

# Mayura Draw

Mayura Draw is a powerful drawing program. Using Mayura Draw you can create illustrations composed of graphical shapes such as rectangles, ellipses, polygons, bezier curves, and text. Mayura Draw has powerful tools for drawing, editing and transforming graphical objects. After you have drawn a few objects, you can select an object or a group of objects, and transform them. Objects can be edited even after transformation. To edit an object, select the object and drag any of the handles that become visible.

The following two sections describe the tools available on the tool bar on the left. To select a tool, click on the button representing the tool on the tool bar. Operations started using any tool can be canceled at any time by selecting another tool from the tool bar. Note that the shift key can be used to modify the operation of most tools.

## How to draw

Line

Horizontal line

Vertical line

Rectangle

Square

Ellipse

Circle

Arc

Curve

Polygon

Text

After you have drawn an object, you can transform the object in a number of ways. You can transform an object independently or you can select a group of objects to be transformed together. Mayura Draw treats text and graphics uniformly during transformation.

## How to transform objects

Move

Scale

Rotate

Skew

Reflect

## How to...

Include your drawing in Microsoft Word or other word processors

Change orientation to portrait or landscape mode

How to zoom in and zoom out

How to change color of lines, fills or text

Change line thickness, color or dash style

Change fill color or pattern

Draw arrow heads at line ends

Pick color, pattern and other attributes from one object and apply it to another

Group objects

Align and space objects

## Miscellaneous

Interoperability with other applications

Send me your comments, bug reports, and request for new features

Shareware registration  
NO WARRANTY

This Help file was written for Mayura Draw Version 3.0

## How to draw a line

Select the line tool from the tool bar. Click the left mouse button where you want the line to start. Without releasing the button, drag the mouse to the point where you want the line to end.

To constrain the line to a vertical or horizontal line, hold down the shift key while dragging the mouse.

## How to draw a polygon

Select the polygon tool from the tool bar. Click the left mouse button where you want the first vertex of the polygon. Without releasing the button, drag the mouse to the point where you want the second vertex, then release the button. Click the left mouse button where you want the next vertex and release the button. Click and release the left mouse button where you want the next vertex, and the next, and so on. When you come to the last vertex, double click the left mouse button.

To draw a closed polygon, double click on the first vertex, as the last vertex.

## How to draw a rectangle

Select the rectangle tool from the tool bar. Click the left mouse button where you want the first corner of the rectangle. Without releasing the button, drag the mouse to the point where you want the opposite corner of the rectangle.

To constrain the rectangle to a square, hold down the shift key while dragging the mouse.

## How to draw an ellipse

Select the ellipse tool from the tool bar. Click the left mouse button where you want the center of the ellipse. Without releasing the button, drag the mouse till the ellipse has the desired size and shape.

To constrain the ellipse to a circle, hold down the shift key while dragging the mouse.

## How to draw an arc

Select the arc tool from the tool bar. Click the left mouse button where you want the center of the arc. Click the left mouse button where you want the arc's starting angle. Without releasing the button, drag the mouse anticlockwise to the ending angle, while also moving away from the center till the arc has the desired radius.

## How to draw a pie slice

Select the pie tool from the tool bar. Click the left mouse button where you want the center of the pie. Click the left mouse button where you want the pie slice's starting angle. Without releasing the button, drag the mouse anticlockwise to the ending angle, while also moving away from the center till the pie slice has the desired radius.



## How to draw a curve

Select the curve tool from the tool bar. Click the left mouse button where you want the first vertex of the curve. Without releasing the button, drag the mouse to the point where you want the second vertex, then release the button. Click the left mouse button where you want the next vertex and release the button. Click and release the left mouse button where you want the next vertex, and the next, and so on. When you come to the last vertex, double click the left mouse button.

To draw a closed curve, double click on the first vertex, as the last vertex.

To create a corner vertex as opposed to a smooth vertex, hold down the shift key while creating the vertex.

Transforming means moving, scaling, rotating, skewing or reflecting objects.

