

## **COMMENTS:**

This file is organized in a three level hierarchy. The topmost level is the Index level, which includes the lists of help topics for Commands, Tools, Symbols and Libraries, Procedures and Hints. The next level includes all help topics that are accessed directly from the Index level, such as the File Menu window, or the Line Tool Menu. The third level is accessed from the second, such as help for the **File New** topic.

## **HOW TO GENERATE A .HLP FILE:**

1. Open and edit windraw.doc. It's format must match that of the Window's Help Compiler, HC.EXE. Footnotes before topic titles describe the "address" or handle of the topic, the title of the topic, its browse sequence, etc. Single and double underlined and hidden text describe hypertexting and the address of the topic to display or jump to. The bounds of the topic are the footnote denoted title, and the first HARD page break after the title.
2. Save windraw.doc, then Save it As windraw.rtf, **IN RTF FORMAT !!** It is the .rtf file that is used by the Help Compiler. The glossary terms are in terms.rtf, and the help for keys and Windows is in keys.rtf. These three .rtf files are used to create the file windraw.hlp. You can make references between .rtf files without any special work. The compiler finds the references if they exist in any of the files.
3. The file windraw.hpj is the project file, which is like a makefile. It details the first index handle, the title for the help window, the .rtf files and bitmaps used in the compilation. All bitmap files must be listed here, and the files must exist where the compiler can find them.
4. The Help Compiler is run using the batch file makehelp.bat. The command line is "hc windraw". The only other stuff the batch file does is copy the help file up a directory, and delete a temporary file called windraw.ph. Not deleting the file causes a compilation warning.

**FIRST LEVEL OF HELP TOPICS:**

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Use the **Browse** buttons to see the rest of the Index,  
and the **Search** button to see a list of Help Topics.

The Index contains a list of all Help topics available for WinDraw. For information on how to use Help, press F1 or choose Using Help from the Help menu.


**SECOND LEVEL OF HELP TOPICS:**


## Getting Started


WinDraw runs in a window within the Windows environment. When WinDraw is first started, the Title bar at the top of the window shows the title **WinDraw - [Drawing 1]**, and the standard window controls appear at the top and along the edges of the window. The Menu bar shows the names of the drop-down menus, through which you can execute WinDraw commands. You can click on each menu title to view the contents of the menu. The ruler can be seen on the left and top edges of the drawing surface, and the Tool Palette is along the left edge of the window. When you want to end WinDraw, click on the Control menu box in the upper left corner, and then click on the **Close** command. Another way to end WinDraw is to execute the File Exit... command on the File menu. You will always be prompted to save any unsaved drawings before WinDraw ends.

Refer to your Windows documentation to learn about moving and resizing windows, and using window controls. You should be familiar with Windows terms such as **click, double click, drag, clipboard**, etc. The Glossary section defines these and other often used terms.

There are no installation or configuration procedures to be performed before using WinDraw; you can begin drawing immediately. WinDraw is structured as if you were working with a sheet of paper, using different tools to draw various shapes. When you want to draw a specific type of shape (also called an object), you can select the corresponding tool from the Tool Palette with the mouse, and use that tool to draw objects of that type.

The tool at the top of the Tool Palette is the Selector Tool , which is used to move and reformat existing objects. When it is being used, the mouse pointer appears as an arrowhead

, and objects that have already been drawn can be moved, deleted, resized, rotated, flipped or copied. Most of the tools on the Tool Palette are drawing tools, which are used only to create new objects. When a drawing tool is selected, the mouse pointer appears as a crosshair:

. Proceeding down the Tool Palette, you will see tools that let you draw lines and enter text, tools that draw regular rectangles and rectangles with rounded corners, and a tool to draw ellipses (and circles). Below that are tools that are used to draw arc and pie shapes, tools to draw closed and open polygons, and a tool to draw curves. Next are tools to draw open and closed scribbles, which are shapes that you create as if drawing freehand. Finally there is the Control Point Tool, which has a special application for polygons and curves.

After reading the drawing example below, you might find these Help Topics useful as an overview for drawing: [Using the Tool Palette](#), [Selector Tool](#) and [Moving, Resizing and Copying Objects](#). There are also Help Topics that describe each of the tools on the Tool Palette, and their use. The Help Topic [Hints and Shortcuts](#) contains tips for using WinDraw quickly and effectively.

### A Drawing Example:

The following example will describe the steps in drawing a rectangle using WinDraw, and then reformatting the rectangle to alter its appearance in the drawing:

Start by moving the mouse pointer over the Rectangle Tool on the Tool Palette. The mouse pointer will change to a hand with an outstretched index finger when it is over the Tool Palette. Click on the Rectangle Tool to select it, and the Rectangle Tool icon will be highlighted. Now move the mouse pointer back onto the drawing surface near the upper

left corner of the drawing. Note that the shape of the mouse pointer has changed to a crosshair. Press the mouse button and hold it down while you drag the mouse pointer down and to the right, away from the starting point, until the rectangle shown is roughly the size and shape that you want. Release the mouse button, and the rectangle will be drawn.

The new rectangle has eight small black squares around its perimeter. These are grab handles, and they indicate that the rectangle is selected. When an object is selected, you can use the Selector Tool to move, resize and reformat the object. Move the mouse pointer to the Tool Palette and click on the Selector Tool, then move the mouse pointer back into the drawing until it is inside the rectangle. Hold the mouse button down while you drag the rectangle to a new position in the drawing. When you release the mouse button, the rectangle will stay in its new position.

Now move the mouse pointer until it is over the square black grab handle at the lower right corner of the rectangle. When the mouse pointer changes to a double headed arrow, press the mouse button and drag the grab handle to change the size of the rectangle. When you release the mouse button, the rectangle will keep its new size.

Finally, click on the **Layout** menu on the Menu bar, then click on the **Rotate Left** command, and the rectangle will rotate counterclockwise by 90 degrees. The **Layout** and **Style** menus contain commands to reformat objects that are selected. Now, if you click the mouse button when the mouse pointer is outside the rectangle, it will become deselected, and will stay as it is until it is again selected and moved or reformatted.

Other drawing tools work in a fashion similar to the Rectangle Tool, but some, like text objects and scribbles, have special features or procedures. You can refer to the corresponding Help Topics for information on the use of each drawing tool, and on advanced drawing procedures.



## Hints and Shortcuts

Some procedures that can help you work more efficiently are listed below. These tips are not meant to be thorough descriptions of the features that are presented, but are quick reminders of how you can save time while using WinDraw. These procedures are presented in greater detail throughout the on-line Help system.

### General Information

- \* Use WinDraw's multiple document interface to open several drawing and library windows at once, and cut and paste objects between them. Any window can be minimized to an icon within WinDraw, or expanded to fill the entire screen. You can make any open drawing the active drawing by selecting it from the list of open files on the **Window** menu.
- \* All menu commands can be executed with the keystroke sequences that correspond to the underlined letters on the menu items, such as **Alt+S** and then **F** to execute the **Style Fill** command.
- \* To move graphics from WinDraw into other programs, use the **Edit Copy** command to copy all selected objects to the Windows clipboard. Then start the other program, and paste in the WinDraw graphics. You can also use the **File Export...** command to translate WinDraw graphics into a foreign file format, which can be read by another program.

### Drawing Tips

- \* When a drawing tool is selected from the Tool Palette, click on the right mouse button to pick the Selector Tool from the Tool Palette.
- \* Select multiple objects by dragging the Selector Tool across them, or by holding down the **Shift** key while clicking on the individual objects. Clicking on one of several selected objects while holding down the **Shift** key will deselect that object only, leaving the others selected.
- \* To make a duplicate of one or more selected objects, press the key sequence **Ctrl+D**. This will copy the selected objects to the clipboard and paste them into your drawing in a single operation.
- \* When you want to resize one or more selected objects, but you want to maintain the relationship between their height and width, hold down the **Shift** key while dragging one of the **corner** grab handles.
- \* To select an object that is beneath another object, continue to click in a region where both objects overlap until the object that you want is selected.
- \* To avoid deselecting an object and selecting another that overlaps it, hold down the **Ctrl** key, and the selected object will remain selected when you click on it, or move or resize it, instead of selecting an overlapping object.
- \* When one object hides another object, select the hidden object and use the **Layout Bring to Front** command to move it to the top layer of the drawing. You can also use the **Layout Send to Back** command to move an object to the bottom layer of the drawing.
- \* If you have part of a drawing that you need to use multiple times, draw it in a library symbol, and use the **Edit Paste Special** command to paste it into drawings. When the **Symbol (Linked)** option is used during the Paste Special operation, the copies can all be updated automatically by modifying the original drawing in the library symbol.

- \* If you need very small, detailed objects, draw the shape pixel by pixel in Paintbrush and paste it into your WinDraw drawing as a bitmap. You can also use Paintbrush to create shading effects or filled regions that can then be pasted into a WinDraw drawing.
- \* When several objects that you have drawn need to stay together, select them all and create a Group by executing the **Layout Group** command.
- \* Turn off the drawing grid to move objects by small amounts. The drawing grid constrains objects to land on one sixteenth inch boundaries.
- \* To pick up the fill pattern, color, line thickness, font characteristics, etc. of an existing object, select the object whose attributes you want to copy. A newly drawn object will have the characteristics of the previously selected object.
- \* To add a fill pattern to an irregular area of a drawing, draw a closed polygon whose shape matches the outline of the area, and fill the polygon.
- \* To replace an object with the contents of the clipboard, select it before pasting in the clipboard contents. To avoid replacing any selected objects, deselect them before pasting from the clipboard.

#### **Drawing shortcuts for specific objects**

- \* To draw exact squares, circles or circular arcs and pies, hold down the **Shift** key while drawing with the Rectangle, Rounded Rectangle, Ellipse, Arc or Pie Tools.
- \* To draw lines that are either vertical, horizontal or at a 45 degree angle, hold down the **Shift** key while drawing the line. You can change existing lines to be vertical, horizontal or at a 45 degree angle by holding down the **Shift** key while moving one end of the line.
- \* To change the fill pattern on a closed shape (except for closed polygons), double click on it to display the **Fill Color** dialog box.
- \* To change the line ending style of a line, double click on it to display the **Line Endings** dialog box..
- \* To edit a text object, double click on it to put it into edit mode.
- \* To change a closed or open polygon, or a Bezier curve into any of the other two object types, double click on it to display the **Polygon Type** dialog box.
- \* To avoid a jagged appearance for closed and open scribbles, turn the drawing grid off while drawing with the Closed and Open Scribble Tools.

## File Menu

The File menu includes commands that let you open and save new or existing drawing files or library files, and print the active drawing or library file. You can also exit WinDraw through the file menu.

For more information, click on a File menu command name.

<u>New...</u>	Opens a new drawing or library file
<u>Open...</u>	Opens an existing drawing or library file
<u>Save</u>	Saves the active file to disk but does not close its window
<u>Save As...</u>	Saves the active file to disk with a new file name
<u>Close...</u>	Saves the active file to disk and closes its window
<u>Export...</u>	Translates the active file into a non-WinDraw file format
<u>Printer Setup...</u>	Activates the Printer Setup dialog box
<u>Print Preview...</u>	Displays an entire drawing as it will appear on a printed page
<u>Print...</u>	Prints the currently active file
<u>Exit...</u>	Ends WinDraw, after prompting to save all unsaved work

## **Edit Menu**

The Edit menu includes commands that let you move selected objects to and from the clipboard, delete selected objects, and undo a previous command or procedure. The Edit Paste Special command is used to import a symbol from a library into a drawing.

For more information, click on a Edit menu command name.

<u>Undo</u>	Cancels the last command or operation
<u>Cut</u>	Removes the selected objects from the drawing and places them on the clipboard
<u>Copy</u>	Copies the selected objects to the clipboard while leaving the original objects in the drawing
<u>Paste</u>	Pastes the contents of the clipboard into the active drawing
<u>Clear</u>	Deletes the selected objects from the current drawing
<u>Paste Special...</u>	Pastes a symbol from a library into a drawing

## Layout Menu

The Layout menu includes commands that let you turn the ruler along drawing borders on or off, and turn the visible grid and drawing grid on or off for a drawing. You can also use commands on the Layout menu to change the order in which overlapping objects stack from back to front, rotate or flip all selected objects, and group or ungroup the selected objects together.

For more information, click on a Layout menu command name.

<u>Hide/Show Ruler</u>	Toggles the ruler between displayed and hidden
<u>Hide/Show Visible Grid</u>	Toggles the visible grid between displayed and hidden
<u>Drawing Grid</u>	Enables and disables the drawing grid
<u>Bring to Front, Send to Back</u>	Changes the vertical stacking order of overlapping objects
<u>Rotate Left, Rotate Right</u>	Rotates the selected objects
<u>Flip Horizontal, Flip Vertical</u>	Flips the orientation of selected objects
<u>Group, Ungroup</u>	Creates or dissolves groups of objects

## Style Menu

The Style menu includes commands that let you change the fill pattern on objects, change line styles and line endings, and change fonts and character formatting on text objects.

For more information, select a Style menu command name.

<u>Fill...</u>	Changes the fill pattern and color for an object
<u>Lines...</u>	Changes the outline style and color for an object
<u>Endings...</u>	Changes line ending shapes
<u>Font...</u>	Changes character font and point size
<u>Character Formats</u>	Changes character formats such as Bold, Underline, etc.

