

Title

intro — Introduction to graphics manual

Description

This entry describes this manual and what has changed since Stata 8. See the next entry, [G] **graph intro**, for an introduction to Stata's graphics capabilities.

Remarks

This manual documents Stata's **graph** commands and is referred to as [G] in references.

Following this entry, [G] **graph intro** provides an overview of Stata's **graph** command. The remaining manual is divided into three sections:

<i>Commands</i>	This section is arranged alphabetically by graph subcommand and documents all the families of graphs (e.g., twoway , bar , or box) and the graph management commands (e.g., graph drop or graph use). All references to this section appear in the text as bolded command names, for example, [G] graph twoway .
<i>Options</i>	This section is arranged alphabetically by option type (e.g., <i>marker_options</i> or <i>legend_options</i>) and documents the options available to graph . All references to this section appear in the text as bolded, italicized option names with <i>_options</i> appended, for example, [G] <i>axis_label_options</i> .
<i>Styles and concepts</i>	This section is arranged alphabetically by style name and documents the valid arguments for graph options; for example, <i>colorstyle</i> shows all the valid arguments for options that take a color. Almost all references to this section appear in the text as bolded, italicized style names with <i>style</i> appended, for example, [G] <i>linestyle</i> . Concept entries are the exception; these references appear in the text as bold text, such as [G] concept: lines or [G] schemes intro .

Only the **graph** command is documented in this manual, though the statistical **graph** commands documented in [MV], [R], [ST], [TS], and [XT] often refer to the *Options* and *Styles and concepts* sections of this manual.

When using this manual as documentation for the **graph** command and its families, you will typically begin in the *Commands* section and be referred to the *Options* and *Styles and concepts* sections as needed. If you are an experienced user, you might sometimes refer directly to the *Options* section for entries such as *legend_option*, where the 35 options for controlling where a legend appears and how it looks are documented. Similarly, you may jump directly to entries such as *colorstyle* in *Styles and concepts* to determine the valid arguments to an option specifying the color of a **graph** object. If you are new to Stata's graphics, see [G] **graph intro** for a suggested reading order.

Stata is continually being updated, and Stata users are continually writing new commands. To ensure that you have the latest features, you should install the most recent official update; see [R] **update**.

What's new

1. Stata now allows multiple Graph windows. The existing `name()` option now creates a named graph and displays it in its own window.

Graph management commands do what you would expect with the associated Graph windows; that is, `graph drop` drops the graph and closes the associated window, `graph rename` renames both the graph and the window, and so on. Note that closing a Graph window does not delete the underlying graph and the graph can be redisplayed with `graph display`.

2. `graph twoway` has two new *plottypes* for plotting time-series data, `tsline` and `tsrline`; see [G] **graph twoway tsline**. All *plottypes* automatically produce better label and tick values for variables having date or time-series formats.
3. `graph twoway` has seven new options that are useful when plotting time-formatted variables: `tscale()`, `tlabel()`, `tmlabel()`, `ttick()`, `tmtick()`, `tline()`, and `ttext()`; see [G] *axis_options*, [G] *added_line_options*, and [G] *added_text_options*. With these options, you may directly specify date literals, such as `12sep2003` or `1990q2`, to identify positions.
4. `graph twoway` has seven new *plottypes* for plotting paired-coordinate data—data with 4 variables, where two variables form a starting x - y point and the other two variables form an ending x - y point. The new *plottypes* are

<i>plottype</i>	description
<code>pccarrow</code>	plots a directional arrow for each observation's paired coordinates
<code>pcbarrow</code>	plots a two-headed arrow for each observation's paired coordinates
<code>pcspike</code>	plots a line or spike for each observation
<code>pccapsym</code>	plots a line with symbols at each end for each observation
<code>pccscatter</code>	plots both pairs of x - y variables as a scatter, using a common style
<code>pci</code>	immediate form of paired coordinate plots; plots the specified coordinate pairs
<code>pccarrowi</code>	immediate form of <code>pccarrow</code>

See [G] **graph twoway pccarrow** (for `pccarrow` and `pcbarrow`), [G] **graph twoway pcspike** (for `pcspike`), [G] **graph twoway pccapsym** (for `pccapsym`), [G] **graph twoway pccscatter** (for `pccscatter`), [G] **graph twoway pci** (for `pci`), and [G] **graph twoway pccarrowi** (for `pccarrowi`).

