

Viewplot Help Contents

Viewplot For Windows by Engineered Software

Viewplot for is an Engineering tool which is useful for plotting functional equations and FFT calculations generated by the program Datafit. It can be used stand-alone, or launched from within Datafit once the programs have been registered. It has the ability to plot multiple curves from one or more datasets and display them in the same or separate windows simultaneously. Plots can be customized by formatting legends, numerical scaling, line colors, line styles and axis/title labels. The plots can be saved, printed or copied to the Windows clipboard for pasting into other applications.

To learn how to use Help, press F1 or select Using Help from the Help Menu.

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Customizing Viewplot

You can change some user preferences in the Viewplot.ini file. This file is located in your Windows directory. Do yourself a favor and back up the old one first. These preferences are:

1. Screen Width

This is the default size for the width of the parent window in Viewplot. For best graphical visualization, the screen width should be set to a minimum of 600 pixels. The default screen size is 800 x 600. To change the screen width, edit the following line in the viewplot.ini file:

```
screenwidth = 800
```

2. Screen Height

This is the default size for the height of the parent window in Viewplot. For best graphical visualization, the screen height should be set to a minimum of 800 pixels. The default screen size is 800 x 600. To change the screen height, edit the following line in the viewplot.ini file:

```
screenheight = 600
```

3. Window Origin

The default window origin is located in the upper left corner (0,0) of the screen. You can change this by editing the default_x and default_y lines in the viewplot.ini file. The syntax is

```
default_x = <user defined X origin>  
default_y = <user defined Y origin>
```

4. Project Directory

This is the directory where all of the projects are stored by Datafit. When you install DataFit/Viewplot, you are prompted for the directory in which to install the executables. The default project directory will exist in the install directory and will be called projects. If you want to change it, create a new directory (from DOS or Windows File Manager) and change the projectdir line to point to the new project directory. The syntax is:

```
projectdir = <user supplied directory>
```

When you Open files from the **File** menu, this will be the default directory listed.

OPEN (File Menu)

Choosing **File - Open** will create a new plot window. The file dialog box will prompt you for the name of a Datafit equation solution file (*.dft), a Datafit FFT solution file (*.fft) or a Viewplot plot file (*.plt). If you selected a Datafit equation solution file or an FFT solution file, enter the path and filename to the file you wish to open, or use the directory listbox to change to a directory containing the desired file. Once the file is read, you will be shown a list of equations and discrete input or FFT data that exists in the particular file.

You can load one equation (select a single item in the list by clicking on it), multiple equations (multi-select items by holding the <Ctrl> key while selecting) or all of the equations (choose **Select All**). To de-select all of the items in the list, choose **Deselect All**. At least one equation must be selected. The Cubic Spline equations will be plotted with an initial default number of 100 points per spline for the range in which the equation is valid. All least squares equations will be plotted at the inputted values. FFT data will be plotted at the discrete frequency points determined by the sampling rate.

If you selected a Viewplot plot file (*.plt), the plot will be read in as it was last saved and will not prompt you for graphs to include.

If you want to plot equations or FFTs from different solutions of the same plot, use **File - Import**.

Import (File Menu)

Choosing **File - Import** will read and add equations to the active plot window. The file dialog box will prompt you for the name of a Datafit FFT solution file (*.fft) or equation solution file (*.dft). Enter the path and filename to the file you wish to open, or use the directory listbox to change to a directory containing the desired solution file. Once the file is read, you will be shown a list of equations and discrete input data that exists in the particular solution file.

You can load one equation (select a single item in the list by clicking on it), multiple equations (multi-select items by holding the <Ctrl> key while selecting) or all of the equations (choose **Select All**). To de-select all of the items in the list, choose **Deselect All**. At least one equation must be selected. The equations in the file chosen will be added to the plot in the active window. The plot will be rescaled to fit all of the plotted equations for their respective ranges. Cubic Spline equations will be plotted with the current number of points per spline.

Importing is useful for plotting data from different solutions in the same graph. For example, if Least Squares method is preferred, but the entire data set cannot accurately be described by a single equation, the data set can be broken up into smaller datasets. Importing equations from different datasets will allow you to plot them all on the same graph.

You cannot import a Viewplot plot file into the current plot. You may only import Datafit equation solution or FFT solution files. If you want to add equations to a saved Viewplot file, open the Viewplot file first, then import the Datafit solution or FFT solution file.

Save As... (File Menu)

Choosing **File - Save As...** will save the current plot in Viewplot file format (*.plt). All information, including line color and style information, plot axis labeling information and legend placement will be saved. This will allow retrieving the plot file for Printing or Importing plots at a later time. The file will be save as a Viewplot plot file (*.plt).

Close (File Menu)

Choosing **File - Close** will close the current active plot window. Unless you save the current plot prior to closing the window, any of the Axis formatting or Graph formatting you have done to the active plot will be lost.