## Window Menu


The Window menu includes commands that let you arrange or close the drawing and library windows that are open, arrange the windows within WinDraw that are iconized, or switch to (activate) a drawing or library window.

For more information, click on a Window menu command name.

<u>Tile</u>	Arranges open windows in a tiled pattern
<u>Cascade</u>	arranges open windows in a cascaded pattern
<u>Arrange Icons</u>	Arranges icons at the bottom of the WinDraw window
<u>Close All</u>	Closes all windows and icons within WinDraw
<u>List of Open Files</u>	Lists all open files; click on one to activate it

## Using the Tool Palette

The Tool Palette is the vertical menu of drawing Tools at the left of the WinDraw workplace. To use one of the Tools, move the mouse pointer until it is over the Tool that you want. If the Tool you want is not visible, use the vertical scroll bar to the right of the Tool Palette to scroll the Tool Palette up or down until the Tool you want is visible. When the mouse pointer is over a Tool on the Palette, the shape of the pointer changes to a hand with the index finger outstretched. Click on the Tool that you want to use to select it. Once a Tool is selected, its icon on the Tool Palette is highlighted, and it is available for use until you select another Tool.


Move the mouse pointer back onto the drawing surface near the area where you want the new object to be drawn. When any of the drawing tools is selected, the mouse pointer will appear as a crosshair: . Press the mouse button down, and drag the mouse away from the starting point, until the object is roughly the size and shape that you want. When the new object is close to what you want, release the mouse button. A new object will have been drawn, and will still be selected. If you want to draw a second object of the same type, repeat the drawing operation. The first object you drew will be unaffected. You do not need to deselect the first object before drawing the second. See the Help Topics for the individual drawing tools for more information on how to draw the exact shape you want.

If you want to move or resize the object you have just drawn, choose the Selector Tool from the Tool Palette and use it to drag the object, or one of its grab handles to a new position.



## Selector Tool

The Selector Tool is used to select one or more objects in a drawing, to move objects, to resize objects, and to change the shape of objects. The Selector Tool does not draw any object or shape itself, but is only used to modify other objects.

When the Selector Tool is being used, the mouse pointer appears as an arrowhead , and any object in the drawing can be selected by clicking on it. When any object other than a line is selected, it appears surrounded by a rectangle which consists of eight black grab handles. This indicates that the object is selected, and is called the selected rectangle. When a line is selected, it is not surrounded by a selected rectangle, but has control points showing at its endpoints. Normally, when an object is selected, any other object that was already selected becomes deselected. If the **Shift** key is held down when an object is selected, previously selected objects will remain selected. Clicking on one of several selected objects while holding down the **Shift** key will deselect that object only, leaving the others selected.

To select multiple objects, press the mouse button outside of the objects and drag the mouse pointer diagonally across the objects that you want to select. A dashed rectangle will appear as you drag the pointer, and any object that is partially or completely inside the dashed rectangle will be selected when you release the mouse button. Once selected, the set of objects can be moved or resized collectively.

To select an object which is beneath another object, continue to click in a region where both objects overlap until the object that you want is selected. To avoid deselecting an object and selecting another that overlaps it, hold down the **Ctrl** key, and the selected object will remain selected when you click on it, or move or resize it, instead of selecting an overlapping object.

Once selected, any object's shape and size can be modified by dragging one of the object's grab handles, or it can be moved by dragging the object itself. Some objects, such as Bezier curves and polygons, have control points along their shapes, in addition to their grab handles. By dragging a control point with the Selector Tool, the shape of these objects can be changed.

**Hint:** As a short cut, the Selector Tool can be selected from the Tool Palette by pressing the right mouse button, instead of moving the mouse pointer over to the Tool Palette and selecting it directly. The right mouse button is the rightmost button on either a two button or a three button mouse.

## Line Tool

The Line Tool is used to create straight lines in a drawing. A line can be drawn using a variety of line widths and colors, and the line can be solid, or made from dashes or dots, or from a dash-dot or dash-dot-dot pattern. These line attributes are accessed from the Style Lines... command. One of several shapes can be selected as line endings using the Style Endings... command.

If you want to draw lines that will always be perfectly vertical or horizontal, or at a 45 degree angle to horizontal, hold down the **Shift** key while you draw the line. When the **Shift** key is held down while drawing a line, the line will only appear on 45 degree boundaries (including vertical and horizontal). As you drag one end of the line around in the drawing, it will snap into each of the allowed orientations.

If an existing line is not on a 45 degree boundary and you want it to be so, select it, and then hold down the **Shift** key while dragging one end of the line to the orientation that you want. The line will snap to a vertical, horizontal, or a 45 degree orientation.

Lines that consist of multiple connected line segments, that is lines with bends, are referred to as Open Polygons in WinDraw, and are described in the Closed Polygon and Open Polygon Tools section.

## **Text Tool**

The Text Tool is used to place text objects in a drawing. To use it, first choose the Text Tool from the Tool Palette and move the mouse pointer into the drawing where you want the text placed. Press the mouse button and drag the pointer until a rectangle is created that is large enough to hold the text that you want. Release the mouse button when the rectangle is drawn, and the rectangle will appear with grab handles and an insertion point cursor where text can be entered. The text object is now in edit mode.

Enter the text that you want into the rectangle. All standard cut, copy and paste features work inside the text object. Individual words can be selected by double clicking on them, or a block of text can be selected by dragging the mouse pointer across the text. Text can also be copied to or pasted from other text objects or other Windows programs by using the clipboard. For more details on how to edit a text object see the Help Topic Editing Text Objects.

Word wrapping will happen automatically when the text reaches the right-hand edge of the selected rectangle. The Style Font... command can be used to change the font or point size of the text. When you are finished entering or editing the text in the text object, click outside the text object to end edit mode for the object.

To move or resize an existing text object, use the Selector Tool and click on the text object. The selected rectangle with grab handles will appear around the text object, and the object can be moved by dragging it, or resized by dragging one of its grab handles. The text inside the selected rectangle will always fill up the rectangle starting at the upper left corner, and will word wrap automatically at the right hand edge of the rectangle.

To edit an existing text object, use the Selector Tool and double click on it. The text object will become selected, and an insertion point cursor will appear, indicating that the text object is in edit mode. When you are finished editing the text, click outside the text object to end edit mode for the object.

Note that when a text object is selected with a single click from the Selector Tool, it appears with grab handles for moving or resizing. When a text object is double clicked with the Selector Tool it becomes selected, but is also in edit mode, meaning that the text inside the rectangle can be changed.

## Rectangle and Rounded Rectangle Tools

The Rectangle and Rounded Rectangle Tools are used to create rectangles with sharp or rounded corners in a drawing. To use them, select either tool from the Tool Palette, and move the mouse pointer into the drawing where you want the rectangle to be placed. Press the mouse button and drag the pointer until a rectangle of the size and shape that you want appears. If you hold the **Shift** key down while drawing a rectangle or a rounded rectangle, a square object will be drawn. When you release the mouse button, the rectangle will be drawn, and will remain selected.

The Selector Tool can be used to move or resize the rectangle. You can choose the Selector Tool by clicking the right mouse button. When you double click on a rectangle or a rounded rectangle with the Selector Tool, a dialog box is presented that allows you to modify the fill pattern in the rectangle. This dialog box can also be accessed by using the Style Fill... command while the rectangle is selected. The line thickness and line style of the rectangle can be modified by using the Style Lines... command while the rectangle is selected.

## Ellipse Tool

The Ellipse Tool is used to create ellipses and circles in a drawing. Note that a circle is one form of an ellipse, so one tool is used to draw both shapes. To use the Ellipse Tool, select it from the Tool Palette, and move the mouse pointer into the drawing where you want the ellipse or circle to be placed. Press the mouse button and drag the pointer until an ellipse of the size and shape that you want appears. If you hold the **Shift** key down while drawing an ellipse, a circle will be drawn. When you release the mouse button, the ellipse will be drawn, and will remain selected.

The Selector Tool can be used to move or resize the ellipse. You can choose the Selector Tool by clicking the right mouse button. When you double click on an ellipse with the Selector Tool, a dialog box is presented that allows you to modify the fill pattern in the ellipse. This dialog box can also be accessed by using the Style Fill... command while the ellipse is selected. The line thickness and line style of the ellipse can be modified by using the Style Lines... command while the ellipse is selected.

## Arc and Pie Tools

The Arc Tool is used to create arcs of a circle or an ellipse, and the Pie Tool is used to create pie shaped segments of a circle or an ellipse. An arc appears as a single curved line that is part of the outline of a circle or an ellipse, while a pie appears as a circle or an ellipse with a triangular section removed from it. The use of the Arc and Pie Tools are identical, so both are described together.

To use the Arc or Pie Tool, select one from the Tool Palette, and move the mouse pointer into the drawing where you want the arc or pie to be placed. Press the mouse button and drag the pointer until an ellipse (or circle) appears which is the size and shape of the arc or pie that you want. If you hold the **Shift** key down while drawing the ellipse, a circle will be drawn.

When you release the mouse button after drawing the ellipse, a line will appear from the center of the ellipse out to the mouse pointer. This is the first of two radius lines that will define what portion of the ellipse will be used for the arc or pie. Move the mouse pointer around the circumference of the ellipse until the radius line is at the point along the ellipse where you want one end of the arc or pie to be, and click the mouse button to set the position of the first radius line. Now move the pointer around the ellipse again until the second radius line is at the point on the ellipse where you want the other end of the arc or pie to be. When you click the mouse button again, the position of the second radius line will be set, the arc or pie will be drawn, and will remain selected.

The Selector Tool can be used to move or resize the arc or pie, or to change the points on the ellipse where the arc or pie begins and ends. You can choose the Selector Tool by clicking the right mouse button. When an arc or pie is selected, it is surrounded by its selected rectangle with grab handles, and it has two radius lines, which end in control points. The grab handles can be dragged to change the size and shape of an arc or pie, and the control points can be dragged to rotate the radius lines, changing the points on the ellipse where the arc or pie begins and ends.

When you double click on a pie (but not on an arc) with the Selector Tool, a dialog box is presented that allows you to modify the fill pattern in the pie. This dialog box can also be accessed by using the Style Fill... command while the pie is selected. The line thickness and line style of the arc or pie can be modified by using the Style Lines... command while the arc or pie is selected.

## Closed Polygon and Open Polygon Tools

The Closed Polygon and Open Polygon Tools are used to create closed and open polygons in a drawing. A polygon is a shape made up of individual connecting line segments. A closed polygon has the same starting and ending point and can have a fill pattern, while an open polygon has separate starting and ending points, and cannot be filled.

To use the Closed Polygon and Open Polygon Tools, select one from the Tool Palette, and move the mouse pointer into the drawing where you want the polygon to be placed. Press the mouse button and drag the pointer to create the first line segment of the polygon. The first segment will be a line from the point where the mouse button was pressed to the point where it was released. Continue to move the mouse pointer to create subsequent segments of the polygon. Each time the mouse button is clicked, a new segment will be drawn. When all the segments have been drawn, double click the mouse button, and the polygon will be complete and will remain selected. If the Closed Polygon Tool was being used, a line will be drawn from the ending point of the polygon back to its starting point, closing the polygon.

The Selector Tool can be used to move or resize a polygon, or to move the endpoints of any line segment of the polygon. You can choose the Selector Tool by clicking the right mouse button. When a polygon is selected, it is surrounded by a rectangle with grab handles, and it has control points at the end of each line segment in the polygon. Grab handles and control points both appear as black squares; grab handles are slightly larger than control points. The grab handles can be dragged to change the size and shape of the polygon as a whole, and the control points can be dragged to move the endpoints of the individual line segments.

When you double click on a closed or open polygon with the Selector Tool, a dialog box is presented that allows you to change the polygon to either an open polygon, a closed polygon or a Bezier curve. You can use this dialog box to change any of these three object types to any of the other object types.

The fill pattern of a closed polygon can be changed by using the Style Fill... command while the polygon is selected. The line thickness and line style of an open or closed polygon can be modified by using the Style Lines... command while the polygon is selected.

## Bezier Curve Tool

The Bezier Curve Tool is used to create Bezier curves in a drawing. A Bezier curve is a simple or compound curve whose individual segments are defined by the line segments of a polygon. When a Bezier curve is being created or modified, a polygon which defines the boundaries of the curve is shown. After editing, the Bezier curve is drawn which most closely matches that polygon.

To use the Bezier Curve Tool, select it from the Tool Palette, and move the mouse pointer into the drawing where you want the Bezier curve to be placed. Press the mouse button and drag the pointer to create a line segment as if you were drawing a polygon. The first segment will be a line from the point where the mouse button was pressed to the point where it was released. Continue to move the mouse pointer, and create one polygon segment for each segment that you want the Bezier curve to have. Each time the mouse button is clicked, a new segment will be drawn. When all the segments have been drawn, double click the mouse button, and the Bezier curve will be drawn and will remain selected.

The Bezier curve that is drawn will begin and end at the starting and ending points of the polygon that defines it. Each time an intermediate line segment is made in the defining polygon, the curvature of the Bezier curve is "pulled" toward the control point where two adjacent line segments meet.