5. `graph twoway`, `graph bar`, `graph box`, and `graph dot` have the new option `aspectratio()` that controls the aspect ratio of a graph's plot region; see [G] *aspect_option*.
6. `graph display` has the new option `scale()` that allows all text, symbols, and line widths to be rescaled when a graph is displayed again; see [G] **graph display**.
7. `graph export` now supports additional output formats:
 - a. TIFF files
These files are limited to the resolution of the display device and the size of the Graph window; see [G] **graph export**
 - b. PNG (portable network graphics)
This format is especially useful for posting graphs on the Internet; see [G] **graph export**.
 - c. TIFF previews for EPS files
The new option `preview()` embeds a preview of the graph so that it can be viewed in publishing applications; see [G] **graph export** and [G] *eps_options*. The Graph window must be open so that it can be used to create the preview.

8. `graph` now supports CMYK output to Postscript and to Encapsulated Postscript (EPS) files. CMYK stands for Cyan–Magenta–Yellow–blacK and is popular in the printing industry. This support includes the ability to convert RGB color values to CMYK color values on export and to specify either RGB or CMYK values wherever colorstyles are accepted, including options to `graph` and scheme files. The new `graph export` option `cmyk(on)` allows either Postscript or EPS files to be created with CMYK color specifications. CMYK can be made the default conversion using `graph set ps cmyk on` and `graph set eps cmyk on`; see [G] **graph set** and [G] *ps_options*.
- Printing presses require CMYK color separations, and CMYK support is expected to be of greatest use to those using Stata graphics in books or other publications intended for large-scale printing.
9. Many of the `graph` dialogs have improved layouts, making them easier to use.
10. `graph box` can now label outside values using the existing option `marker()`; see [G] *marker_Label_options* for appropriate suboptions. Also see [G] **graph box**.
11. `graph bar` has new options `over(, reverse)` and `yvaroptions(reverse)` that specify that the categorical scale be reversed to run from maximum to minimum, rather than the default minimum to maximum. See [G] **graph bar**.
12. `graph twoway` has the new option `pcycle()` that specifies the maximum number of plots that may appear on a `graph` before the `pstyles` cycle back to the first style; see [G] *advanced_options*.
13. `graph combine` has the new option `altshrink` that provides alternative sizing of the text, markers, line thicknesses, and line patterns on the individual combined graphs; see [G] **graph combine**.
14. `palette color` has the new option `cmyk`, specifying that color values be reported in CMYK rather than RGB; see [G] **palette**.
15. `graph` has improved control over whether the largest and smallest possible grid lines are drawn. This control is provided by improving the actions of the existing suboptions `[no]gmin` and `[no]gmax`; see [G] *axis_Label_options*.
16. `graph bar`, `graph box`, `graph dot`, and `graph pie` have the new option `allcategories`, specifying that the legend include all `over()` groups in all of the dataset, not just groups in the sample specified by `if` and `in`.
17. `graph` and all Stata command that draw graphs have some new options that make changing the color of graph objects and changing the appearance of lines more consistent across graphs:
- The options `lstyle()`, `lcolor()`, `lwidth()`, and `lpattern()` are now accepted anywhere `cl(attribute)` and `bl(attribute)` were allowed. Specifically, the following new options replace either of the original options:

new options	original options
<code>lstyle()</code>	<code>clstyle()</code> , <code>blstyle()</code>
<code>lcolor()</code>	<code>clcolor()</code> , <code>blcolor()</code>
<code>lwidth()</code>	<code>clwidth()</code> , <code>blwidth()</code>
<code>lpattern()</code>	<code>clpattern()</code> , <code>blpattern()</code>

The new options can be applied to all lines—lines connecting points, lines outlining bars, lines around text boxes, etc. The original option names continue to work but are undocumented.

- The new option `fcolor()` changes area fill colors and can be used anywhere `bfcolor()` or `afcolor()` were allowed. `bfcolor()` and `afcolor()` continue to work but are undocumented.
- The new option `color(arg)` sets all of a plot's colors; it is the equivalent of specifying `mcolor(arg)`, `lcolor(arg)`, and `fcolor(arg)`. For examples, see the options of any of the `twoway plottypes`.

For a complete list of all the new features in Stata 9, see [U] **1.3 What's new**.

Also See

Complementary: [U] **1.3 What's new**

Background: [R] **intro**