Print (File Menu)

Choosing **File - Print** allows you to make hardcopies of the active plot window. Although the software should work with any Microsoft Windows supported printer, there may be problems with certain printers or printer drivers. If you have any problems printing to any particular printer, please contact the printer manufacturer and obtain the latest version of the printer driver. If this does not solve the problem, please [contact us](#) and give us information about the printer (Brand, Printer driver version number) as well as the behavior observed.

Exit (File Menu)

Choosing **File - Exit** will close all opened plot windows and exit Viewplot. Unless you save any opened plot windows prior to exiting, any of the Axis formatting or Graph Formatting you have done to any plots will be lost.

Licenses and Registration

You are required to register your copy of DataFit and Viewplot if you find them useful. A lot of hard work went into making them, and a lot more will go into making them better. You **MUST** register to obtain Technical support. Payment of \$30.00 (based on US currency) can be accepted in the following forms:

1. Cash
2. Check/Money Order
3. Credit Card (Visa, Mastercard, American Express)
4. First Virtual
5. Invoice

This payment will cover the use of both programs. Once you are registered, you can obtain technical support, provide input for future releases, get rid of the nagging registration screens, receive upgrade information, and generally feel better about yourself.

To register, select **Complete Registration Form** from the Registration Information panel. The Registration form will appear. Follow the detailed instructions on the form. Depending on your payment option, you will be given instructions on how to send the payment. You only need to complete one registration form for both Datafit and Viewplot.

Once we receive the form, you will receive a confirmation letter which will include your registration number and license agreement. Once you have received a registration number, you may permanently enter it by selecting **Enter Registration** from the registration information panel. Be sure to enter your name EXACTLY how it is spelled on the confirmation letter. If you have any problems entering your registration number, please contact technical support.

Obtaining Technical Support

Shareware Evaluation Users

Questions will be addressed to the extent that answers are needed to determine whether or not Datafit/Viewplot will fit your needs.

You may obtain technical support in one of the following two ways:

1. Questions by US Mail

Send your questions to:

Engineered Software
C/O John A.Gilmore
1315 Varner Road
Pittsburgh, PA 15227

Be sure to include your return address.

2. Questions by EMAIL

You can send Email via internet to johng@kagi.com. Be sure to include your return address. This is probably the quickest way to obtain technical support.

Registered Users

In addition to the above two methods, you will receive phone support as well. Call (412) 881-4210 between 9:00 AM and 3:00 PM Eastern Standard Time. If there is no answer, please leave a message with your name, phone number and license number reported to you from the software. You can get the license number by choosing **About Viewplot** from the **Help** menu. In the near future, there will be fax support as well.

Format Axis (Plot Menu)

Choosing **Plot - Format Axis...** will allow the user to customize the physical appearance of the active plot. The window which will appear is described below.

Heading

The heading text box will place text on the plot which would be the title appearing above the plot. To add a plot heading, click in the text box and type in the desired text. To exclude a title from the plot, leave the Heading text box blank, or delete the text currently in the box.

X Label

The X Label text box will place text on the plot which would label the horizontal X axis. To add an X Label, click in the text box and type in the desired text. To exclude an X axis label from the plot, leave the X Label text box blank, or delete the text currently in the box.

Y Label

The Y Label text box will place text on the plot which would label the vertical Y axis. To add a Y Label, click in the text box and type in the desired text. To exclude a Y axis label from the plot, leave the Y Label text box blank, or delete the text currently in the box.

X Min, X Max, Y Min, Y Max

These text boxes allow the plot extremes to be entered to control the numerical labeling of the X and Y axis. The first time a data is displayed using after Opening a solution file, the extremes are automatically calculated so that all of the equation data is displayed for their valid ranges. If a Plot file is Opened, these values will read from the file to reflect the formatting of the Saved plot. To reset the minimum and maximum values to display all data in the plot, choose **Plot - Fit All.**

Major Grids, Minor Grids

Selecting the Major Grid check box will cause gridlines corresponding to the Major Ticks to be displayed. Selecting the Minor Grid check box will cause gridlines corresponding to the Minor Ticks to be displayed. These check boxes apply to both the X and Y axis.

Major Ticks, Minor Ticks

Selecting the Major Ticks checkbox will display the major tickmarks on both the X and Y axis. The major ticks also control the numerical labeling on the X and Y axis. Numerical axis labels will appear corresponding to each of the major tickmarks. Minor tickmarks appear between the major tickmarks. The X and Y text boxes appearing beneath the tick and grid check boxes control the number of tick marks displayed on the plot.