The Selector Tool can be used to move or resize a Bezier curve, or to change the curvature of any segment of the Bezier curve. You can choose the Selector Tool by clicking the right mouse button. When a Bezier curve is selected, it is surrounded by a rectangle with grab handles, and it has control points that show the ends of each line segment in the polygon that defines the Bezier curve. Grab handles and control points both appear as black squares. Control points are slightly smaller than grab handles. The grab handles can be dragged to change the size and shape of the Bezier curve as a whole, and the control points can be dragged to change the curvature of individual segments of the Bezier curve.

When you double click on a Bezier curve with the Selector Tool, a dialog box is presented that allows you to change the Bezier curve to either an open polygon, a closed polygon or a Bezier curve. You can use this dialog box to change any of these three object types to any of the other object types.

The line thickness and line style of a Bezier curve can be modified by using the Style Lines... command while the Bezier curve is selected.



## Closed Scribble and Open Scribble Tools

The Closed Scribble and Open Scribble Tools are used to create closed and open scribbles in a drawing. A scribble is a tracing of the path over which you have moved the mouse pointer while using the Scribble Tool. You can think of a scribble as the mark which would be left by a pen if you were to move it around on a sheet of paper without lifting it. A closed scribble has the same starting and ending point and can have a fill pattern, while an open scribble has separate starting and ending points, and cannot be filled.

To use the Closed Scribble and Open Scribble Tools, select one from the Tool Palette, and move the mouse pointer into the drawing where you want the scribble to be placed. Holding the mouse button down will make the Scribble Tool leave a mark along the path where you drag the mouse pointer. When you release the mouse button, the Scribble Tool stops marking. The scribble will be complete and will remain selected. If the Closed Scribble Tool was being used, a line will be drawn from the ending point of the scribble back to its starting point, closing the scribble.


The Selector Tool can be used to move or resize a scribble, but the path drawn by either Scribble Tool cannot be altered once it has been drawn. A scribble can be moved, resized, flipped or rotated as desired. You can choose the Selector Tool by clicking the right mouse button.

When you double click on a closed scribble with the Selector Tool, a dialog box is presented that allows you to modify the fill pattern in the scribble. This dialog box can also be accessed by using the Style Fill... command while the scribble is selected. The line thickness and line style of the scribble can be modified by using the Style Lines... command while the scribble is selected.

**Hint:** Scribbles may appear jagged if drawn while the drawing grid is turned on. This is because the Scribble Tools will draw small line segments that end on grid points when the drawing grid is turned on. You can avoid this jagged appearance by turning off the drawing grid while drawing scribbles. Once drawn, a scribble can be placed back on the drawing grid, if desired.

## Control Point Tool

The Control Point Tool is used to change the number of control points used in an existing open polygon, closed polygon or Bezier curve. It can be used to add or delete a control point to any of those three object types. Control points appear as squares at the joints of polygons and Bezier curves. A control point is slightly smaller than a grab handle. To use the Control Point Tool, first select the open or closed polygon or Bezier curve that you want to modify, using the Selector Tool. Next, select the Control Point Tool from the Tool Palette.

The mouse pointer will appear as an arrowhead when the Control Point Tool is selected: .

To delete a control point from a polygon or Bezier curve, place the mouse pointer over the control point that you want to delete, and click the mouse button. Once the control point is deleted, the open or closed polygon, or the polygon which defines the Bezier curve, will be redrawn as if the control point never existed. Using this process, an open polygon which originally consisted of four line segments can be reduced to just three line segments.

To add a control point to a polygon or Bezier curve, place the Control Point Tool pointer over any spot inside the selected rectangle that defines the object, and click the mouse button. A new control point will appear at that position.

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on-line Help version 1.0a

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**HELP FOR SYMBOLS:**

## Overview of Symbols and Libraries

Libraries are similar to drawings in that all of the drawing tools can be used to create and modify objects. Unlike a drawing window, a library window can hold multiple drawings at once. Within a library, each drawing is called a symbol, and has special properties and capabilities associated with it. Symbols and libraries exist to make it easier to draw an object or group of objects repeatedly in one or more drawings, and to modify the resulting object or objects everywhere they are used, without having to change each object individually.

Suppose you need a drawing of a house, and you need to use it multiple times in different drawings. You can use a combination of rectangles, lines, polygons and curves to draw the house in a drawing. Now you can use the standard cut, copy and paste features of WinDraw to place copies of the house into various drawings. If you need to change the size of the front door on all of the houses later, you must make all of the changes by hand, in one drawing at a time.

An easier method would be to draw the house as a symbol in a library. Once you have copied the house to the clipboard as a symbol from a library, you can use the Edit Paste Special... command to paste the house symbol into drawings. When you execute the **Edit Paste Special...** command, you have three options for pasting the symbol into a drawing, presented to you in the **Paste Special** dialog box.

If you choose the **Symbol (No Link)** option, the house will be pasted into your drawing as a single item, as if it were a group of objects. You can move and resize the copy of the symbol in your drawing as a single object, but you cannot modify the individual objects that the copy of the symbol comprises.

If you choose the **Symbol (Linked)** option for the **Edit Paste Special...** command, the symbol will again be pasted in as a single object. In this case, however, any changes that are made to the symbol in the original library file will automatically be reflected in every drawing window where a copy of the symbol has been used. Using this feature, if you have pasted the house symbol into multiple drawings and need to change the size of the door on the house, you need only make the change in the original symbol, and every linked copy of the symbol will be updated.

If you choose the **Separate Objects** option for the **Edit Paste Special...** command, the symbol will be pasted into a drawing as individual lines, rectangles, etc., just as if you had used the Edit Copy and Edit Paste commands.

You can create as many libraries as you want, with multiple symbols in each library. The control buttons on a library window will let you perform these functions with symbols: scroll through all of the symbols in the library; start a new symbol; delete all objects from the current symbol; copy the current symbol to the clipboard; search for a symbol based on its properties; and assign properties to the current symbol. The Help Topics Creating Symbols in a Library and Using Symbols in a Drawing describe the creation and use of symbols in detail.

## Creating Symbols in a Library

You can use the File New... command to create a new library file, and the File Open... command to open an existing library file. Library files end with the file name suffix **.WDL**. When you are creating a symbol in a library, all of the drawing tools from the Tool Palette work exactly as they do when making a drawing. All object attributes, such as fill patterns and text fonts, and all formatting commands such as flips and rotates can be used to create a symbol. You can think of a symbol as one of several drawings within a single library file.

You can display all of the symbols in a library in turn by clicking on the **Prev** and **Next** buttons at the top of the library window. When you are looking at the first symbol in a library the **Prev** button will be disabled, and the **Next** button will be disabled when you are looking at the last symbol in a library.

To begin creating a new symbol in a library, click on the **New** button. The symbol that was previously displayed will be hidden, and a new symbol is created, ready to be drawn in. When a new symbol is created, the other symbols in the library (the ones you can't see) are unaffected, but they are not saved to disk. The entire library of symbols is saved to disk when the File Save, File Save As..., File Close... or Window Close All commands are executed. The symbols you create will be placed in the library in the order that you create them, with the first symbol displayed when you open the library file. You can display all of the symbols by clicking on the **Prev** and **Next** buttons. You can use the symbol properties (described below) to name or number the symbols if you want.

To delete all the objects you've drawn in the current symbol and start over, click on the **Clear** button. Clicking on the **Clear** button will only affect the currently displayed symbol in the library. When you want to copy the current symbol onto the clipboard so that you can use the symbol in drawings or in other symbols, click on the **Copy** button. The symbol will be copied to the clipboard, and the contents of the symbol itself will be unaffected. To use all of the properties of a symbol, use the Edit Paste Special... command (instead of the **Edit Paste** command) to paste the symbol into a drawing. The **Paste Special...** command on the **Edit** menu is only enabled when a symbol is on the clipboard.

When you click on the **Prop...** button, a dialog box will be presented that will allow you to enter a description of the currently displayed symbol. You do not need to enter any properties before you use a symbol, but doing so may help you find a symbol in a large library later. You can enter any text that you like to describe each symbol. Clicking on the **Search...** button will display a dialog box that will let you search for text in all of the symbol descriptions that you have entered. For more information on symbol properties see the Help Topic Searching for a Symbol.

## Using Symbols in a Drawing

When you want to use a library symbol in a drawing, you can copy the symbol to the clipboard and paste it into the drawing. It is important to remember that WinDraw uses the clipboard to copy and paste symbols, just like all other Windows programs. If any cut or copy operation is performed in WinDraw or in any other Windows program, a symbol that had been on the clipboard will be overwritten.

Use the **Prev** or **Next** button to find the symbol that you want to use in the library. When the desired symbol is displayed in the library, click on the **Copy** button to copy the symbol to the clipboard. Now open or make active the drawing where you want to use the symbol, and execute the Edit Paste Special... command. A dialog box titled **Paste Special** is displayed, which will give you three options for pasting the symbol into a drawing. Choose either the **Symbol (No Link)**, **Symbol (Linked)**, or **Separate Objects** option, and click on the **OK** button to perform the paste. If you click on the **Cancel** button, the paste operation will be cancelled. Although you can use the Edit Copy and Edit Paste commands to copy and paste individual objects in symbols, you must use the **Copy** button and the **Edit Paste Special...** command to utilize the special features of symbols.

If you chose the **Symbol (No Link)** option, the symbol will be pasted into your drawing as a single item, as if it were a group of objects. You can move and resize the symbol in your drawing as a single object, but you cannot modify the individual elements that the symbol comprises.

If you chose the **Symbol (Linked)** option from the **Paste Special** dialog box, the symbol will again be pasted in as a single object. In this case, however, any changes you make to the original symbol back in the library window will automatically be reflected in every drawing window where a copy of the symbol has been used. Using the **Symbol (Linked)** option, if you have used the symbol multiple times and need to change some aspect of the symbol, you need only make the change in the original library symbol, and every linked copy of the symbol will be updated automatically.

If you chose the **Separate Objects** option for the **Edit Paste Special...** command, the symbol will be pasted into a drawing as individual lines, rectangles, etc. If either the **Symbol (No Link)** or the **Separate Objects** option was chosen during the paste, later changes made to the original symbol will not be reflected where a copy of the symbol has been used. The automatic updating feature is only present when using the **Symbol (Linked)** option during the **Edit Paste Special...** command.

### Special Considerations for Linked Symbols

When a linked copy of a symbol is used in a drawing, the link back to the original symbol is based on the file name of the library that contains the symbol. If you use a linked copy of a symbol in a drawing, and then change the name of the library file that holds the original symbol, the copy of the symbol in the drawing file will not be able to establish its link back to the original symbol, since the library file name will have changed.

Therefore, if you create a new library file, draw symbols in it, and use copies of the symbols in drawings, you should always save or close the library file **before** you save or close **any** of the drawings that hold copies of symbols from the library. Before you save a new library file for the first time, WinDraw assigns a default name to the file, such as "Library4". If you close a drawing file that contains copies of symbols from a new library, the copies will be linked to the library file based on the library's default file name. If you later save the library file and don't use the default file name, the copies of the linked symbols in the drawing file will not find the library with the expected file name.

Linked copies of symbols will only be updated when both the library file that contains the original symbol, and the drawing file that contains the copy of the symbol are open in the WinDraw workplace. All linked copies of symbols are updated automatically when both the original library file and the files containing the copies are open. A symbol can be copied as many times as desired.

### **A Drawing Example Using Symbols**

Included with WinDraw is a demonstration library file named LIBDEMO.WDL. You can use it to learn about symbol libraries, and how to use them in drawings. To start, open the file LIBDEMO.WDL by executing the **File Open...** command in WinDraw. You will also need to have an empty drawing window open to paste symbols into.

LIBDEMO.WDL contains three symbols, each of which consists of a simple geometric shape and a text object that describes the symbol. You can look at all of the symbols by clicking on the **Prev** and **Next** buttons at the top of the library window. In this example, you will use the **Edit Paste Special...** command to paste each of the symbols into a drawing, and then examine how the copies of the symbols change when the original symbols are changed.

Click on the **Prev** and **Next** buttons until symbol #1 containing the red circle is displayed. Click on the **Copy** button to copy the entire symbol to the clipboard. You do not need to select any object before copying the symbol. Now make the drawing window the active window, and execute the **Edit Paste Special...** command. Select the **Symbol (No Link)** option from the dialog box that is displayed during the paste.

Now go back to the library window and click on the **Next** button to display symbol #2, and click on the **Copy** button to copy it to the clipboard. Return to the drawing window and use **Edit Paste Special...** to paste it into the drawing next to the copy of symbol #1, but this time choose the **Symbol (Linked)** option during the paste. Repeat this procedure to paste symbol #3 into the drawing, but select the **Separate Objects** option when pasting it into the drawing. You should now have copies of all three symbols side by side in the drawing window.

Notice that when you click on the copies of symbol #1 or symbol #2 in the drawing window, the entire symbol is selected, and the geometric shape and text object cannot be selected or manipulated as separate objects. The copy of symbol #3 is not actually a symbol at all, but is a separate triangle (closed polygon) and a text object, each of which **can** be selected and modified as desired. The **Separate Objects** option copies individual objects, just like **Edit Copy** and **Edit Paste** commands.

Next, you will modify the original symbols in the library window, and see how the copies in the drawing window change. Display symbol #1 in the library window and double click on the circle. A dialog box will be displayed that will let you change the fill pattern and color for the circle. Change the color of the fill pattern, and click on the **OK** button. Look at the copy of symbol #1 in the drawing file, and you will see that the color of the circle has **not** changed. The **Symbol (No Link)** option will copy an entire symbol from a library as a single object, but copies of the symbol will not change when the original symbol changes, since the copy is not **linked** to the original symbol.

