

# **TRILOT 2.1 Contents**

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## Introduction to TriPlot ver. 2.1

TriPlot is an interactive plotting program for trilinear data. The program was constructed for scientific use where accuracy and publication quality output is essential.

This Help file is the only manual available with TriPlot. TriPlot uses standard Windows conventions for menu headings and keystrokes. Context sensitive help, using the F1 key, is available throughout the program. Please browse through this help file to learn more about TriPlot!

### **See Also:**

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## File Menu

The file menu contains options to input, save, and print data. The file menu is also used to exit the program.

See Also...

New

Open

Close

Save

Save As

Print

Printer Settings

Page Setup

Export Image

Exit

## New

Creates a new form containing a TriPlot diagram. Data can be entered into this diagram (see "[Entering Data From the Screen](#)" and "[Manipulating Data in the Spreadsheet](#)") as long as the diagram is active.

## Open...

Displays the Windows file-open common dialog box, permitting the user to select a TriPlot compatible data file (.TRI). See the Windows 3.1 manual for information on using the file-open common dialog form.

## Close

Prompts the user to Save the current file if data has been entered since the last Save, and then erases all data and closes the active TriPlot diagram.

## Keyboard Input

Permits the user to enter raw three-component data, and a sample name, and to select a symbol type for the sample. The data are entered in a pop-up form for the A, B, and C axes (A is the top peak, B and C are counter-clockwise from A, respectively). The data are retained/stored as raw values, however, the data are normalized for display.

This menu item can be accessed numerous times to continually add data.

See Also:

[Using the Spreadsheet to Enter Data](#)

## Save...

Saves TriPlot data into a TriPlot compatible data file, using the currently active file-name. If the data in the diagram was not been previously saved or entered from a data file, a Windows file save common dialog box is displayed to enter a file name.

**Note:** If you are saving from the Keyboard Input routine (spreadsheet), be careful not to have any blank rows. All data entered below the blank row will be lost.

See Also:

[Saving Only Part of the Data Entered](#)



## Save As...

Permits the user save TriPlot data into a file. The name of the file is entered into a Windows file-save common dialog box. The default file extension is .TRI, however, you may name the file with any 3 digit extension. See the Windows manual for information on using the file-save common dialog form.

**Note:** If you are saving from the Keyboard Input routine (spreadsheet), be careful not to have any blank rows. All data entered below the blank row will be lost.

See Also:

[Saving Only Part of the Data Entered](#)

## Print

This command prints the TriPlot figure to the current active printer according to the page dimensions given in the Page Setup option.

See Also:

Printer Setup

## Printer Setup

This options displays the Windows common dialog box used to select a printer and a printer connection.

## Page Setup

This option displays a dialog box that allows you to set the dimensions of the page to be printed.

**Note:**

All dimensions refer to the printable portion of the printer page. The printable portion may not be identical to the page size for many laser printers.

## **Export Image**

This option allows the TriPlot image to be saved to a ".BMP" file.

In later versions of the program, this option will allow the TriPlot image to be converted to a Windows metafile, BMP, GIF, etc...

## Exit

Closes all TriPlot forms and exits TriPlot. If data was entered and not saved, a prompt is given to inquire if the data should be saved.

## Edit Menu

The edit menu is used to manipulate data that was entered and to access the Windows Clipboard.

See Also...

[Erase Last Point](#)

[Erase All Points](#)

[Cut](#)

[Copy](#)

## Erase Last Point

Erases the last point entered from a file, the keyboard, and the screen input. Continually selecting this menu item will back-erase all of the data from memory.

See Also:

[Erase All Points](#)

**Note:**

Hitting the "Del" key acts the same as selecting this menu item.



## Erase All Points

Erases all points shown on the active TriPlot diagram. This options differs from the New option under the file menu in that the a new diagram does not appear.

See Also:

Erase Last Point

## Cut

Copies a bitmap of the trilinear diagram to the Windows Clipboard and then clears the diagram and the data. This command is the same as selecting Edit-Copy followed by File-New. Use this function to paste a copy of the trilinear diagram into a word processor document, graphics image, or spreadsheet.

See Also:

[Cutting From the Data Entry Spreadsheet](#)

## Copy

Copies a bitmap of the trilinear diagram to the Windows Clipboard. The diagram is not cleared and the data remains stored in memory. Use this function to paste a copy of the trilinear diagram into a word processor document, graphics image, or spreadsheet.

