parameters. Note that this is not a complete list.

DEMODF	A parameter with the updated complex demodulation frequency.
PPCC	A parameter that contains the correlation between the horizontal and vertical axis variables in a probability plot.
MAXPPCC	A parameter that contains the maximum correlation coefficient from the PPCC PLOT command.
SHAPE	A parameter that contains the optimal shape parameter from the PPCC PLOT command.
SIGMA	A parameter that contains the estimated slope of the fitted line from the NORMAL PLOT.
MU	A parameter that contains the estimated intercept of the fitted line from a NORMAL PLOT.
SDSIGMA	A parameter that contains the estimated standard deviation of the SIGMA parameter from a NORMAL PLOT.
SDBETA	A parameter that contains the estimated standard deviation of the MU parameter from a NORMAL PLOT.
ETA	A parameter that contains the estimated “characteristic life” from a WEIBULL PLOT.
BETA	A parameter that contains the estimated shape parameter from a WEIBULL PLOT.
SDETA	A parameter that contains the standard deviation for the ETA parameter from a WEIBULL PLOT.
SDBETA	A parameter that contains the standard deviation for the BETA parameter from the WEIBULL PLOT.
B	A family of parameters that contain estimated percent points from the WEIBULL PLOT.
BP	A family of parameters that contain estimated percent points from the NORMAL PLOT.
A0, A1, A2, ...	These parameters contain the estimated coefficients that result from the LINEAR FIT, QUADRATIC FIT, CUBIC FIT, and the other polynomial fits that use the linear fit algorithm. The linear fit algorithm can handle up to 35 variables, so A0 through A35 can be defined. Only the coefficients that are actually fit are saved. That is, if 3 variables are fit, A0, A1, A2, and A3 are saved (A0 is the constant term).

Saved parameters and variables can be used in subsequent DATAPLOT commands just like any user created variable or parameter. If you are not sure what parameters, if any, were created by a given command, enter the STATUS PARAMETERS command to see a list of all currently defined parameters.

Some commands require certain parameters to be set prior to the command. For example, many of the probability distributions require a shape parameter to be set when generating random numbers, probability plots, or ppcc plots. The documentation for the individual commands lists any parameters that need to be defined by the user. If an expected parameter is not found, an error message is printed (this error message typically identifies the name of the missing parameter). As an example, to set the degrees of freedom parameter and generate 100 random numbers from the t distribution, enter the following commands:

```
LET NU = 22
```

LET Y = T RANDOM NUMBERS FOR I = 1 1 100

The following is a list of some of the more commonly used parameters. This is not a complete list.

N, NU, NU1, NU2, LAMBDA	Set the shape parameters for various probability distributions.
ALPHA, BETA, GAMMA, P, K	Set additional probability distribution shape parameters.
P1	Set the lower limit for trimmed means and Windsorized means (TRIMMED MEAN, TRIMMED MEAN PLOT, WINDSORIZED MEAN, WINDSORIZED MEAN PLOT).
P2	Set the upper limit for trimmed means and Windsorized means (TRIMMED MEAN, TRIMMED MEAN PLOT, WINDSORIZED MEAN, WINDSORIZED MEAN PLOT).
LSL	Set the lower specification limit for various quality control statistics (CP, CPK, PERCENT DEFECTIVE, and EXPECTED COST).
USL	Set the upper specification limit for various quality control statistics (CP, CPK, PERCENT DEFECTIVE, and EXPECTED COST).
USLCOST	Set the cost value for the EXPECTED LOSS command.

As a caution, the analyst should avoid using the above parameters as the names of variables, strings, or matrices. This will cause a conflict and an error message will be generated when DATAPLOT tries to use the name as a parameter.