Now display symbol #2 in the library window by clicking on the **Next** button, and double click on the blue square to change its color. When you have chosen a new color for the square in the library symbol, look at the copy of symbol #2 in the drawing window. The copy has the same new color as the original in the library. The **Symbol (Linked)** option will copy an entire symbol as a single object, and all copies of the symbol will change automatically to reflect any changes to the original symbol. You can add, modify or delete



objects in the original symbol, and all changes will appear in copies of the symbol. You can also embed symbols into other symbols if you want to. Linked symbols can be very useful when you need to use a drawing or a set of objects repeatedly, and need to change all copies at once.

Finally, go back to the library window and change the color of the triangle in symbol #3. The copy of symbol #3 in the drawing window will not change, since it was pasted in as separate objects, not as a symbol.

When you close LIBDEMO.WDL, you will be asked if you want to save the changes to the file. If you select **Yes**, your color changes will be saved. If you select **No**, the file will still contain the original colors for the objects.

## Searching for a Symbol

Symbols drawn in libraries can have properties assigned to them, which can be used to search for an individual symbol in a library. The properties for the currently displayed symbol can be entered and modified when the **Prop...** button on the library is clicked on. A dialog box titled **Symbol Properties** is displayed, where text can be entered into the text entry box labeled **Description:**.

You can describe the symbol with any text that makes sense to you. The text you enter in the **Description:** field can be used later as the basis of a search for a specific symbol. The **Read Only** check box on the **Symbol Properties** dialog box lets you protect the symbol from accidental modification. When a symbol's **Read Only** check box is checked, the objects drawn in the symbol cannot be modified. You can use the **Read Only** feature to protect completed symbols. Once the symbol's properties are correct, click on the **OK** button, or click on the **Cancel** button to cancel your entry. The symbol properties can be changed again at any time.

You can search for a symbol in a library by searching for text that you have entered in the **Symbol Properties** dialog box. When you click on the **Search...** button, the **Library Search** dialog box is displayed. In the text entry field labeled **Search For:** you can enter a few characters, a word or a phrase that matches the text you previously entered as a symbol property. You can enter as many or as few words or characters as you like for the search. You do not need to enter whole words, and you do not need to enter the entire text that you used to describe the symbol in the **Symbol Properties** dialog box. You can begin a search for a symbol regardless of what symbol is currently displayed.

A straightforward approach to symbol description and searching is to enter several individual words that describe the symbol in the **Description:** field of the **Symbol Properties** dialog box. When using the **Library Search** dialog box, enter one of those words as a basis for the search, and click on the **Find** button. For example, if you have created a symbol which is a drawing of a house, you might enter the words **house**, **home** and **building** in the **Description:** field. When entering text to search for the symbol later, you could enter any of the three words you used as a description, or even parts of them, such as **ho**, **build**, or even **uilding**. You need not remember entire phrases, or even entire words that you used as a description when you search for a symbol in a library.

The search will begin with the currently displayed symbol, and will proceed through the library. The first symbol found whose description matches the search text will be displayed. The **Library Search** dialog box will continue to be displayed, and you can use the same text to continue the search (just click on the **Find** button again), enter new search text, or click on the **Cancel** button to end the search.

**HELP FOR DRAWING PROCEDURES:**

## Moving, Resizing and Copying Objects

Any object in a drawing can be moved, resized or copied by using the Selector Tool. The Selector Tool can be chosen from the Tool Palette by clicking on it, or as a short cut, can be chosen by clicking the right mouse button. An object must be selected before you can move, resize or copy it. This is done by clicking on the object with the Selector Tool.

When an object is selected, it appears surrounded by a rectangle that consists of eight black grab handles. This indicates that the object is selected, and is called the selected rectangle. If more than one object is selected at once, the grab handles of the individual objects are gray, and a selected rectangle that encompasses all of the selected objects is shown, with black grab handles that are larger than normal. For moving, resizing and copying operations, this group of selected objects will act as though it were a single object.

To move an object, first select it, then drag it with the mouse to the location in the drawing where you want it to be. When you drag the object, you must press the mouse button while the mouse pointer is inside the selected rectangle, but is not over one of the grab handles that make up the selected rectangle.

To resize an object, select it and drag one of its grab handles inward or outward until the object's dashed selected rectangle is the size that you want. If you drag one of the grab handles in the middle of the top, bottom or sides of the selected rectangle, you can change the height or width of the object. If you drag a grab handle on a corner of the selected rectangle, you can change both the height and width of the object at once.

You may want to resize an object without changing the proportion of its width to its height. The relationship of an object's width to its height is known as its aspect ratio. To resize an object while keeping its aspect ratio the same, hold down the **Shift** key while dragging one of the grab handles on any corner of the selected rectangle. The object will become proportionally larger or smaller.

To copy an object, first select it, then execute the Edit Copy command, either via the Edit menu, or with the keystroke shortcut **Ctrl+Ins**. This will make a copy of the selected object and place the copy on the clipboard. Now deselect the original object by clicking the mouse while the mouse pointer is outside of any object. Any object that is selected when a paste from the clipboard is performed will be deleted and overwritten by the object being pasted from the clipboard. If you inadvertently delete an object while pasting in a new one, execute the Edit Undo command to undo the paste operation.

When no objects are selected, execute the Edit Paste command to paste the object from the clipboard into your drawing. The shortcut keystroke sequence for pasting is **Shift+Ins**. The copy of the original object will appear in the center of your drawing, and will be selected so that you can move it to the part of the drawing where you want it to be. The copy is identical to the original object, but it can be moved and modified independently, and will behave just as if you had drawn the object yourself. If you want to quickly duplicate one or more objects, select the objects you want to copy, and press the key sequence **Ctrl+D**. This will copy the selected object(s) to the clipboard and paste them into your drawing in a single step.

## Editing Text Objects

The Text Tool places text objects in a drawing by creating a rectangle to hold the text. When a text object is first created, it is immediately in edit mode and is ready to have text entered into it. When the text is correct, click outside the text object with the mouse, and you can create a new text object, or select another tool from the Tool Palette.

All objects (lines, rectangles, polygons, etc.) in WinDraw can be selected with the Selector Tool and then modified, moved or resized. Text objects can also be moved or resized when they are selected, but in order to change the text inside a text object, it must be placed in edit mode. Like any other object, when a text object is selected with a single click from the Selector Tool, its selected rectangle will appear with grab handles for moving or resizing.

When a text object is double clicked with the Selector Tool it becomes selected, but is also in edit mode, meaning that the text inside the rectangle can be changed. You can tell when a text object is in edit mode because an insertion point cursor will appear in the text, and the grab handles of the selected rectangle will be smaller than usual.

When a text object is in edit mode, you can modify the text inside the text object's selected rectangle. You can think of a text object in edit mode as a small text editor. Words can be selected by double clicking on them, or a block of text can be selected by dragging the mouse pointer across the text. All standard cut, copy and paste features work inside the text object. Text can be cut, copied and pasted within a single text object or between two text objects, and can be copied to or pasted from other Windows programs using the clipboard. For more information on using the keyboard for editing functions see the Help Topics Text Selection Keys, Editing Keys and Cursor Movement Keys.

WinDraw will fit the text inside a text object to the shape of its selected rectangle as closely as possible. Text will always fill up the Selected rectangle starting from the upper left corner, and will word wrap on word boundaries as each line of text reaches the right hand edge of the selected rectangle. When no more text will fit inside the text object's selected rectangle, no more keystrokes will be accepted, and WinDraw will beep when a key is pressed.

To make room for more text in a full text object, use the mouse to drag a grab handle, increasing the size of the selected rectangle. A text object can be resized whenever it is selected, whether it is in edit mode or not. WinDraw will not let you enter more text than will fit inside the selected rectangle, but it will let you resize the selected rectangle so that it is too small to show all of the previously entered text. In this case, some text will be hidden until the selected rectangle is made large enough to show all of the text again. Any text that does not fit inside the selected rectangle will not appear in the drawing, and will not print. Shrinking the selected rectangle of a text object will not remove any of the text in the object.

**Hint:** When a text object is selected, the Style Font... command can be used to change the font or point size of the text. If you increase the point size of the text, or change to a font that is larger than the previously used font, you may need to increase the size of the text object's selected rectangle so that all of the text is visible. Text can be made bold, italicized, underlined or struck out by using the appropriate commands on the Style menu.

## Using Keystrokes to Execute Menu Commands

All WinDraw commands can be executed from the menu bar by using either mouse clicks or keystrokes. To execute a command using the mouse, click on the appropriate menu name in the menu bar, and then click on the desired command from the menu that drops down.

All of the items on the menu bar have one character (usually the first one) in their name underlined. Also, all of the commands on the drop-down menus have one character in their name underlined. As an example, notice that the **S** in **Style** is underlined on the menu bar. On the Style menu, the **F** in the **Fill...** command is underlined. The underlining is a visual reminder of how to execute menu commands using keystrokes.

To display a drop-down menu from the menu bar, hold down the **Alt** key while typing the underlined letter of the menu you want to use. For example, to display the Style menu, hold down the **Alt** key and press the **S** key. This is usually shown in print as **Alt+S**. When **Alt+S** is pressed, the Style menu will be displayed. To change the current fill pattern, press the **F** key, since the **F** in **Fill...** is underlined on the Style menu. Using this method, the Fill Color dialog box can always be accessed by pressing **Alt+S** and then **F**.

Any command can be executed in this same fashion, by pressing **Alt+menukey** and then **commandkey**, where **menukey** is the underlined character on the menu bar, and **commandkey** is the underlined character on the drop-down menu displayed.

Some commands on the **Edit** menu can be executed with single keystroke:

<b>Command</b>	<b>Key Sequence</b>
<b>Edit Undo</b>	<b>Alt+Bksp</b>
<b>Edit Cut</b>	<b>Shift+Del</b>
<b>Edit Copy</b>	<b>Ctrl+Ins</b>
<b>Edit Paste</b>	<b>Shift+Ins</b>
<b>Edit Clear</b>	<b>Del</b>
<b>Edit Copy,</b> <b>followed by</b>	
<b>Edit Paste</b>	<b>Ctrl+D</b>

## Drawing Lines at 45 Degree Increments

When the Line Tool is used, lines can be drawn at any angle. If you want to draw lines that will always be perfectly vertical or horizontal, or at a 45 degree angle to vertical or horizontal, hold down the **Shift** key while you draw the line. When the **Shift** key is held down while drawing a line, the line will only appear on 45 degree boundaries. As you drag one end of the line around in the drawing, it will snap into different orientations that will only allow it to be drawn as horizontal, vertical, or at a 45 degree angle.

If an existing line is not on a 45 degree boundary and you want it to be so, select it, and then hold down the **Shift** key while dragging one end of the line to the orientation that you want. The line will snap to a horizontal, vertical, or a 45 degree orientation.

## Drawing Squares and Circles

When the Rectangle Tool, the Rounded Rectangle Tool or the Ellipse Tool is used, rectangles and ellipses can be drawn with any height and width. Geometrically, a square is one type of a rectangle and a circle is one type of an ellipse. When a rectangle or ellipse is drawn, careful placement of the mouse pointer will allow you to draw a square or a circle.

If you want to ensure that the Rectangle Tool or the Rounded Rectangle Tool draws a true square, and the Ellipse Tool draws a true circle, hold down the **Shift** key while you use the Tools. Only squares and circles (as opposed to rectangles and ellipses) can be drawn with the Rectangle Tool, the Rounded Rectangle Tool and the Ellipse Tool while the **Shift** key is held down. Of course, a square drawn with the Rounded Rectangle Tool will still have rounded corners.



## Selecting Objects That Overlap

Objects drawn in WinDraw can overlap or cover other objects as desired. Any number of objects can be stacked on top of, or overlapped with, other objects. You can think of each object as being on its own sheet of paper, which can be overlapped with sheets containing other objects. The order in which overlapping objects are stacked, from the lowest layer on the page out to the highest layer is called the vertical stacking order of the objects.

Vertical stacking is most easily visualized when objects with solid opaque fill patterns are stacked on top of one another. The first object placed will be at the bottom of the stacking order, and the most recently placed object will be at the top. Only the topmost object will be completely visible when opaque objects are overlapped.

You may want to select an object that overlaps or is overlapped by other objects, so that you can move, resize or modify the object. If you use the Selector Tool and click the mouse in a part of the drawing where more than one object is beneath the mouse pointer, only the topmost object will be selected. To select an object that is beneath the topmost object in the vertical stack, press the mouse button again, and an object lower in the vertical stack will be selected. With each press of the mouse button, a different object in the vertical stack beneath the mouse pointer will become selected. Be careful to click slowly enough to avoid double-clicking on one of the objects, which may cause a configuration dialog box to be displayed.

As an example, suppose that you want to move the middle of three objects that overlap in a vertical stack away from the other two. Using the Selector Tool, move the mouse pointer to a point in the drawing where the three objects overlap. When you press the mouse button once, the topmost object will be selected. Release the mouse button, and press it again. Now the middle object of the three is selected. Without releasing the mouse button, drag the selected middle object away from the other two.