See Also:

[Copying From the Data Entry Spreadsheet](#)

## Window Menu

The Window Menu option allows you to manipulate the positioning of open TriPlot diagrams. Additionally you can change the appearance of one or all of the open TriPlot diagrams by adding overlays, turning on and off grids or tick marks, or changing the color of the points.

See also..

[Cascade](#)

[Horizontal Tile](#)

[Vertical Tile](#)

[Arrange Icons](#)

[Triangle Settings](#)

[Axes Settings](#)

[Overlay File](#)

[Point Styles](#)

[Point Color](#)

[Redraw](#)

## Cascade

Arranges open TriPlot windows in an overlapping pattern so that the title bar of each window is visible.

See Also:

[Horizontal Tile](#)

[Vertical Tile](#)

[Arrange Icons](#)

## Horizontal Tile

Arranges open TriPlot windows on top of each other so that all windows are visible.

See Also:

[Vertical Tile](#)

[Arrange Icons](#)

[Cascade](#)

## Vertical Tile

Arranges open TriPlot windows side by side so that all windows are visible.

See Also:

[Horizontal Tile](#)

[Arrange Icons](#)

[Cascade](#)

## Arrange Icons

Arranges into rows all TriPlot icons.

See Also:

[Horizontal Tile](#)

[Vertical Tile](#)

[Cascade](#)



## Triangle Settings

Allows the appearance of the TriPlot triangle to be changed. Possible changes include: turning on/off the interior grid, turning on/off exterior ticks, applying an overlay of fields, size of the symbols, and axes labels.

See Also:

[Axes Settings](#)

## **Axes Settings**

Allows the axes labels or axes font to be changed. This option is available through the Window menu, or by clicking the right mouse button while the mouse cursor is over an axis label.

See Also:

[Triangle Settings](#)

## Overlay File

An overlay file contains the coordinates used to draw lines which classify regions of the triangular plot. To choose an overlay file click on the Window menu and then the Overlay File choice, or click the right mouse button while the mouse cursor is inside the triangle and choose Overlay File from the menu.

See Also:

[Creating a TriPlot Overlay File](#)

## Point Style

Displays a floating form of point styles. Select the open / closed buttons at the bottom of the form to change the fill style. The selected symbol will be the default symbol.

This option is available through the Window pull down menu, or by clicking the right mouse button while the mouse cursor is over the triangle.

## Point Color

Allows the color of the points being plotted to be changed. This choice calls the Windows color dialog box. All points on the TriPlot diagram will be changed to color selected. The color selected will be the default color.

This option is available through the Window pull down menu, or by clicking the right mouse button while the mouse cursor is over the triangle.

## **Redraw**

Redraws the active TriPlot image.

Occasionally, an unexpected error may occur which will display your TriPlot image incorrectly. This option will redraw the image and correct the problem.

This option is available through the Window pull down menu.

## Menu Commands

TriPlot contains 4 pull-down menus. The menus contain commands to input, erase, and print data, set how the data is displayed, and to obtain help. The menus are accessed by holding down the Alt. key and typing the first letter of the menu. Alternatively, the menu can be opened by clicking the menu title with the mouse pointer. Items on each menu are selected by typing the first character of the menu item, highlighting the menu item with the arrow keys and hitting Enter, or clicking the menu item with the mouse.

### File Menu

### Edit Menu

### Window Menu

### Help Menu

## Help Menu

The help menu displays this help system and contains information about the program. The menu items are:

See Also:

[Contents](#)

[Index](#)

[Search For Help On...](#)

[Using Help](#)

[About...](#)



## **Contents**

Starts Help and displays the topics in TriPlot Help.

[Go To TriPlot Contents](#)

## **Index**

Displays the Help Index for TriPlot.

## **Search For Help On...**

Opens the Search dialog box for Help. You can look up Help information by using keywords in the dialog box.

## Using Help

Calls the Windows help file which describes how to use Help.

## About...

Displays a box with information about the authors, the TriPlot version number, and limited system resources.

## Warranty/Disclaimer

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## Creating a TriPlot Data File

The TriPlot data file is a comma- and quote-delimited ASCII file. The file is created by TriPlot when Save or Save As... is selected. If you always enter data from the keyboard or from the screen input option, you will never need to manually create a TriPlot data file. If you must make your own data file, this help text describes the file format.