## How to draw text

Select the text tool from the tool bar. Click the left mouse button where you want the text to start. Without releasing the button, drag the mouse to draw a rectangular *text-frame*, then release the button. Now start typing. When you reach the right edge of the text-frame the cursor will move to the next line automatically. The text-frame will automatically increase in height to accommodate the new line. If you resize the text-frame, text will reflow automatically. To resize the text-frame, select the selection tool from the tool bar. Then select the text-frame and drag any of its handles. You only need to set the width of the text-frame. Mayura Draw determines the height of the text-frame automatically.

To edit existing text, select the text tool from the tool bar and click the left mouse button on the *baseline* of the text you would like to edit. Use left and right arrow keys to position cursor. Use backspace key to delete characters.

To use a different font, select *Font* from the *Text* menu. Fonts are listed by their PostScript names.

To change line spacing select *Leading* from the *Text* menu. *Leading* is the distance from the base of one line to the base of the next line.

You can also left-align, center, right-align or justify text by selecting the appropriate alignment command from the *Text* menu.

Mayura Draw supports PostScript fonts, under Windows 95 only, if you have installed Adobe Type Manager (ATM) software.

## How to move objects

First, select the objects you would like to move. Click the left mouse button on the edge of (not inside) any one of the selected objects. Without releasing the button, drag the mouse until the objects have been moved to the desired position; then release the button.

## How to scale objects

First, select the objects you would like to scale. Select the scale tool from the tool bar. Click the left mouse button on the origin, i.e., the point about which you would like to scale the objects. Move the mouse away from the origin. Click anywhere and without releasing the mouse button, drag the mouse until the objects have been scaled to the desired size.

To scale objects uniformly in horizontal and vertical directions, hold down the shift key while dragging the mouse.

## How to rotate objects

First, select the objects you would like to rotate. Select the rotate tool from the tool bar. Click the left mouse button on the origin, i.e., the point about which you would like to rotate the objects. Move the mouse away from the origin. Click anywhere and without releasing the button, drag the mouse until the objects have been rotated through the desired angle.

To rotate the objects in steps of 15 degrees, hold down the shift key while dragging the mouse.

## How to skew objects

First, select the objects you would like to skew. Select the skew tool from the tool bar. Click the left mouse button on the origin, i.e., the point about which you would like to skew the objects. Move the mouse away from the origin. Click anywhere and without releasing the button, drag the mouse until the objects have been skewed to the desired shape.

To constrain the skewing to either horizontal or vertical direction, hold down the shift key while dragging the mouse.

## How to reflect objects

First, select the objects you would like to reflect. Select the reflect tool from the tool bar. Click the left mouse button on the origin, i.e., the point about which you would like to reflect the objects. Move the mouse away from the origin. Click anywhere and without releasing the button, drag the mouse until the objects have been reflected about the desired line.



## How to select objects

Select the selection tool from the tool bar. Click the left mouse button in an empty area near the objects you would like to select. Without releasing the button, drag the mouse until the selection marquee encloses the objects you would like to select. An object need not be enclosed entirely within the selection marquee in order to get selected. If a small portion of the object falls within the selection marquee, it will be included in the selection.

You can also toggle the selection status of an object, i.e., remove an object from the selection if it is already included in the selection, or add it to the selection if it is not already included. To toggle the selection status of an object, hold down the shift key while following the same steps as when you select an object.

To unselect all objects, click in an empty area on the page.

## How to import your drawing into a word processor

Drawings created using Mayura Draw can be included in documents created using LaTeX, Microsoft Word, Corel WordPerfect, or other word processors. To import your drawing into a word processor, save your drawing in EPS format. Use the EPS inclusion capability of your word processor to include the drawing in a document.

To save your drawing in EPS format, choose *Export* from the *File* menu. Then change the *Save file as type* to EPS.

The *EPS Options* dialog will let you include a preview in the EPS file. If you are using a WYSIWYG word processor such as Microsoft Word check the *Include Preview* option. Do not include a preview if you are using LaTeX. You can also embed fonts in the EPS file. By embedding fonts in the EPS file you can ensure that the text objects in the drawing will be printed using the right font even if the EPS file is transferred to another machine. However this will increase the size of the EPS file.

EPS files will only print at the intended quality if you have a PostScript printer. If your printer can't understand PostScript, export to WMF format instead of EPS.