An entire set of vertically stacked objects can be selected by holding down the **Shift** key while clicking the mouse once for each object in the vertical stack. However, it will most likely be easier to use the Selector Tool to drag a selected rectangle around the set of objects.

For more information about changing the vertical stacking order of overlapping objects see the Help Topic for the Layout Bring to Front, Send to Back commands on the Layout menu.

**Hint:** If you **don't** want to deselect a selected object and select another that overlaps it, hold down the **Ctrl** key, and the selected object will remain selected when you click on it, or move or resize it, instead of selecting an overlapping object.

## Working With Groups of Objects

Most of the drawing operations you will perform will affect a single object. However, if there is a set of objects in a drawing that you want to modify all at once, you can do so by creating a group. For example, if you want a rectangle, an ellipse and a closed polygon to all have the same fill pattern, the quickest way to do this is to select all three of the objects, and use the Style Fill... command to alter the fill pattern of all three objects at once.

One way to select more than one object at a time is to select the first one with the Selector Tool, and then hold down the **Shift** key while clicking on subsequent objects that you want to select. Another way is to press the mouse button while using the Selector Tool, and drag a selected rectangle across the objects that you want to select. When you release the mouse button, all objects touched by the rectangle will become selected. The grab handles of the individual objects will be gray, and the group of objects will be surrounded by a selected rectangle that has larger than normal grab handles.

Once you have selected all of the objects that you want to operate on as a group, you can move or resize all of the objects as one, or change the attributes of all of the objects, or perform rotations and flips on the group as a whole.

If you click outside of the group's selected rectangle, the objects will retain their new size, shape, position etc. but will become separate objects again. If you want the group of objects to continue to behave as a group after you deselect them, execute the Layout Group command before you deselect them. Thereafter, when you click on any individual object of the group, all of the objects in the group will again become selected. Multiple groups can exist at one time. If you want the objects in a group to revert to individual objects, select the group, and then execute the Layout Ungroup command.

## Copying an Object's Attributes

Objects have various attributes that help define them. Object attributes include line style, line thickness and line color, fill pattern and fill color, and font and point size. Only certain attributes apply to a specific object. For example, an arc has line style, line thickness and line color attributes, but it cannot have a fill pattern, or any text attributes such as font or point size.

Only text objects can have the attributes of font, point size, bold, underline, etc. Every object except text objects have line style, line thickness and line color attributes. These determine how the outline of the object will be drawn. Lines can have line ending attributes, which determine what kind of shape, if any, will be drawn on the ends of lines. Only objects that make a closed shape can have fill patterns. These include rectangles, rounded rectangles, ellipses, pies, closed polygons and closed scribbles.

All object attributes are selected from the **Style** menu, using the Style Fill..., Style Lines..., Style Endings... and Style Font... commands. The attributes that are configured using these commands will be used when any new object is drawn. The attributes configured via the Style menu are known as the current attributes. When an object is selected, its attributes are automatically used as the current attributes. This means that if a blue fill pattern and a dashed line style are configured as the current attributes, but a rectangle with a red fill pattern and a solid outline is selected and resized, its attributes will become the current attributes. So, when a new object is drawn, it will have a red fill pattern and a solid outline.

To make the current attributes match those of an object in a drawing, select the object with the Selector Tool, and its attributes will be picked up as the current attributes. This feature allows you to draw a new object whose attributes match an existing object's attributes exactly, without having to reconfigure the current attributes.

## Converting Between Polygons and Bezier Curves

Open and closed polygons and Bezier curves are all related geometrically, and WinDraw will let you convert any of these three objects to any of the other types at will. If you have drawn an open polygon, but want it to have a fill pattern, you can convert it to a closed polygon and give it a fill pattern. Or, you may want to convert a polygon, which is made of straight lines, into a Bezier curve, which is a smooth curve.

To convert among any of these three object types, double click on any of these objects with the Selector Tool, and the dialog box titled **Polygon Type** will be displayed. Click on the radio button next to the polygon type that you want, and then click on the **OK** button. The object will be converted to the type you selected.

## Using WinDraw with Paintbrush

You can share images between WinDraw and Paintbrush, the painting program that comes with Windows. You may want to use some of the painting tools in Paintbrush to create a special effect, and then incorporate that image into a WinDraw drawing. Or, you may want to change a drawing from WinDraw into a bitmap, using Paintbrush to modify the drawing, or to save it in a standard bitmap file format. You can cut and paste all or part of a WinDraw drawing into a Paintbrush drawing, and vice versa, by using the clipboard. Refer to your Windows documentation for specific information about using Paintbrush.

### Moving Images from Paintbrush into WinDraw

Paintbrush allows you to create shapes such as circles and polygons, and lets you use tools such as the Airbrush and Paint Roller to create different textures and fill patterns. When you Zoom In on a region of a Paintbrush picture, you can work with great detail on a small part of the picture. Paintbrush can be useful for precisely drawing small images to be used within WinDraw. The Paintbrush scissors tools are used to mark either a rectangular or an irregular region of a drawing, which can then be cut or copied to the clipboard.

Once an image from Paintbrush is on the clipboard, the WinDraw command Edit Paste can be used to paste one or more copies of it into a WinDraw drawing or symbol. The image within WinDraw will be inside a rectangular region, which can be moved and resized whenever it is selected. An image pasted in from Paintbrush is a single object inside WinDraw, and only some of its attributes can be changed. A Paintbrush image can be grouped with other objects, and can be flipped vertically or horizontally, but its fill pattern and line style cannot be changed, and it cannot be rotated.

### Moving Images from WinDraw into Paintbrush

The method used to move images from WinDraw to Paintbrush is similar to the one described above. One or more objects that are selected within a WinDraw drawing can be cut or copied to the clipboard using the Edit Cut or Edit Copy commands. Those objects can then be pasted into a Paintbrush drawing, and modified with Paintbrush tools. You can also use the **File Export...** command to export (translate) a copy of a WinDraw drawing into a bitmap (.BMP) file format, which can be read directly by Paintbrush.

It is important to understand that images in Paintbrush have different characteristics from those in WinDraw. Any object that you create in a WinDraw drawing can be moved and modified after you have drawn it. If you cut or copy one or more objects to the clipboard and then paste them back into a WinDraw drawing, the objects can continue to be modified. However, any objects copied from a WinDraw drawing and then pasted into a Paintbrush drawing will be in bitmap form. Objects pasted from WinDraw into Paintbrush will appear just as they did within WinDraw, but will be a single image within Paintbrush. Thus, they can no longer be treated as individual polygons, text objects, etc., but can only be modified with the tools provided by Paintbrush.

## Exchanging Graphics with Other Programs

WinDraw can be used as a drawing tool by itself, but it can also be used to create illustrations in documents produced by other Windows programs. Moving graphical information between different programs has traditionally been a mysterious and sometimes painful process, but this will explain two straightforward procedures that will let you share graphics between WinDraw and other programs. The two procedures, in order of preference and ease of use are: 1) using the clipboard to copy graphics, and 2) exporting drawings into a different file format, so that they can be imported by the another program.

### Using the clipboard to exchange graphics

The Windows clipboard is a very versatile tool that can be used to copy text, numbers, graphics and other forms of data either within a single program or between different programs. Using the clipboard to move graphics from WinDraw into other programs, and vice versa, is a simple way to share graphics between programs. You can use the Edit Cut, Edit Copy and Edit Paste commands to exchange graphics via the clipboard.

When copying graphics from one program to another using the clipboard, the only requirement is that the source program place the graphical information on the clipboard in a format that the receiving program can understand. WinDraw places graphics onto the clipboard simultaneously in its own private format, and in bitmap and metafile formats. Any program that can read either of the latter two formats can share graphics with WinDraw via the clipboard. WinDraw can also import graphics from other programs via the clipboard when the graphics are in bitmap or Windows metafile formats. When WinDraw brings in graphics from other programs, the entire contents of the clipboard will be brought into WinDraw as a single element, not as individual lines, curves, etc.

### Using file export and import to exchange graphics

Some Windows programs do not import graphics from the clipboard, or do not do so with graphics placed on the clipboard in bitmap or metafile formats. Some of these programs can bring in graphics by reading the graphical data from a file on disk. If you are using a program that cannot bring in graphics from the clipboard, you may be able to use WinDraw's export capabilities to move a drawing into the other program. The **File Export...** command can translate a WinDraw drawing into a disk file that holds data in either bitmap or Windows metafile formats. Bitmap file names end in **.BMP**, and metafile file names end in **.WMF**. When you export a drawing into one of these two new formats, other programs can import the graphical data from the file into their documents. See the Help Topic File Export... Command for information about exporting WinDraw drawings to other file formats.

## Working With the Multiple-Document Interface

You can think of the space within the WinDraw window as a workplace, where you can work with many drawings and libraries at a time. Just as with other Windows programs, you can let some windows overlap others, or arrange them in any fashion that makes sense to you. The WinDraw window is one of several windows in the Windows workplace, and each drawing and library window within WinDraw can be one of several windows open in the WinDraw workplace.

Each drawing and library window in the WinDraw workplace can take up all of the working surface in WinDraw, or it can share the workplace with other windows, or it can be made into an icon that will remain in the workplace with only a title showing. The easiest way to control the size and placement of windows in the WinDraw workplace is by using the mouse with the window borders and the **Minimize** and **Maximize** buttons.

When a new file is opened in WinDraw, it is drawn into a window that takes up only part of the workplace. If you want to change the size or shape of a window you can do so by dragging the borders or the corners of the window in or out with the mouse pointer. If you want to move a window in the workplace, you can drag the window when the mouse pointer is over the title bar of the window.

To enlarge a window so that it uses all of the available space in the WinDraw workplace, click on the **Maximize** button at the upper right hand corner of the window. The **Maximize** button will then turn into the **Restore** button, and you can click on it to restore the window back to its original size. If you click on the **Minimize** button in the upper right hand corner of the window, the window will be made into an icon in the workplace, where it can be moved or restored to a window as you wish. None of these activities has any effect on the contents of drawings or libraries.

When a window has been made into an icon, you can drag it around the workplace with the mouse, or click on it to expose a menu of commands. The menu that is displayed when you click on an icon will let you restore or maximize the window, or close it. If you double click on an icon, it will be restored to its former size and position.

## **HELP: GLOSSARY**



## **Glossary**

Place the mouse pointer over the item that you would like defined, and hold down the mouse button to see the definition.

aspect ratio

attributes

bitmap

click

clipboard

command

control point

double click

drag

drawing

drawing grid

edit mode

fill pattern

grab handle

group

insertion point cursor

library

linked

metafile

mouse pointer

object

opaque

Paste Special

properties

ruler

right mouse button

selected

selected rectangle

symbol

transparent

Tool Palette

vertical stacking order

visible grid

workplace

**THIRD LEVEL OF HELP TOPICS:**

**FILE MENU:**

## **File New...** Command

The **File New...** command is used to create and open a new drawing or library file. When the command is executed, a dialog box titled **New File** is displayed asking you to select either a drawing file or a library file. Click on the radio button next to the type of file you would like to open, and then click on the **OK** button. A drawing file can contain a single drawing, and will have the file name suffix **.WDR**. A library file can contain a series of drawings that are called symbols, and that have special properties. Library files will have the file name suffix **.WDL**. For general purpose drawing, use a drawing file, not a library file. For more information on libraries and symbols see the Help Topic [Overview of Symbols and Libraries](#).

When the new drawing or library file is opened, any previously opened drawings and libraries will remain open, and will be unaffected. The newly created file will be given a generic name, such as **Drawing1** or **Library2**. These are temporary names, and WinDraw will prompt you to rename the file when you save it for the first time.

WinDraw allows multiple drawing and library files to be open at the same time. WinDraw's Multiple-Document Interface is described in the Help Topic [Working With the Multiple-Document Interface](#). To find out how to access one of the drawing or library files that are open within WinDraw, see the Help Topic [Window List of Open Files](#) command.

## **File Open...** Command

The **File Open...** command is used to open an existing drawing or library file. When the command is executed, a dialog box titled **Open File** is displayed, which contains a list box showing all the WinDraw files in the current directory, and a list of other drives and directories where you can look for files to open. The name of current directory is displayed just below the **Open File Name:** field. You can open as many drawing and library files within WinDraw as you like.

If the file you want to open is displayed in the list box, you can double click on it to open it, or select it by clicking on it once and then clicking on the **Open** button. The contents of the list box are all the files in the current directory that end in **.WDR** or **.WDL**, which are WinDraw's default file suffixes for drawing and library files, respectively. Also displayed are other drives and directories in the system that you can double click on to search in.

The field labeled **Open File Name:** contains the specification for the files WinDraw will display in the list box below it. The default file specification is **\*.WD\***, which will show all files that end in **.WDR** and **.WDL** in the list box. You can enter a file name from the current directory, or a file name with a full path in front of it in the **Open File Name:** field, and WinDraw will open that file when you click on the **Open** button.

If you want WinDraw to search for other file types, enter a new file specification. For example, if you want WinDraw to display all files that end in **.DRW** in the current directory, enter **\*.DRW** in the **Open File Name:** field.

To delete a file that is entered in the **Open File Name** field, or selected in the list box, click on the **Delete** button. To cancel the **File Open...** command, click on the **Cancel** button.

