MULTIPLYOT

PURPOSE
Specifies the number of rows and columns in the “matrix of plots” that is to be formed by subsequent plot commands.

DESCRIPTION
The MULTIPLYOT command, though simple, is one of the most powerful and most commonly used recent (since 1988) enhancements to DATAPLOT. Generating multiple plots per page is an extremely important exploratory data analysis tool. The MULTIPLYOT command does all the behind-the-scenes scaling of the plots, the erase for the first plot, the non-erase for subsequent plots, etc. It is frequently used to examine 1 variable by many different plot techniques. It is also used to examine many variables by a single plot technique. The MULTIPLYOT command should receive routine usage.

The MULTIPLYOT command divides the plot area into equal size rows and columns. As the next plot is generated, it is moved into the next row and column position. The sub-area is given its own 0 to 100 coordinate system and all commands until the next plot command are based on this scaled down plot area. That is, sizes are automatically scaled relative to the sub-area and diagrammatic graphics are plotted in this sub-area. Normally, plots move sequentially through the row and column positions. However, syntax 2 or syntax 3 below can be used to move to a specific location.

SYNTAX 1
MULTIPLYOT <rows> <columns>
where <rows> is a number or parameter that specifies the desired number of rows of plots to subsequently appear; and  
<columns> is a number or parameter that specifies the desired number of columns of plots to subsequently appear.

This syntax does a screen erase before the next plot. This is the most common syntax for MULTIPLYOT.

SYNTAX 2
MULTIPLYOT <rows> <columns> <start>
where <rows> is a number or parameter that specifies the desired number of rows of plots to subsequently appear;  
<columns> is a number or parameter that specifies the desired number of columns of plots to subsequently appear; and  
<start> is a number or parameter that specifies the index of the next plot to generate (i.e., the first <start> - 1 plots are skipped).

This syntax does not do a screen erase before the next plot. It is typically used to skip one or more plots and is almost always preceded by a MULTIPLYOT command using syntax 1.

SYNTAX 3
MULTIPLYOT <rows> <columns> <row 0> <column 0>
where <rows> is a number or parameter that specifies the desired number of rows of plots to subsequently appear, and  
<columns> is a number or parameter that specifies the desired number of columns of plots to subsequently appear;  
<row 0> is a number or parameter that specifies the desired row where the next plot should appear; and  
<column 0> is a number or parameter that specifies the desired column where the next plot should appear.

This syntax does not do a screen erase before the next plot. It is typically used to skip one or more plots and is almost always preceded with a MULTIPLYOT command using syntax 1. It is similar to syntax 2. The distinction is that the position of the next plot is specified by a specific row and column id rather than a count.

EXAMPLES
MULTIPLYOT 2 2
MULTIPLYOT 4 5
MULTIPLYOT 10 10
MULTIPLYOT 3 3 5
MULTIPLYOT 3 3 2 1

NOTE 1
The END OF MULTIPLYOT command is used to terminate a multiplot sequence of plots and revert the plot area back to the full screen.

NOTE 2
By default, the MULTIPLYOT command divides the current plot area ((15,20), (85,90) by default). The MULTIPLYOT COORDINATES command can be used to specify the portion of the screen to use for MULTIPLYOT.
NOTE 3
There is no restriction on the type of plot that can be used in conjunction with the MULTIPLOT command.

DEFAULT
None

SYNONYMS
None

RELATED COMMANDS

- END OF MULTIPLYOT = Terminate a multiplot sequence.
- MULTIPLYOT COORDINATES = Specify coordinates for the area to use for multi-plot.
- FRAME COORDINATES = Specify the coordinates of the plot frame.

APPLICATIONS
Multiple plots per page

IMPLEMENTATION DATE
88/9

PROGRAM
MULTIPLYOT 3 4
LET THETA = SEQUENCE 0 1 380; LET X = SIN(THETA)
FRAME OFF; PRE-SORT OFF
XLABEL SIZE 4
LOOP FOR K = .1 .1 1.2
   LET Y=SIN(K*THETA)
   XLABEL ^K
   PLOT Y X
END OF LOOP
END OF MULTIPLYOT