### **Technical information for advanced users: About the EPS file format**

EPS is the format preferred by high-end desktop publishing systems. Unlike WMF and other formats, EPS uses *PostScript*, a powerful graphics language used by high-end typesetting machines costing tens of thousands of dollars, such as Linotype, as well as cheaper laser printers costing under \$1000, such as Hewlett Packard LaserJet 5MP.

EPS stands for *Encapsulated PostScript*. An *Encapsulated PostScript* file contains PostScript code designed to be included as a part of another page, rather than being sent to a PostScript printer directly. All EPS files contain PostScript code. However, PostScript code is in general only understood by printers equipped with a PostScript interpreter. Word processors do not understand PostScript code, and therefore cannot directly display PostScript files on the screen. To solve this problem, EPS files may contain a *preview bitmap* in addition to the PostScript code. When you insert an EPS file into a word processor, your word processor ignores the PostScript code that it cannot understand, and instead depends on the preview bitmap to display the drawing on the screen. But when the word processor prints the document, it sends the PostScript code to the printer instead of the bitmap. This assumes your printer can understand PostScript. If it cannot, the word processor sends the preview bitmap to the printer, resulting in poor quality.

Not all EPS files contain preview bitmaps. When you insert an EPS file which does not contain a preview bitmap into a word processor, the word processor will not be able to display the drawing on the screen. Your word processor may instead display some details about the EPS file such as its name and the date it was created. Even though the EPS file does not contain a preview bitmap, it still contains all the PostScript code necessary to print the picture. So when you print the document, the word processor sends the PostScript code to the printer and the drawing will appear in the output. Again, this assumes that your printer is a PostScript printer. If it is not, the word processor will not be able to print the graphic.

Do not confuse AI (Adobe Illustrator) format with EPS format. AI format is a simplified subset of EPS format. Since AI format is simpler many drawing programs can open AI files. However EPS files can be arbitrarily complex, so most programs can't open EPS files unless, of course, your particular EPS file also happens to be an AI file. All AI files are EPS files\* but not all EPS files are AI files.

\*Note however, that AI format files often omit the PostScript header portion. If the header portion is missing in your AI file then it is

not, strictly speaking, an EPS file. Use AI format only for interchanging a drawing among various drawing programs. When it is time to print, use EPS format because without a header, your AI file won't print.

### **Trouble shooting**

If your word processor is unable to print the EPS drawing you created using Mayura Draw, or if the output is of poor quality, check the following:

1. Does your printer support PostScript? If it does not, use WMF format instead of EPS.
2. Does your printer driver know that your printer supports PostScript? If your printer supports both PCL and PostScript you may be using a PCL printer driver. Install the PostScript printer driver that came with your printer.

## Drawing programs and Painting programs

Drawing programs are *vector-based*. They let you modify objects such as circles, lines, rectangles etc. Drawing programs do not let you modify individual pixels. Mayura Draw is a drawing program.

Painting programs are *bitmap-based*. They let you modify individual pixels. However, painting programs do not let you modify objects such as rectangles, circles etc. An example of a painting program is Paintbrush.

Drawing programs print at the highest resolution supported by your printer. Output from painting programs look grainy.

## How to change orientation to portrait or landscape mode

You can change the orientation of the page at any time to portrait or landscape mode and continue drawing. Select *Orientation* from *View* menu and choose the orientation you want to change to. Since orientation is only a view mode, you can switch from one orientation to another and back as many times as you want.

Note on printing landscape: It is not necessary to set the landscape mode in the Print setup dialog.

## How to change fill style

To change the fill style of objects, first select the objects which you want to change. Then choose the pattern or color you want from the *Fill* menu. The fill style you choose will remain in effect for the objects you draw later, until you change the fill style again.

## How to change line style

To change the line style of objects, first select the objects which you want to change. Then choose the dash style, line width or color you want from *Line* menu. Note that dashed lines can only be 1 point wide. The line style you choose will remain in effect for the objects you draw later, until you change the line style again.

## How to change color of lines, fills or text

Select the objects you want to change. Then choose *Color* from the *Line* menu to change line color, or *Color* from the *Fill* menu to change fill color. To change color of text objects choose *Color* from the *Fill* menu.