## **File Save** Command

When the **File Save** command is executed, the currently active drawing or library file within WinDraw will be saved to disk. The drawing or library file will not be closed from the WinDraw workplace, and you can continue working with that file or any other that is open. The **File Save** command only saves the active drawing or library file to disk. You must save each file that you have open separately, and any changes made to a drawing after the **File Save** command is executed will not be saved to disk until the **File Save** command is executed again.

If you are saving a file for the first time, it will have a default file name such as **Drawing1** or **Library2**. WinDraw will prompt you to change the name of the file with a dialog box titled **Save File**. This dialog box shows the current directory where the file will be saved, and has a field labeled **Save File Name As:** where you can enter the new name for the file. The file name can include a full path name if you want to save the file in another directory.

Any DOS file name is a valid choice for naming a drawing or library file, but we suggest that you use **.WDR** as the file name suffix for drawing files, and **.WDL** for library files. This will ensure that WinDraw will immediately find the files you have saved previously when you use the **File Open...** command.

## **File Save As...** Command

You can save the current drawing or library file under a new file name using the **File Save As...** command. The original file will still exist as it was last saved under its original file name, but the new file that you name with the **File Save As...** command will be created and will contain the drawing or library file as it currently exists.

When you execute the **File Save As...** command, WinDraw will prompt you for the new file name with a dialog box titled **Save File**. This dialog box shows the current directory where the new file will be created, and has a field labeled **Save File Name As:** where you can enter the new file name. The file name can include a full path name if you want to create the file in another directory.

This command may be useful if you have created a drawing that you want to keep, but need to create a second drawing that is similar to the first. You can use the **File Save As...** command to save the first drawing as the second, and continue working with the newly created second file. Note that when you use the **File Save As...** command, the new file will be created, and any further changes that you make to the drawing or library will be made in the **new** file, not in the original file.

If a file with the name that you entered in the **Save File** dialog box already exists, you will be prompted to either OK overwriting that file, or cancelling the **File Save As...** operation.

## **File Close...** Command

The **File Close...** command will close the currently active drawing or library file from the WinDraw workplace. All other drawings and libraries in the WinDraw workplace are unaffected. If changes have been made to the currently active drawing or library since you last saved it, you will be prompted with a dialog box asking if you want to save the file before closing it. You can choose to save the file by clicking on the **Yes** button, or you can discard any changes since the file was last saved by clicking on the **No** button. You can cancel the **File Close...** command by clicking on the **Cancel** button.



## **File Export...** Command

The **File Export...** command will export (translate) either the entire active drawing, or just the objects that are currently selected, into a file format other than WinDraw's standard **.WDR** or **.WDL** file formats. Some programs expect graphics to be in a certain file format, and you can use the **File Export...** command to move graphics from WinDraw into other Windows programs.

The easiest way to move graphics from WinDraw into another program is to copy objects or entire drawings from WinDraw onto the clipboard, and then paste them into the other program. Unfortunately, some Windows programs don't support this capability, but rather insist on importing graphics from a file on disk. The **File Export...** command will translate WinDraw graphics into either bitmap (.BMP) or Windows metafile (.WMF) file formats, allowing you to import your WinDraw drawings into other programs that support either of those file formats. It is important to note that WinDraw cannot import graphics from **.BMP** or **.WMF** files; it can only read files that are in its own **.WDR** or **.WDL** formats.

When the **File Export...** command is executed, a dialog box titled **Export** is displayed. You should first choose either a bitmap or a metafile file format to export your drawing into. Most painting programs (like Paintbrush) can read bitmap files, and many word processors and graphics programs can read metafile file formats. You will need to consult the documentation for your specific program to determine which file format is best to use when importing graphics.

The controls in the **Include** box let you choose whether to export the entire contents of your drawing, or only the objects that you currently have selected in the drawing. You can use the **Current Selection** option to export only a part of a drawing. Beneath the **Include** box is a text entry field labeled **Export File To:** where you should enter a name for the export file. The file name should end in **.BMP** or **.WMF** as needed.

If you choose a bitmap file format, the controls labeled **Bitmap Size** will be enabled, allowing you to enter a size for the bitmap. If you check the **Full Screen** check box, a bitmap as large as your display will be generated. If you do not check the **Full Screen** check box, you must enter a width and height for the bitmap in pixels. For example, if you have a standard VGA display with a resolution of 640 pixels by 480 pixels, and you want to generate a bitmap that fills one quarter of the screen, you can enter a width of 320 pixels, and a height of 240 pixels. The initial bitmap size shown in the **Width** and **Height** boxes will be 0 by 0. You must enter a width and height or choose the **Full Screen** option. WinDraw will remember the size you chose between executions of the **File Export...** command.

Once you have specified the options that you want to use for exporting your drawing, click on the **OK** button, and the export file will be created. Your drawing will not be affected by the export operation, and the drawing itself will remain in **.WDR** or **.WDL** file format. You will have produced a copy of your drawing in the new file format.

**A word of caution:** bitmaps can take up large amounts of memory; a full screen bitmap can occupy multiple megabytes. The precise amount of memory consumed depends on the resolution of your display, the number of simultaneous colors that your display driver software is configured for, and the size of the bitmap itself. If you do not have enough memory to generate a large bitmap, you can free up memory by closing other programs that are running. Because of the method used by Windows to allocate memory, it will sometimes help to stop and then restart Windows before exporting a large bitmap.

For more information on exchanging graphics with other Windows programs, see the Help

Topic Exchanging Graphics with Other Programs.

## **File Printer Setup...** Command

The **File Printer Setup...** command will display a dialog box from Windows, which you can use to configure your printer before you print a drawing. The exact contents of the dialog box will depend on the style of printer that you have configured in Windows, but the dialog box will let you configure items such as graphics resolution, paper size, draft or letter quality mode and other printer parameters. Click on the **OK** button when your printer configuration is correct.

## **File Print Preview...** Command

The **File Print Preview...** command will display a dialog box that shows your drawing as it will print on a page. You can use this command to see the position of your drawing on the page, and to view the drawing as a whole. The page display will not show some of the smallest details of your drawing, but the complete drawing will print just as you have drawn it. In particular, if you do not have very small point size Windows fonts installed, text which is small in your drawing may not appear in the print preview display, but will print correctly.

Click on the **Print** button to print the drawing, or on the **Cancel** button to close the dialog box without printing.

## **File Print...** Command

The **File Print...** command is used to print the currently active drawing or library symbol. When you execute the command, the dialog box titled **Print Job Settings** is displayed, which lets you select the number of copies to be printed, and whether to print using draft quality or not. When you have made these selections, click on the **OK** button to print the drawing. You can click on the **Cancel** button to halt the **File Print...** command.

**Hint:** In some instances, parts of your drawing may appear differently when printed than they appear in WinDraw. Some printers, particularly dot matrix printers, interpret printing commands from Windows differently than what you might like. If you see lines that are the wrong thickness, or text that is the wrong size, try using the File Printer Setup... command to change the configuration of your printer. Look for references to Draft or Graphics modes, and in general, select the mode that will produce the best graphics. In some cases, a printer may have several graphics resolutions, expressed (for example) as "360 by 180" or "180 by 180". Some objects from WinDraw will appear most accurately if you select a "square" resolution, such as "180 by 180".

## **File Exit...** Command

The **File Exit...** command is used to save and close all open drawings and libraries within WinDraw, and to end WinDraw. If any files are open that have been changed since the last time they were saved, you will be prompted with a dialog box for each changed drawing and library asking if you want to save the changes, discard the changes, or cancel the **File Exit...** command.

**EDIT MENU:**

## **Edit Undo** Command

The **Edit Undo** command is used to negate the last drawing operation that was performed. When the **Edit Undo** command is executed after a drawing operation, the drawing is restored to its state just prior to that operation.

Some of the commands and operations that can be reversed with the **Edit Undo** command are:

- the deletion of any object
- the creation of any new object except a text object
- the insertion or removal of a control point on a polygon or Bezier curve
- any moving or resizing of an object
- any flip or rotation of an object
- the creation of an object group
- a change in the fill pattern, line style or line endings of an object.

You can also undo the **Edit Undo** command itself. When a text object is being modified in edit mode, the **Edit Undo** command undoes text editing operations, such as cuts, copies and pastes.



## **Edit Cut** Command

The **Edit Cut** command is used to remove the selected object or set of objects from a drawing and place them on the clipboard. Objects on the clipboard can be pasted into the currently active drawing, into another WinDraw drawing or library, or into another Windows program that supports graphical objects. To remove an object from a drawing and place it on the clipboard, use the Selector Tool to select it, and execute the **Edit Cut** command.

When a text object is being modified in edit mode, the **Edit Cut** command is used to remove the selected text from the text object and put it on the clipboard.

## **Edit Copy** Command

The **Edit Copy** command is used to copy the selected object or set of objects from a drawing onto the clipboard. Objects on the clipboard can be pasted into the currently active drawing, into another WinDraw drawing or library, or into another Windows program that supports graphical objects. To place a copy of an object on the clipboard, use the Selector Tool to select it, and execute the **Edit Copy** command. If you want to quickly duplicate one or more objects, select the objects you want to copy, and press the key sequence **Ctrl+D**. This will copy the selected object(s) to the clipboard and paste them into your drawing in a single step.

When a text object is being modified in edit mode, the **Edit Copy** command is used to copy the selected text from the text object onto the clipboard.

## **Edit Paste** Command

The **Edit Paste** command is used to insert the contents of the clipboard into the currently active drawing. The contents of the clipboard can include any object or set of objects that were cut or copied from a WinDraw drawing, a bitmap from another program, or formatted or unformatted text from another program. When the **Edit Paste** command is executed, the contents of the clipboard are inserted into the active drawing in the middle of the window, and the object is left selected. It can be moved or resized as needed. If you want to quickly duplicate one or more objects, select the objects you want to copy, and press the key sequence **Ctrl+D**. This will copy the selected object(s) to the clipboard and paste them into your drawing in a single step.

When a text object is being modified in edit mode, the **Edit Paste** command is used to paste the contents of the clipboard into the text object, if the clipboard contains text. Graphical objects such as lines and rectangles cannot be pasted into text objects. If the clipboard contains text, and the **Edit Paste** command is executed when no text object is in edit mode, a new text object will be created.

The contents of the clipboard can be pasted into a drawing multiple times if desired. If the **Edit Paste** command is executed, the contents of the clipboard will be pasted into the drawing, but will also remain on the clipboard. The newly pasted in object should be deselected before pasting again, or it will be overwritten by the next paste.

## **Edit Clear** Command

When the **Edit Clear** command is executed, the selected object or objects are removed from the active drawing, but are not placed on the clipboard. The same function can be performed by pressing the **Delete** key while the object to be deleted is selected. If you delete an object by accident, you can reverse the deletion by executing the Edit Undo command.

## **Edit Paste Special...** Command

The **Edit Paste Special...** command is used to paste a symbol from a library into a drawing. For a description of symbols and libraries, see the Help Topic [Overview of Symbols and Libraries](#).

You can use the **Prev** or **Next** button in a library window to find the symbol that you want to use from the library, and the **Copy** button to copy the symbol to the clipboard. If you then make the drawing where you want to paste the symbol the active window, and execute the **Edit Paste Special...** command, a dialog box titled **Paste Special** is displayed. The dialog box will give you three options for pasting the symbol into a drawing. Choose either the **Symbol (No Link)**, **Symbol (Linked)**, or **Separate Objects** option, and click on the **OK** button to perform the paste. If you click on the **Cancel** button, the paste operation will be cancelled.

If you chose the **Symbol (No Link)** option, the symbol will be pasted into your drawing as a single item, as if it were a group of objects. You can move and resize the symbol in your drawing as a single object, but you cannot modify the individual elements that the symbol comprises.

If you chose the **Symbol (Linked)** option from the **Paste Special** dialog box, the symbol will again be pasted in as a single object. In this case, however, any changes you make to the symbol in the original library window will automatically be reflected in every drawing window where the symbol has been used. Using the **Symbol (Linked)** option, if you have used the symbol multiple times and need to change some aspect of the symbol, you need only make the change in the original library symbol, and every linked copy of the symbol will be updated.

If you chose the **Separate Objects** option for the **Edit Paste Special...** command, the symbol will be pasted into a drawing as individual lines, rectangles, etc. You will be able to modify the individual objects that make up the copy of the symbol. If either the **Symbol (No Link)** or the **Separate Objects** option was chosen during the paste, later changes made to the library symbol will not be reflected where the symbol has been previously used. The automatic updating feature is only present when using the **Symbol (Linked)** option.

See the Help Topic [Overview of Symbols and Libraries](#) for complete instructions on using symbols and libraries.

**LAYOUT MENU:**

## **Layout Hide/Show Ruler** Command

The **Layout Hide/Show Ruler** command is used to hide and display the ruler in the active drawing. The ruler shows the dimensions of a drawing, and the position of objects in a drawing, relative to the upper left corner. The dimensions of the ruler are inches, and the ruler shows increments down to one sixteenth of an inch. When the ruler is turned on, two thin lines that overlay the vertical and horizontal rulers show the position of the mouse pointer in the drawing.

Each time the **Layout Hide/Show Ruler** command is executed, the ruler is toggled between hidden and displayed, and the text of the command shown on the **Layout** menu changes. When a new drawing is created with the File New command, the ruler is displayed by default, and the **Layout** menu will show the command **Hide Ruler**. When this command is executed, the ruler will be hidden (turned off) in the current drawing window, and the **Layout** menu will now show the command **Show Ruler**. When the **Layout Show Ruler** command is executed, the ruler will again be displayed in the current drawing window.