Show Legends

Selecting the Show legends check box will display the plot legend. The legend will appear as a box containing line colors, line styles and line names for each curve in the plot. The legend box can be moved about the plot by clicking the left mouse button in the box and dragging the box while holding down the left mousebutton. When the mouse button is released, the the legend will be redisplayed in the new position. The position of the legend is also saved along with the plot. To customize line colors, styles and names, choose **Plot - Format Graphs.**

Number of Points per Spline

The maximum number of points per spline text box controls the number of points plotted for each cubic spline curve in the plot. The Cubic Spline data is read in as equations, not as discrete data points, so the user has control over the calculated number of points for each curve. The default number is 100, however for plots whose X range is very large, this number can be increased up to 1000. The number of points is also saved along with the plot.

Format Graphs (Plot Menu)

Choosing **Plot - Format Graphs** will allow the user to customize the physical appearance of lines on the plot and the plot legend. The window which will appear is described below.

All of the equations plotted will appear in the list box. The names given by default are the equation type solved prefixed by the Datafit project name. These names can be changed by selecting the name in the listbox, and editing it in the text box beneath the list. To change the color or style of a particular line, select it in the list, and click on the colors or styles button. Choosing either of these two options will pop up a panel to allow the user to select a new color or line style. The line width can be controlled by using the spin button, or typing the line width in the line width text box. You can specify line widths from values of 1 to 5. If a line width of greater than 1 is selected, the line style is ignored. The Display line checkbox controls whether or not the line will appear on the plot and in the legend. Only the line currently selected in the list will be affected by any changes made.

Fit All (Plot Menu)

Choosing **Plot - Fit All** will reset the minimum and maximum values to display all data in the plot. This action will override and reset user entries X Min, X Max, Y Min, and Y Max in the Format Axis panel.

Zoom in (Plot Menu)

Choosing **Plot - Zoom In** will allow the user to graphically zoom into a particular region of the plot. Once selected from the menu, the cursor will change to an up arrow. Select the first corner of the zoom box by clicking and releasing the left mouse button. The zoom box will size according to the mouse position once the first point has been selected. Select the second corner of the box by again using the left mouse button. To abort the zooming process at any time, click the right mouse button. Once both corners of the box have been selected, the plot will be rescaled to the zoom box coordinates. This action will override and reset user entries X Min, X Max, Y Min, and Y Max in the Format Axis panel.

Show Coordinates (Plot Menu)

Choosing **Plot - Show Coordinates** will allow the user to obtain actual numerical values from the plot. Once selected from the menu, the cursor will change to a cross-hair, and an XY coordinate box will appear in the top right corner of the plot window. Move the mouse to the desired location and click the left mouse button. If the point selected is an arbitrary point in the background of the plot, an x will be placed at the point where the mouse was clicked, and the X and Y coordinates will be displayed in the coordinate box. If another point is picked, the x will relocate to the new position, and the coordinates of the new position will be updated. If the point selected is within a few pixels from a vertex point of a plotted line, mouse will snap to the vertex, and a box will appear around the selected point. Once the box appears, you can trace the line by using the left and right arrows on the keyboard. The left arrow will move the box left to the next vertex on the line, and the right arrow will move the box right to the next vertex on the line. If there is more than one line being displayed and you have trouble snapping to the desired line, both vertex points may lie within the snap tolerance. If this happens, you can hide the unwanted line by first using **Plot - Format Graphs** and hide the unwanted line. To abort the show coordinate process at any time, click the right mouse button.

Copy to Clipboard (Plot Menu)

Choosing **Plot - Copy to Clipboard** will capture a bitmap of the active plot and place it in the windows clipboard. The bitmap can then be pasted into other applications.

Warranty Information

Limited Warranty:

- a. The licensor warrants that it has the right to license the use of the licensed product(s).
- b. The Licensor warrants that the licensed product(s) will substantially perform as described in the products documentation, provided that the licensed product(s) is installed properly on an IBM compatible computer running an unmodified copy of Microsoft Windows, version 3.1 or greater.
- c. This limited warranty is in lieu of all other warranties, expressed or implied, including, without limitation, warranties of merchantability and fitness for a particular purpose.

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- b. The Licensor shall not be liable to Licensee or to any other person for any special, incidental, indirect or consequential damages whatsoever even if the Licensor has been advised of the possibility of such damages, including without limitation, damages for loss of goodwill, loss of profits, business interruption and computer failure or malfunction.

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Additional Information

If there are enhancements you would like to see added to Datafit/Viewplot and are a registered user, please don't hesitate to let us know. You can contact us by any of the methods listed in the [Technical Support](#) information. We cannot guarantee that every request will be honored, but we'll do our best. Now's the time to get your requests in.

Also, if there is a specific application you need or would like to see, we are open for suggestions. We have some other projects planned for the future, but would also like to hear from you. This can even be Graphical Interfaces to code you may already have (for those of you in industry with all that Fortran source code lying around...)

Keep an eye on our Homepage on the Web. The address is <http://198.207.242.3/authors/johng/>. Updates to the programs will be listed there, as well as new programs in the works.

Thanks:

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Also, Thanks to **Honda Corporation** for making such awesome, thought provoking, fast motorcycles.

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