### **The color dialog**

The color dialog lets you specify color in one of three different color models -- HSB, CMYK or RGB. HSB is the most intuitive color model while CMYK is preferred by graphic artists. In the HSB color model, colors are specified using three parameters called Hue, Saturation and Brightness. Hue specifies the *color* of the color, such as blue or yellow. Saturation specifies the concentration of the selected hue with respect to the overall intensity. Less saturated color has some white light mixed in. If the saturation is set to 0, you get a shade of gray. Brightness specifies the overall intensity of light. If the brightness is set to 0, you get black.

In the color dialog, different hues are arranged around a color wheel. As you move towards the center of this wheel, saturation decreases. The dialog also has a brightness bar. As you move upwards on the brightness bar, the brightness increases.

To select a color, first select a hue by clicking at an appropriate angle on the color wheel. Now adjust the saturation by moving towards or away from the center. Next click on the brightness bar. Move up or down to adjust the brightness. The currently chosen color is visible in the little square next to the brightness bar. Click OK to select the color.



## How to pick color, pattern and other attributes from one object and apply it to another

Select the object you would like to pick color, pattern, line style and other attributes from. Now click on the eye dropper button on the toolbar. The current paint style will be set to the paint style of the selected object. Next, select the objects you would like to apply the current paint style to. Then click on the brush button on the toolbar.

## How to draw arrow heads at ends of lines

To draw arrow heads at ends of lines, first select the lines you are interested in. Then choose any of the last four items in the *Line* menu, depending on whether you want no arrow heads, arrow head on the first end, arrow head on the second end, or arrow heads on both ends. Three different arrow styles are available--*Small*, *Big* and *Fancy*. To change the arrow style, select the lines you are interested in. Then choose the style you want from the *Arrows* menu. To access the *Arrows* menu, click on *Style* menu and then click on *Arrows*.

Handles are little squares that become visible when you select an object. If the handles are white that means that the object is grouped and cannot be edited.

## How to align and space objects

To align objects, select the objects you want to align. Then choose an appropriate command from the *Align* sub-menu in the *Arrange* menu.

*Space Evenly* in the *Arrange* menu rearranges selected objects such that the distance between them is uniform. The distance between objects can be either the distance between centers of the objects or the space between edges of the objects.

## How to group objects

Select the objects you would like to group. Then choose *Group* from the *Arrange* menu. Group objects if you want a set of objects to behave as one object. If you select an object that is part of a group, the entire group will be selected. This ensures that you do not accidentally dismantle the group by moving or editing one of the objects in the group. Note that grouped objects have white handles instead of black. White handles indicate that the selected object cannot be edited. If you want to edit an object that is part of a group, you must *Ungroup* the objects first.

Text objects that are part of a group can be edited without ungrouping first.

## Interoperability with other applications

Export your drawing in EPS or WMF formats to insert the drawing into your word processor. EPS format will give you the best possible results. However, your printer must support PostScript to take advantage of EPS. Use WMF format only if you don't have a PostScript printer.

Drawings created using Mayura Draw can be opened in other drawing programs such as Adobe Illustrator 4.1, CorelDraw 6, Micrografx Windows Draw 4.0 and SmartSketch 95. First select *Export* from the *File* menu in Mayura Draw. In the Export dialog, change *Save file as type* to *Adobe Illustrator*. Enter a file name and click OK. Your drawing will be saved in Adobe Illustrator 88 format. This file can now be opened in any of the above programs.

To open a drawing created using any of the above programs in Mayura Draw, first start the application that created the drawing and export the drawing in Adobe Illustrator 88 format. Then in Mayura Draw choose *Import* from the *File* menu. Mayura Draw can import the AI format file you created.

Mayura Draw can also create PDF files. *PDF* stands for *Portable Document Format*. Using Adobe's Acrobat Reader you can view and print PDF files, as well as publish them on the Internet. Acrobat Reader can be downloaded free of charge from [www.adobe.com](http://www.adobe.com)

## How to zoom in and zoom out

Select the zoom tool from the toolbar. Click and drag a rectangle around the area you would like to zoom in on. To zoom out, click anywhere and without moving the mouse, release the mouse button.

# Mayura Software

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P.O. Box 50158  
Palo Alto, CA 94303  
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## How to send in your comments

You are invited to send me your questions, comments, any bugs you have found, or suggestions for the next version of Mayura Draw. Please e-mail your suggestions to:  
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