## **Layout Hide/Show Visible Grid** Command

The **Layout Hide/Show Visible Grid** command is used to hide and display the visible grid in the active drawing. The visible grid appears as a pattern of dots spaced at 1/4 inch intervals in the drawing window. The visible grid is useful for drawing objects with precise size and alignment.

Each time the **Layout Hide/Show Visible Grid** command is executed, the visible grid is toggled between hidden and displayed, and the text of the command shown on the **Layout** menu changes. When a new drawing is created with the File New command, the visible grid is displayed by default, and the **Layout** menu will show the command **Hide Visible Grid**. When this command is executed, the visible grid will be hidden (turned off) in the current drawing window, and the **Layout** menu will now show the command **Show Visible Grid**. When the **Layout Show Visible Grid** command is executed, the visible grid will again be displayed in the current drawing window.

The visible grid can be displayed and hidden independently from the drawing grid. The visible grid is only a visual reference for your work. The drawing grid is always invisible, but is aligned with the visible grid. When the drawing grid is enabled, it constrains objects to be placed on one sixteenth inch boundaries. If desired, the visible grid can be displayed while the drawing grid is disabled, or vice versa.



## **Layout Drawing Grid** Command

The **Layout Drawing Grid** command is used to turn the drawing grid on and off in a drawing. When the drawing grid is turned on, objects that are drawn, moved or resized will be placed in the drawing on one sixteenth of an inch increments. Working in drawings with the drawing grid turned on facilitates creating objects in even sizes, and aligning objects with other objects, or with the edge of the page. When the drawing grid is turned on, the grid increments match the one sixteenth inch marks shown on the ruler.

Each time the **Layout Drawing Grid** command is executed, the drawing grid is toggled between being enabled and disabled. When a new drawing is created with the File New command, the drawing grid is on (enabled) by default, and a check mark will appear on the **Layout** menu to the left of the **Drawing Grid** command name. When the **Layout Drawing Grid** command is executed, the drawing grid will be turned off, and no check mark will appear by the command name on the **Layout** menu. Executing the **Layout Drawing Grid** command again will re-enable the drawing grid, and the check mark will reappear on the **Layout** menu.

The drawing grid can be enabled and disabled independently from the visible grid. The drawing grid is always invisible, but is aligned with the visible grid. The visible grid is only a visual reference for your work. If desired, the visible grid can be displayed while the drawing grid is disabled, or vice versa.

**Note:** Thin lines that are drawn or moved while the drawing grid is disabled may be difficult to select when the grid is re-enabled. To select an off grid line when the drawing grid is enabled, either drag the Selector Tool across the body of the line, or disable the drawing grid and then select the line.

## Layout Bring to Front, Send to Back Commands

The **Layout Bring to Front** and **Layout Send to Back** commands are used to alter the vertical stacking order of overlapping objects. Objects can be drawn or placed in a drawing so that they overlap or cover any number of other objects. The order in which overlapping objects are stacked, from the lowest layer on the page, which is at the bottom of the stacking order, out to the highest layer is called the vertical stacking order of the objects. When opaque objects overlap, only the topmost object will be completely visible.

You may want to change the order in which overlapping objects are stacked, since objects lower in the stacking order will not be visible if covered by opaque objects above them. For example, you might draw a text object as a label for a rectangle, and then draw the rectangle with a solid fill pattern. When you move the text on top of the rectangle, you will find that the rectangle hides the text. Since you drew the rectangle later, it was given a higher position in the vertical stacking order. To expose the text object, select the **rectangle** with the Selector Tool, and execute the **Layout Send to Back** command. This will put the rectangle below the text object in the vertical stacking order, so that the text will be drawn above it.

When objects overlap, they are drawn one after the other, in the order of their vertical stacking. The objects at the bottom of the order are drawn first, and the topmost objects are drawn last. The **Layout Bring to Front** command has the effect of moving any selected object to the top of the vertical stacking order, and **Layout Send to Back** command moves a selected object to the bottom of the vertical stacking order.

To select an object that is overlapped by other objects, use the Selector Tool and press the mouse button over the object. After the first press, the topmost object will be selected, and with each press of the mouse button, an object lower in the vertical stack will be selected. Be careful to click slowly enough to avoid double-clicking on one of the objects, which may cause a configuration dialog box to be displayed. Remember that if you select the object that you want, and then release the mouse button, the next press of the mouse button will select another object. This action can be suppressed by holding down the **Ctrl** key while you press the mouse button, which will cause the currently selected object to remain selected, instead of selecting another object in the vertical stack.

## **Layout Rotate Left, Rotate Right** Commands

The **Layout Rotate Left** and **Layout Rotate Right** commands are used to rotate an object or set of objects by 90 degrees. If the **Layout Rotate Left** command is executed when an object is selected, it will be rotated counter clockwise about its geometric center by 90 degrees. Any object that is selected can be rotated clockwise or counter-clockwise by executing the **Layout Rotate Right** and **Layout Rotate Left** commands, respectively.

If more than one object is selected, the group is treated as a whole, and rotated about its geometric center. Note that when a text object is rotated, the text itself will not rotate, rather the selected rectangle that defines the text object rotates. The text will always appear in standard left to right and top to bottom fashion, and will be reformatted to fit into the new rectangle.

Bitmaps that have been pasted into a WinDraw drawing from programs such as Paintbrush cannot be rotated. For more information on working with bitmaps, see the Help Topic Using WinDraw with Paintbrush.

## **Layout Flip Horizontal, Flip Vertical** Commands

The **Layout Flip Horizontal** and **Layout Flip Vertical** commands are used to change an object into its mirror image, as if it were folded across its horizontal or vertical centerline. If the **Layout Flip Horizontal** command is executed when an object is selected, any features that were on the left side of the object will now be on the right side. The **Layout Flip Vertical** command will mirror a selected object across its horizontal centerline, so that features on the bottom will afterward be on the top.

If more than one object is selected, the group is treated as a whole, and flipped about the group's geometric centerline. Note that when a text object is flipped, the text itself will not be mirrored, rather the selected rectangle that defines the text object is flipped. The text will always appear in standard left to right and top to bottom fashion, and will be reformatted to fit into the new rectangle.

## **Layout Group, Ungroup** Commands

The **Layout Group** command is used to gather a set of objects into a group, which can then be treated as a single object. The group will persist until the **Layout Ungroup** command is executed. While most of the drawing operations you will perform with WinDraw will only involve a single object, you may want to perform some operations on more than one object. If there are several objects that all need the same fill pattern, or a portion of a drawing that you need to move as a single piece, creating a group will speed your work.

First, select all the objects you want in the group. Use the Selector Tool to select the first object, and hold down the **Shift** key while you click on the other objects. When more than one object is selected, a selected rectangle with larger than normal grab handles will surround the group of objects. When all of the objects are selected, execute the **Layout Group** command. You can now move, resize or reconfigure all of the objects as if they were a single object. If you click on any of the items with the Selector Tool, the entire group will become selected. To change the group back into separate objects, select the group and execute the **Layout Ungroup** command.

**STYLE MENU:**

## Style Fill... Command

When the **Style Fill...** command is executed, a dialog box titled **Fill Color** is displayed so that you can configure the current fill pattern and fill color attributes. The dialog box allows you to make objects transparent or opaque, and to select a fill pattern and fill color for opaque objects. If the **Transparent** option is selected when the **Fill Color** dialog box is displayed, you will not be able to choose a fill pattern or color. To configure a fill pattern and color, select the **Opaque** option, and the fill pattern and color controls will be enabled. When WinDraw is first started transparent objects are configured as a default.

The controls labeled **Hatches** will allow you to choose a solid fill pattern, or one of six hatched fill patterns. The **Red, Green** and **Blue** color slider controls can be moved to produce any composite color for the fill pattern that you want. The numbers above the color sliders display the amount that each of the three individual colors contributes to the composite color. The numbers range from 0 to 255, where 0 means that no amount of that color is present in the composite color, and 255 means that the individual color is present in its full strength in the composite color. When the fill pattern configuration is correct, click on the **OK** button, or click on the **Cancel** button to cancel the configuration. Whenever an object that can have a fill pattern is selected (including transparent objects), its fill pattern attributes will be adopted as the current fill attributes. This facilitates drawing new objects whose fill patterns match the fill pattern of an existing object, except a closed polygon. Double clicking on a closed polygon displays a dialog box that allows you to change the closed polygon into an open polygon or a Bezier curve.

Only objects that make a closed shape, such as rectangles, pies and closed polygons can have a fill pattern. If no objects are selected when you execute the **Style Fill...** command, the current fill attributes will be configured, but no existing objects will be changed. Objects drawn in the future will have the new fill attributes. Any objects that are selected when the **Style Fill...** command is executed will have their fill pattern changed to match those entered in the **Fill Color** dialog box. The **Fill Color** dialog box can also be accessed directly by double clicking with the Selector Tool on any object that can have a fill pattern.

**Hint:** If you configure the color slider controls for an opaque object such that red, green and blue are at full strength, the color configured will be pure white. A pure white object will have no color inside of it, just like a transparent object. However, while objects that are beneath a transparent object will show through it, objects that are beneath an opaque white object will be covered by the white object. A quick test to tell the difference between the two is that the **visible grid** will show through a transparent object, but will not show through an opaque white object.

## **Style Lines...** Command

When the **Style Lines...** command is executed, a dialog box titled **Line Style** is displayed so that you can configure the current line style, line color and line thickness attributes used to draw objects. All WinDraw objects except text objects have line style, line color and line thickness attributes.

If no objects are selected when you execute the **Style Lines...** command, the current line attributes will be configured, but no existing objects will be changed. Objects drawn in the future will have the new line attributes. Any objects that are selected when the **Style Lines...** command is executed will have their line attributes changed to match those entered in the **Line Style** dialog box.

The **Red**, **Green** and **Blue** color slider controls can be moved to produce any composite color for lines that you want, and one of five line styles can be selected from the **Style** section. The numbers above the color sliders display the amount that each of the three individual colors contributes to the composite color. The numbers range from 0 to 255, where 0 means that no amount of that color is present in the composite color, and 255 means that the individual color is present in its full strength in the composite color.

The **Width** control can be moved to vary the line thickness attribute. The number above the **Width** slider displays the relative thickness of the line style being configured. The number displayed ranges from 1 to 360, where 1 represents the thinnest line possible, and 360 represents the thickest line possible.

When WinDraw is first started, thin, solid black lines are configured as a default. When the line style configuration is correct, click on the **OK** button, or click on the **Cancel** button to cancel the configuration. Whenever an object other than a text object is selected, its line attributes will be adopted as the current line attributes. This facilitates drawing new objects whose line attributes match those of an existing object.



## **Style Endings...** Command

When the **Style Endings...** command is executed, a dialog box titled **Line Endings** is displayed so that you can configure the line ending shape attributes used to draw lines. Only line objects have line ending attributes.

If no lines are selected when you execute the **Style Endings...** command, the current line ending attributes will be configured, but no existing lines will be changed. Lines drawn in the future will have the new line ending attributes. Any lines that are selected when the **Style Endings...** command is executed will have their line ending attributes changed to match those chosen in the **Line Endings** dialog box.

One of eight line ending shapes can be selected, or lines without any line endings can be selected. When WinDraw is first started, lines without endings are configured as a default. Most line ending shapes, such as circular, square and triangular endings, have fixed orientations. They will appear the same regardless of the orientation of the line. If the single arrowhead or double arrowhead line endings are selected, the arrowheads will rotate along with the line as the line is repositioned. All line endings will change size and color to match the thickness and color of the line to which they are attached.

When the line ending configuration is correct, click on the **OK** button, or click on the **Cancel** button to cancel the configuration. The **Line Endings** dialog box can also be accessed directly by double clicking with the Selector Tool on any line.

Whenever a line object is selected, its line ending attributes will be adopted as the current line ending attributes. This facilitates drawing new lines whose line ending attributes match those of an existing line.

## **Style Font...** Command

When the **Style Font...** command is executed, a dialog box titled **Set Font** is displayed so that you can configure the current font and point size attributes for text objects. The dialog box allows you to select any font that is installed on your Windows system, and to select a standard point size or enter a specific point size.

Only text objects have font and point size attributes. If no text objects are selected when you execute the **Style Font...** command, the current font and point size attributes will be configured, but no existing text objects will be changed. Text objects drawn in the future will have the new font and point size attributes. Any text objects that are selected when the **Style Font...** command is executed will have their font and point size changed to match those entered in the **Set Font** dialog box.

All available fonts are shown in a list box labeled **Typeface Name:** within the **Set Font** dialog box. You can select a font by clicking on it with the mouse, which will highlight your selection. Available point sizes for the font you have selected will be shown in the list box labeled **Point Size:**. You can click on a point size in the list box to select it, or enter a point size directly in the text entry field just above the list box. When the font and point size configuration is correct, click on the **OK** button, or click on the **Cancel** button to cancel the configuration.

Whenever a text object is selected, its font and point size attributes will be adopted as the current font and point size attributes. This facilitates drawing new text objects whose font and point size attributes match those of an existing text object.