The following lines are a file distributed with TriPlot called TRI1.TRI.

```
"The A Axis"  
"The B Axis"  
"The C Axis"  
"Sample 1",10,20,30,1,1  
"Sample 2",20,30,10,1,1  
"Sample 3",30,10,20,1,1  
"Sample 4",100,100,100,1,1
```

The first three lines contain the axes labels. Because these data are text, they must be surrounded by double quotes. The next four lines contain the sample data.

The first item is the quote-delimited sample name which can not be greater than 20 characters. It is followed by a comma and 5 numbers also separated by commas. The first 3 numbers are the raw data. These data do not need to be normalized to 100 - TriPlot will handle the normalization. The last two numbers are the symbol type (1-8) and the fill status (0-1). The symbols are cross (1), X (2), triangle (3), down triangle (4), box (5), diamond (6), circle (7), star (8). Do not use other values - TriPlot will bomb. The fill status is open (0), and filled (1). Only these values will be honored.



## Creating a TriPlot Overlay File

The TriPlot overlay file is a comma- and quote-delimited ASCII file. TriPlot does not create this file, and you must make your own to use with TriPlot. Windows Notepad is more than adequate. Future versions of TriPlot will permit you to draw the separator lines on the screen and will save the overlay file for you.

This text will describe the file format. As an example, the file GSFOLK-G.OVL will be used to illustrate the file format. This file is reproduced below.

```
"Gravel (> 2mm)","Mud (< 0.0625 mm)","Sand (0.0625 - 2 mm)"
80,20,0,80,0,20
30,70,0,30,0,70
5,95,0,5,0,95
1,99,0,1,0,99
80,10,10,0,50,50
80,5,15,0,10,90
5,85,10,0,90,10
```

The first line contains the overlay's A, B, and C axes. The labels are surrounded by quotes and separated by commas. The remaining data lines are used to draw the field separator lines. Each line contains 6 values separated by commas. The first 3 values are the starting point of the separator line and the last 3 values define the end point. You do not need to use normalized data, but it is easier to create the separator lines if you use logical beginning and ending points.

The data file must be saved with the extension .OVL. Only .OVL files are shown in the Overlay Setup common file-open dialog box.

Please contact the authors for other overlay files. We may have the overlay already created for you or could create it for you in minute.

## Authors

We would like to thank you for using TriPlot for Windows. We value your input and will actively keep upgrading TriPlot based upon your responses. We anticipate that future versions will have many more functions.

The authors are working on several other Windows compatible programs that will be available in the next several months. The following is a list of expected products:

**DigiLog**- a screen digitizer for well logs and other scanned images.

**Rose** - a rose diagram plotting program with vector statistics.

**Sieve** - a grain-size analysis plotting program for sieved data.

**TriLin** - a Piper(1944) diagram plotting program.

We can also develop pre-processors and post-processors for Windows- and DOS-based programs. These interfaces and plotting programs are a must for working with USGS and EPA programs that work in batch modes.

Thanks,  
Steve and Todd. (10-8-93)

## Position

This part of the screen indicates the position of the mouse pointer relative to the A, B, and C axes when it is over the diagrams plotting region.

## **Number of Points On the Diagram**

This part of the screen indicates the total number of points currently plotted on the diagram.

## **Sample Name**

This is the name of the sample which is closest to the mouse pointer.

## **File Name**

This is the name of the file which contains the data being displayed on the TriPlot diagram.

## How Do I...?

[Enter Data From the Screen](#)

[Change Point Properties](#)

[Change Triangle Properties](#)

[Copy Data From One Triangle to Another](#)

[Create a TriPlot Data File](#)

[Create a TriPlot Overlay File](#)

[Create a Windows Metafile](#)

[Find Points on the Triangle](#)

[Saving Only Part of the Data Entered](#)

[Use the Spreadsheet to Enter Data](#)

## Entering Data from the Screen

Triplot permits data to be entered directly on the computer screen. This function is useful for rapid plotting of points, although entering data into the keyboard form is more accurate. Two methods are available:

### Setting Points with the Mouse

When the mouse cursor is over the triangle, the cursor changes to crosshair and the cursor coordinates are displayed along the top bar of the window. Click the left mouse button on the triangle, and a point is set at the A, B, and C coordinate of the cursor.

