



15 MULTILOT

The multiplot module is the basic interactive time series plotting interface used throughout all FGPS software. Most features are common to all client modules although these modules may support various additional features specific to their application.

This section covers only the common Multiplot features used by all client modules.

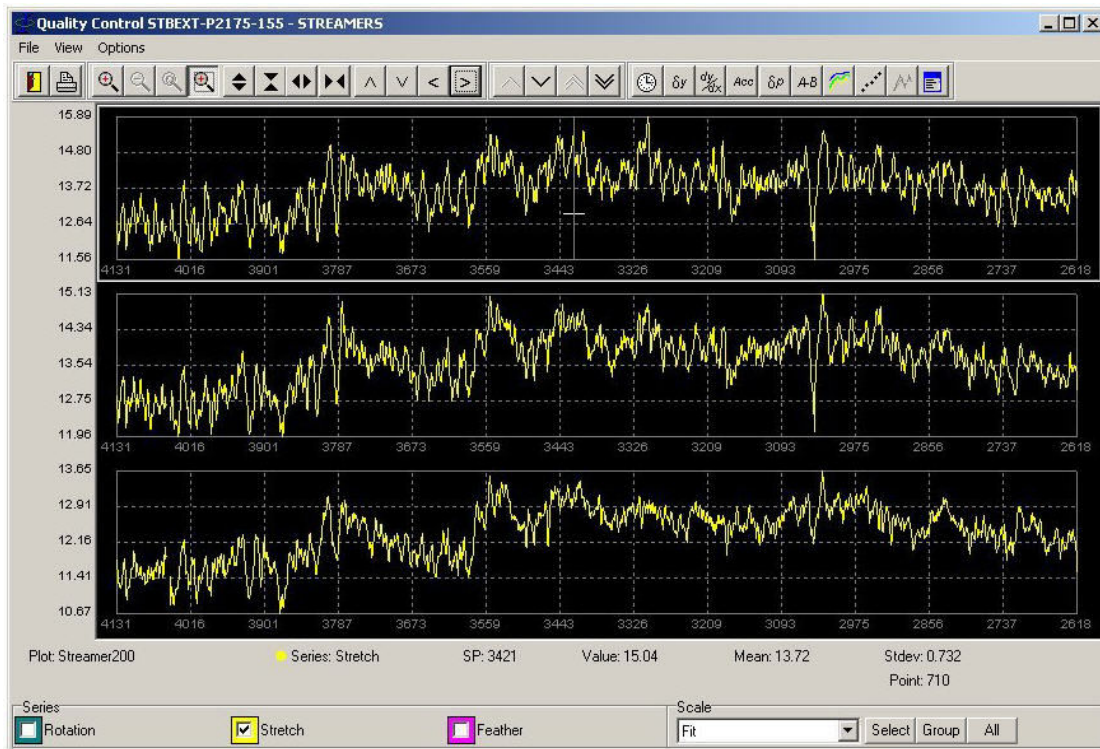


Figure 15-1



15.1 Menu

File:

- Print Current:* Prints the *active plot* as it appears on the screen on one full page using the current printer settings.
- Print:* Allows selection of multiple plots as shown in figure 15.2. Plots will be printed as seen on the screen.
- Printer Setup:* Invokes the Windows printer setup dialogue box.
- Save Selected Plot Bitmap:* Displays the Save File dialogue box. Saves the *Selected Plot* to a bitmap file.
- Save Form Bitmap:* Displays the Save File dialogue box. Saves the form to a bitmap file.
- Exit:* Exits the Precondition module and writes all data to the database if any changes have been made.

View:

- Zoom Factor:* Allows the default horizontal zoom factor to be changed. The default is 2:1
- Grid Lines:* Toggles grid lines on or off.
- Plots per Screen:* Allows the number of visible plots to be changed to any number between 1 and 10 inclusive.
- Colour:* Allows changing the colours of the individual plot series, interpolated values, edit line, nominal line and cursor lines.
- Cursor:* Allows the horizontal and vertical cursors to be toggled on or off. The default is vertical on, horizontal off.
- List:* Displays the list of all plots. The Active Plot is highlighted in the list and can be changed by clicking an item on the list.
- Network:* Displays the Network Diagram.

Options:


























- Load Palette:* Loads a previously saved palette defining the plotting, edit and cursor colours.
- Save Palette:* Saves the current plotting, edit and cursor colours.
- Hotkeys:* Set the Hotkeys for deleting data using the edit line. Ctrl and Alt key combinations are not supported.

15.2 Toolbar



Exits the Precondition module and writes all data to the database if any changes have been made.