### Setting Points with the Arrow Keys

The arrow keys and number keypad can be used like the mouse to set points. This method is slightly more accurate. Use the arrow keys to move the mouse cursor over the triangle. The cursor will change to a crosshair and the cursor coordinates are displayed on the top bar of the window. Press the Insert key, and a point will be set at the A, B, and C coordinates.



## Change Point Properties

All points can be easily edited by selecting Keyboard Input... from the File menu. However, you may only want to change a single point. In this case, move the cursor over the point, hold down the Ctrl key, right click the point. A form will be displayed that contains the properties for the point. The form permits you to edit the sample name, point coordinates, and symbol type. Tab between the input boxes to change the sample name and coordinates, and double click on the point symbol to cycle through all of the possible point types.

See Also:

[Entering Data From the Screen](#)

## Change the Triangle Properties

The characteristics of the triangle can be changed by right clicking on the triangle. A context sensitive menu will be displayed. Select from the menu the settings that you wish to change.

See Also:

[Triangle Settings...](#)

[Axes Settings...](#)

[Overlay File...](#)

[Point Style...](#)

[Point Color...](#)

## Copying Data From One Triangle to Another

To copy data from one triangle to another, simply click on the triangle containing the data to be copied. Then, while holding down the left mouse button, press the Ctrl (control) button of the keyboard and drag the mouse pointer to the triangle which will receive the data and let the mouse button up. You will see all of the points have been copied to the appropriate triangle.

## Manipulating Data in the Keyboard Input Spreadsheet

The keyboard input form uses a spreadsheet to hold the data. The spreadsheet implements many of the standard keystrokes used by major spreadsheet vendors. They are:

F1	- Provides help for the object of focus.
F2	- Edits a cell.
End	- Move to the end of a row.
Home	- Move to the beginning of a row.
Ctrl-End	- Move to the lower right corner of the spreadsheet.
Ctrl-Home	- Move to the upper left corner of the spreadsheet.
PgDn/PgUp	- Moves one screen full of data up or down.
Shift-arrows and movement keys	- Highlights cells.
Del	- Deletes the contents of a cell or highlighted range of cells.
Shift-Del	- Deletes the contents of a cell or highlighted range of cells and saves the deletion to the Windows Clipboard.
Ctrl-Ins	- Copies the contents of a cell or highlighted range of cells to the Windows Clipboard.
Shift-Ins	- Pastes compatible data from the Windows Clipboard to a highlighted range of cells. It is important that you highlight the cells you wish to paste into.

The spreadsheet has built-in standard equation capabilities. For instance  $2*6$  will be shown as 12;  $2^6$  will be shown as 72;  $(2*12+3)/3$  will be shown 9; etc.

You may also move through and highlight the spreadsheet using the mouse. A right click on the spreadsheet imitates the F2 key being pressed.

## Finding Points on the Triangle

To find out what the ID, coordinates, etc.. of a point on the TriPlot triangle, move the cursor over the point, hold down the Ctrl key and press the right mouse button. A form will be displayed that contains the properties for the point. The form permits you to edit the sample name, point coordinates, and symbol type. Tab between the input boxes to change the sample name and coordinates, and double click on the point symbol to cycle through all of the possible point types.

See Also:

[Entering Data From the Screen](#)

## **Saving Only Part of the Data Entered**

To save only part of the data contained in a file enter the Keyboard Input portion of TriPlot (through the "File, Keyboard Input" menu option). Highlight the portion of spreadsheet containing the data you wish to save and choose the Save As... option (through the "File, Save As..." menu).

**Note:** Be careful not to leave any blank rows after your edit. All data entered below the blank row will be lost when the file is saved.

## TRIPLLOT Help Index

The Help Index contains an alphabetical list of TriPlot topics. Select the highlighted topic below for additional information.

[About...](#)  
[Changing Point Properties](#)  
[Changing Triangle Properties](#)  
[Choosing a data file](#)  
[Choosing an overlay file](#)  
[Close](#)  
[Copy](#)  
[Copyright Information](#)  
[Creating a TriPlot data file](#)  
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[Cut](#)  
[Deleting data from memory](#)  
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[Entering Data From the Screen](#)  
[Erase Last Point](#)  
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[Exit](#)  
[File Menu](#)  
[Finding Points on the Triangle](#)  
[Help Menu](#)  
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[New](#)  
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[Print...](#)  
[Printing the triangle](#)  
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[Screen Input..](#)  
[Setting the default printer](#)[The authors](#)  
[Triangle Settings...](#)  
[Use the Spreadsheet to Enter Data](#)  
[Warranty/Disclaimer](#)

## Exit With Changes

Exits the keyboard entry module and accepts the additions/corrections that have been made.

**Note:** Be careful not to leave any blank rows after your edit. All data entered below the blank row will be lost when the file is saved.

See Also:

[Exiting without changes](#)



## Exit Without Changes

Exits the keyboard entry module but does not accept the additions/corrections that have been made.

**Note:** Be careful not to leave any blank rows after your edit. All data entered below the blank row will be lost when the file is saved.

See Also:

[Exiting with changes](#)

## Cut (from the spreadsheet)

Removes the highlighted values from the spreadsheet and places them onto the Windows clipboard.

Keystroke Shortcut: This option from the Edit menu is the same as pressing SHIFT-DELETE.

**Note:** Be careful not to leave any blank rows after your edit. All data entered below the blank row will be lost when the file is saved.

See Also:

[Copying from the spreadsheet](#)

[Pasting to the spreadsheet](#)

## Copy (from the spreadsheet)

Copies the highlighted values from the spreadsheet and places them onto the Windows clipboard.

Keystroke Shortcut: This option from the Edit menu is the same as pressing CNTRL-INSERT.

**Note:** Be careful not to leave any blank rows after your edit. All data entered below the blank row will be lost when the file is saved.

See Also:

[Cutting from the spreadsheet](#)

[Pasting to the spreadsheet](#)

## Paste (to the spreadsheet)

Pastes values from the clipboard to the highlighted cells of the clipboard. Note that you must highlight all cells you want to paste onto.

Keystroke Shortcut: This option from the Edit menu is the same as pressing SHIFT-INSERT.

**Note:** Be careful not to have any blank rows in the spreadsheet. All data entered below the blank row will be lost when the file is saved.

See Also:

[Manipulating the spreadsheet](#)

[Copying from the spreadsheet](#)

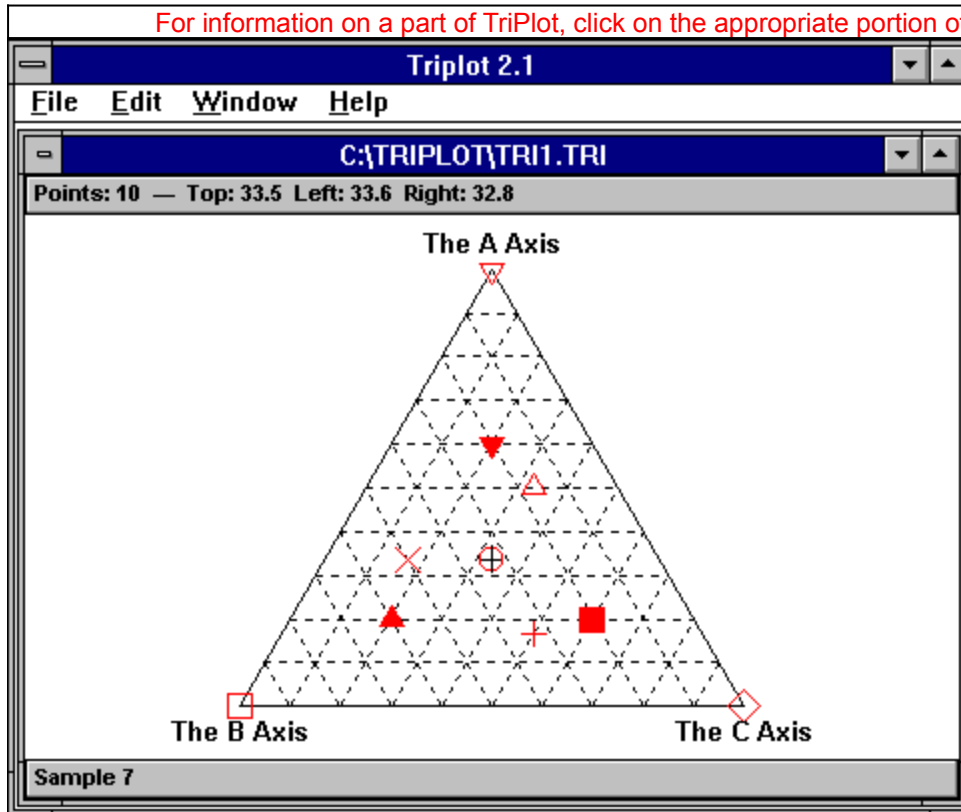
[Cutting from the spreadsheet](#)

## **Adding Rows to the Spreadsheet**

The spreadsheet used for the keyboard input form can only hold 900 points. Although each TriPlot triangle can hold 32,000 points, we recommend that you keep your files below 900 points. Files can be easily combined by opening each file into the active triangle. We hope to bypass this limitation in future releases.