- : Prints the *Selected Plot* as it appears on the screen on one full page using the current printer settings.
- : Expand the horizontal axis of all plots by the current zoom factor.
- : Contract the horizontal axis of all plots by the current zoom factor.
- : Fit the horizontal axis of all plots to the window.
- : When depressed enables the cursor to be used to zoom into any area of a plot. When up (default) enables the cursor to be used to draw an edit line on a plot.
- : Expands the vertical scale of the *Selected Plot* by two.
- : Contracts the vertical scale of the *Selected Plot* by two.
- : Expands the horizontal scale of the *Selected Plot* by two.
- : Contracts the horizontal scale of the *Selected Plot* by two.
- : Pans the *Selected Plot* up by one 20th of the vertical range.
- : Pans the *Selected Plot* down by one 20th of the vertical range.
- : Pans the *Selected Plot* left by half the horizontal range.
- : Pans the *Selected Plot* right by half the horizontal range.
- : Decrements the *Selected Plot* by one.
- : Increments the *Selected Plot* by one.
- : Displays the previous page according to the number of visible plots.
- : Displays the next page according to the number of visible plots.
- : Toggles the x-axis between shotpoint (default) and time in seconds from the first shot.
- : Toggles all plots between normal and point to point difference.
- : Toggles all plots between normal and rate of change.
- : Toggles all plots between normal and acceleration.
- : Toggles all plots between normal and difference from a least squares polynomial curve of specified order between 1 and 25 fitted through all good points.
- : Plots the difference between the *Selected Plot* and another plot. A plot list appears from which the comparison plot may be selected. Plotted values are the *Selected Plot* minus the comparison plot.
- : Overlays data from another plot selected from the list of all plots. Up to 10 overlays can be plotted.
- : Plots individual data points as a cross.
-



Plots the nominal value if available.



Displays the list of all plots. The *Selected Plot* is highlighted in the list and can be changed by clicking an item on the list.

15.3 Plots

Up to 10 plots can be displayed in one page. The list of plots can be browsed by scrolling using the toolbar buttons, the cursor and page up and down keys, or by selecting from the plot list.

15.3.1 Selected Plot

The *Selected Plot* is highlighted by a white 3D border and is selected by clicking in the plot area with either mouse button. The *Selected Plot* will change when scrolling through the plots or selecting from the plot list. Some of the toolbar functions are specific to the *Selected Plot* (see above).

15.3.2 Active Plot

The *Active Plot* is the plot which contains the mouse cursor, or the last plot to have contained the mouse cursor if the mouse cursor is outside the plotting area. When modifying any individual plot using the zooming and panning toolbar buttons the *Active Plot* becomes *Selected Plot*.

The statistics for the *Active Plot* are displayed below the plotting area.

15.4 Series

The available series are displayed in the *Series Panel* located at the bottom left of the window (see figure 15.1). The visibility of each series can be toggled by clicking on the series checkbox.

By default only the first series is displayed when the Multiplot module is instantiated.

15.4.1 Active Series

The *Active Series* is indicated by the information immediately below the bottom-most plot. The statistical information displayed always pertains to the *Active Series*. Toggling on a series causes it to become the *Active Series*. If more than one series are displayed the *Active Series* can be changed by clicking on the series name in the *Series Panel*.

15.5 Scale

The y-axis scale of the plotted series for all plots is determined by the scale selected from the dropdown list in the *Series Panel* located at the bottom right of the window. The following options are available for determining the maximum and minimum value plotted:



- Series name:* Scale by the maximum and minimum value of the selected series.
Fit: Scale to fit the maximum and minimum of all plotted series.
Max/min: Specify a fixed maximum and minimum value.
Mean \pm value: Scale by the mean of the *Active Series* plus and minus a specified value.
Nominal \pm value: Scale by the nominal value of the *Active Series* plus and minus a specified value. This option is only available if nominal values are available.

When selecting one of the last three options above edit boxes appears enabling entry of the specified values.

The default scale is *Fit*.

After selecting the desired scale apply this by clicking one of the buttons adjacent to the scaling option dialog, described below:

- Select:* Applies the specified scaling options to the *Selected* plot only.
Group: Applies the specified scaling options to all plots in the same observation group (applies only to SeisPos Precondition module);
All: Applies the specified scaling options to all plots.

15.6 Zooming

In addition to the zooming functions in the toolbar, mouse wheel scrolling can also be used.

To zoom horizontally hold down the <Ctrl> key and scroll the mouse wheel.

To zoom vertically hold down the <Shift> key and scroll the mouse wheel.

To zoom horizontally and vertically hold down the <Ctrl> and <Shift> key and scroll the mouse wheel.

Scroll up to zoom in and down to zoom out.

The centre of the zoom is the position of the mouse cursor.

15.7 Popup Menu

By clicking the right mouse button on any plot, that plot becomes the *Selected Plot* and a popup menu is invoked with the following functions which apply to the *Selected Plot* only:

- Table:* Display a table of data for all series (see below).
Overlay key: Display the colour key for overlaid plots.
Zoom out: Zoom out plot to full extent.
Reset: Revert to normal from comparison or overlay.
-



15.8 Plot Statistics

Plot statistics pertaining to the *Active Plot* are displayed below the plots as the cursor moves from plot to plot. If the plot is zoomed in then the statistics will pertain only to the visible data:

- Name.
- Mean value.
- Nominal value (if available).
- Standard deviation.
- Number of observations.

The following statistics are displayed for the cursor position:

- Shotpoint number, or if the *Time/shot* button is depressed the time in seconds from the first shot.
- Data point number (first point being 0).
- Value where vertical cursor intersects the plot. With the left mouse button depressed, the value at the cursor centre.

15.9 Data Table

To display a numeric table for the *Active Plot* select *Table* from the popup menu in the plot area.

When changing plotted data using the various display options, the data table currently visible will not be updated. There is, however, no limit to the number of tables which can be simultaneously displayed so, for example, it would be possible to display two tables, one showing time and the other showing shotpoint.

The table can be saved to file in comma or space delimited format by selecting *Save Table to File* from the table's popup menu.