## The TriPlot Screen

For information on a part of TriPlot, click on the appropriate portion of the screen.



## Ordering and Registering TriPlot 2.1

This version of TriPlot is "Shareware", it is not "FreeWare". You are entitled to use TriPlot for 30 days. If, after 30 days, you find the program valuable to you, you must register the program and pay the registration fee. The only way to take advantages of the benefits of being a licensed user of TriPlot is to register the program with the authors.

By using TriPlot you agree to the terms of distribution, Copyright, and Warranty.

To print out this registration form, choose Copy from the Edit menu which places the selected text onto the Windows clipboard. This text can then be imported to a text editor or wordprocessor and printed out.

### REGISTRATION FORM FOR TRIPLOT 2.1

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Occupation: \_\_\_\_\_ Academic \_\_\_\_\_ Government \_\_\_\_\_ Commercial.

What are you using TriPlot for:

\_\_\_\_\_

Overlays you need: \_\_\_\_\_

\_\_\_\_\_

Graphic tools you need: \_\_\_\_\_

\_\_\_\_\_

Where did you obtain TriPlot 2.1: \_\_\_\_\_

\_\_\_\_\_

Please be sure to include your check or money order for \$25.00 made payable to:

Steve J. Baedke

612 South Knightridge Apt. 40C  
Bloomington, IN 47401



## Benefits of Registering TriPlot

Registration will: 1) permit you to use TriPlot beyond the 30 day trial period, 2) give you access to limited user support, and 3) all bug fixes (if any) in this version will be available at no charge. Additionally, we will construct one overlay for you, and send you information on updates. We will inform you of receiving the registration and provide you with a registration number.

**Remember:** If you register TriPlot 2.x with us, you will receive TriPlot 3.0 for free. TriPlot 3.0 may be a commercial product that is distributed through vendors. This will likely increase the licensing price from the very reasonable \$25 shareware price. Help yourself (and us) and get into the upgrade line.

## Creating Metafiles

New to version 2.1 of TriPlot is the "TriPlot Metafile Generator", a utility program for making metafiles from TriPlot 2.x datafiles. This program was developed in response to requests for the ability to create high quality image files other than bitmaps (\*.BMP's).

The program MTRIPLLOT.EXE reads TriPlot 2.x datafiles and overlay files. Use the **C**opy command from the **E**dit menu to copy the ternary image to the clipboard and then paste it into your graphics package (your graphics package will need to support isotropic Windows metafiles). The triangle and datapoints (and optionally the overlay file, inner lines, and outer ticks) will be copied to the clipboard. Axis labels are not copied at this time so you'll need to add them from your graphics package. Complete support for metafile generation, including axis labels, will be built into [TriPlot 3.0](#).

**Note:** You cannot input data directly from this program, you must use TriPlot 2.x to create the datafile.

## TriPlot 3.0

We are currently working on the next version of TriPlot. The next major version will be TriPlot 3.0, minor upgrades will be versions 2.x. TriPlot 3.0 is being developed in response to suggestions and comments from users, so please keep them coming.

Features to be included in TriPlot 3.0 are:

- each datapoint can be assigned a different color
- line weights, line styles, and line colors for overlays and triangle
- overlay can include circles and ellipses
- a legend box for identifying labels for point styles

Our wish list for TriPlot 3.0 includes:

- bezier curve support for the overlay file
- placeable text on the ternary diagram for field labels
- moveable and rotating text for axis labels

We have had limited success in developing support for bezier curves. If you know of routines or references for drawing bezier curves based on X,Y data pairs please contact us via [email](#) or postal mail with this information.

**Remember:** If you register TriPlot 2.x with us, you will receive TriPlot 3.0 for free. TriPlot 3.0 may be a commercial product that is distributed through vendors. This will likely increase the licensing price from the very reasonable \$25 shareware price. Help yourself (and us) and [register TriPlot now](#) to get into the upgrade line.

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