## **Style Character Format** Commands

Character formatting of text objects beyond font and point size is selected directly from the **Style** menu, without the use of a configuration dialog box. At the bottom of the **Style** menu are selections labeled **Plain**, **Bold**, **Italic**, **Underline** and **Strikeout**. These menu items can be selected to toggle each of the text object character formats on and off as desired. When a character format is enabled, a check mark will appear to its left on the **Style** menu. Clicking on a format when it is enabled (when a check mark appears to its left) will turn that character formatting off. Any combination of the **Bold**, **Italic**, **Underline** and **Strikeout** formats can be configured for text objects. If the **Plain** attribute is selected, all **Bold**, **Italic**, **Underline** and **Strikeout** formatting is turned off.

If no text objects are selected when you configure new character formatting, the current character formatting will be configured, but no existing text objects will be changed. Text objects drawn in the future will have the new character formatting. Any text objects that are selected when the character formatting is changed will have their format changed to match the format selected from the **Style** menu.

**WINDOW MENU:**

## **Window Tile** Command

When the **Window Tile** command is executed, all drawing and library windows that are open in the WinDraw workplace will be moved and resized so that they share the space in the workplace equally without overlapping. Drawings and libraries that have been made into icons will not be moved or changed back into windows. The contents of drawings and libraries are not affected by this command.

## **Window Cascade** Command

When the **Window Cascade** command is executed, all drawing and library windows that are open in the WinDraw workplace will be moved and resized so that they largely overlap one another, with only their title bars exposed on all but the topmost window, which will be the active window. Drawings and libraries that have been made into icons will not be moved or changed back into windows. The contents of drawings and libraries are not affected by this command.

## **Window Arrange Icons** Command

When the **Window Arrange Icons** command is executed, all drawing and library windows that have been made into icons will be rearranged. The icons will be placed in rows at the bottom of the WinDraw workplace. The **Window Arrange Icons** command is useful for cleaning up the appearance of the WinDraw workplace when it contains several file icons. The contents of drawings and libraries are not affected by this command.

## **Window Close All** Command

When the **Window Close All** command is executed, all drawing or library files in the WinDraw workplace will be closed, including those that have been made into icons. The **Window Close All** command does not end WinDraw, but will leave the workplace empty. If changes have been made to any of the drawing or library files since you last saved it, you will be prompted with a dialog box asking if you want to save the file before closing it. You can choose to save the file by clicking on the **Yes** button, or to discard any changes since the file was last saved by clicking on the **No** button. You can cancel the **Window Close All** command by clicking on the **Cancel** button.



## **Window List of Open Files** Command

The bottom of the **Window** menu contains a variable length list of all drawing and library files that are open in the WinDraw workplace. Every file that has been opened is listed, including those that have been made into icons, and a check mark is placed beside the currently active window. If you select the name of a file from the list on the **Window** menu, it will be made the active window. If the file selected is in icon form, it will be restored to a window and then made active.



## **Windows Keys**

The Help Topics below describe the use of the keyboard to perform various functions within Windows.

Click on a topic for more information:

[Cursor Movement Keys](#)

[Dialog Box Keys](#)

[Editing Keys](#)

[Help Keys](#)

[Menu Keys](#)

[System Keys](#)

[Text Selection Keys](#)

[Window Keys](#)

## Cursor Movement Keys

<b>Key(s)</b>	<b>Function</b>
DIRECTION key	Moves the cursor left, right, up, or down in a field.
End or Ctrl+Right Arrow	Moves to the end of a field.
Home or CTRL+Left Arrow	Moves to the beginning of a field.
PAGE UP or PAGE DOWN	Moves up or down in a field, one screen at a time.

## Dialog Box Keys

<b>Key(s)</b>	<b>Function</b>
TAB	Moves from field to field (left to right and top to bottom).
SHIFT+TAB	Moves from field to field in reverse order.
ALT+letter	Moves to the option or group whose underlined letter matches the one you type.
DIRECTION key	Moves from option to option within a group of options.
ENTER	Executes a command button. Or, chooses the selected item in a list box and executes the command.
ESC	Closes a dialog box without completing the command. (Same as Cancel)
ALT+DOWN ARROW	Opens a drop-down list box.
ALT+UP or DOWN ARROW	Selects item in a drop-down list box.
SPACEBAR	Cancels a selection in a list box. Selects or clears a check box.
CTRL+SLASH	Selects all the items in a list box.
CTRL+BACKSLASH	Cancels all selections except the current selection.
SHIFT+ DIRECTION key	Extends selection in a text box.
SHIFT+ HOME	Extends selection to first character in a text box.
SHIFT+ END	Extends selection to last character in a text box

## Editing Keys

<b>Key(s)</b>	<b>Function</b>
Backspace	Deletes the character to the left of the cursor. Or, deletes selected text.
Delete	Deletes the character to the right of the cursor. Or, deletes selected text.

## Help Keys

<b>Key(s)</b>	<b>Function</b>
F1	<p>Gets Help and displays the Help Index for the application. If the Help window is already open, pressing F1 displays the "Using Windows Help" topics.</p> <p>In some Windows applications, pressing F1 displays a Help topic on the selected command, dialog box option, or system message.</p>

## Menu Keys

<b>Key(s)</b>	<b>Function</b>
Alt	Selects the first menu on the menu bar.
Letter key	Chooses the menu, or menu item, whose underlined letter matches the one you type.
Alt+letter key	Pulls down the menu whose underlined letter matches the one you type.
LEFT or RIGHT ARROW	Moves among menus.
UP or DOWN ARROW	Moves among menu items.
Enter	Chooses the selected menu item.



## System Keys

The following keys can be used from any window, regardless of the application you are using.

<b>Key(s)</b>	<b>Function</b>
Ctrl+Esc	Switches to the Task List.
Alt+Esc	Switches to the next application window or minimized icon, including full-screen programs.
Alt+TAB	Switches to the next application window, restoring applications that are running as icons.
Alt+PrtSc	Copies the entire screen to Clipboard.
Ctrl+F4	Closes the active window.
F1	Gets Help and displays the Help Index for the application. (See <a href="#">Help Keys</a> )

## Text Selection Keys

<b>Key(s)</b>	<b>Function</b>
SHIFT+LEFT or RIGHT ARROW	Selects text one character at a time to the left or right.
SHIFT+DOWN or UP	Selects one line of text up or down.
SHIFT+END	Selects text to the end of the line.
SHIFT+HOME	Selects text to the beginning of the line.
SHIFT+PAGE DOWN	Selects text down one window. Or, cancels the selection if the next window is already selected.
SHIFT+PAGE UP	Selects text up one window. Or, cancels the selection if the previous window is already selected.
CTRL+SHIFT+LEFT or RIGHT ARROW	Selects text to the next or previous word.
CTRL+SHIFT+UP or DOWN ARROW	Selects text to the beginning (UP ARROW) or end (DOWN ARROW) of the paragraph.
CTRL+SHIFT+END	Selects text to the end of the document.
CTRL+SHIFT+HOME	Selects text to the beginning of the document.

## Window Keys

<b>Key(s)</b>	<b>Function</b>
ALT+SPACEBAR	Opens the Control menu for an application window.
ALT+Hyphen	Opens the Control menu for a document window.
Alt+F4	Closes a window.
Alt+Esc	Switches to the next application window or minimized icon, including full-screen programs.
Alt+TAB	Switches to the next application window, restoring applications that are running as icons.
Alt+ENTER	Switches a non-Windows application between running in a window and running full screen.
DIRECTION key	Moves a window when you have chosen Move from the Control menu.  Or, changes the size of a window when you have chosen Size from the Control menu.



**aspect ratio**

An object's aspect ratio is the relationship of its height to its width. A square has an aspect ratio of 1 to 1.

## **attributes**

Different objects have various attributes, such as a font for text objects, line ending shapes for lines, and line thickness, fill pattern and color for closed shapes.

## **bitmap**

A bitmap is a picture consisting of many individually colored dots, or pixels. The program Paintbrush can be used to modify pictures that are in bitmap form. Standard file name extensions for bitmap files are **.BMP** and **.PCX**.

**click**

A click with the mouse is a press and release of the left mouse button. To click on an object, choose the Selector Tool and move the mouse pointer over the object, then press and release the left mouse button.



**clipboard**

A temporary storage area used to transfer text or graphical information within WinDraw or between WinDraw and another Windows program.

## **command**

A WinDraw command is executed by accessing it through the menu bar at the top of the WinDraw window, or with a direct keystroke sequence. For example, the **Layout Send to Back** command can be accessed with the mouse through the **Layout** menu, or with the keystroke sequence **Alt+L** and then **B**.

**control point**

A control point is a black square that appears on certain objects when they are selected. Control points are slightly smaller than grab handles. Arcs and pies have control points at the end of radius lines, which are used to change the degree of the arc or pie. Polygons and Bezier curves have control points that define the individual line segments of those objects.

**double click**

To double click on an object, choose the Selector Tool and move the mouse pointer over the object, then press and release the mouse button twice in rapid succession. The time between the clicks of a double click can be changed within Windows in the Mouse section of the Control Panel.

**drag**

To drag an object, choose the Selector Tool and move the mouse pointer over the object, then press and hold the mouse button. Move the object to its new position while you hold down the mouse button, and then release the mouse button.

**drawing**

A drawing is a window in the WinDraw workplace that contains graphical objects. Tools from the Tool Palette are used to create and modify objects within the drawing.

## **drawing grid**

The drawing grid in a drawing is turned on and off with the **Layout Drawing Grid** command. When the drawing grid is turned on, objects that are drawn, moved or resized will land on one sixteenth of an inch boundaries. The drawing grid can be enabled independently of the visible grid.

**edit mode**

A text object is placed in edit mode by double clicking on it, thus allowing text within it to be entered or modified. When a text object is in edit mode, a text insertion cursor is present inside the text object.



## **export**

When a drawing is exported, a copy of it is translated into a file format that is different from WinDraw's normal format. You can use the **File Export...** command to make a copy of a WinDraw drawing in either a bitmap or a Windows metafile file format. Other Windows programs may prefer to use one of the exported file formats.

**fill pattern**

Objects that make a closed shape, such as rectangles, pies and closed polygons can have fill patterns. Fill patterns can be a striped or solid pattern, in a variety of colors.

**grab handle**

Grab handles are solid black squares that appear on the selected rectangle of an object when it is selected. Grab handles are used to change the size and shape of an object by dragging them into the desired position.

## **group**

When individual objects are made into a group, they can be treated as a single object and moved or resized as a single unit. To create a group, select all of the objects that you want to group together, and execute the **Layout Group** command.

**insertion point cursor**

The insertion point cursor is a single vertical bar that appears inside a text object when it is in edit mode. The cursor marks the point within the text where new characters will be inserted if typed. A text object can be placed in edit mode by double clicking on it.

## **import**

Other Windows programs can import graphics from WinDraw into their own documents. When a program imports graphics, it reads a file from disk, and translates it into its own graphical format. WinDraw can export drawings into bitmap and Windows metafile file formats, so they can be imported into other programs.

**library**

A library is a window in the WinDraw workplace that contains one or more symbols. Tools from the Tool Palette are used to create and modify objects within a symbol. A symbol can be copied into a drawing in a variety of methods.

## **linked**

When a library symbol is pasted into a drawing as a linked symbol, changes that are made to the symbol in its library are reflected automatically in every use of the symbol in drawings.



**metafile**

A metafile contains a series of instructions in a common format, which lets two different programs share information. WinDraw can exchange a metafile between itself and another program using the clipboard. The metafile describes the appearance of graphical images within WinDraw or the other program, and is used to share images between WinDraw and the other program.

**mouse pointer**

The mouse pointer is used to click or drag objects in a drawing. It is usually shaped like an arrow.

**object**

An object is any graphical element in a drawing, such as a line, ellipse or Bezier curve. Another object type is the text object.

## **opaque**

Objects that make a closed shape can be opaque or transparent. If the opaque option is selected in the **Fill Colors** dialog box, a fill pattern can be selected.

## **Paste Special**

The **Edit Paste Special...** command is used to paste a symbol from a library into a drawing. Using the **Edit Paste Special...** command, a symbol can be pasted using the **Linked, No Link** or **Separate Objects** options.

## **properties**

Properties are textual descriptions of a symbol. You can view and modify a symbol's properties by clicking on the **Prop...** button in a library window. You can locate a symbol in a library by searching for its properties. Click on the **Search...** button in a library window to search for a symbol.

**right mouse button**


The right mouse button is the rightmost button on the mouse, whether the mouse has two buttons or three. The middle mouse button on a three button mouse serves no purpose in WinDraw.

## **ruler**


The ruler is the graphical indicator of the dimensions in a drawing. The ruler is turned on and off with the **Layout Hide/Show Ruler** command. When the ruler is turned on, a vertical and a horizontal line appear which show the position of the mouse pointer in the drawing.



## **selected**

An object is selected by clicking on it with the Selector Tool. When an object is selected, it is surrounded by a selected rectangle,  and it can be moved and resized or have its attributes changed.

## **selected rectangle**

The selected rectangle appears around an object when it is selected:  The selected rectangle is composed of eight grab handles which can be used to resize the object.

## **symbol**

A symbol is created within a library using Tools from the Tool Palette. A symbol can be pasted into one or more drawings with one of several options. If the linked option is used when pasting a symbol, any change made to the symbol in the library is later reflected in every drawing where it is used.

## **transparent**

Objects that make a closed shape can have fill patterns or can be transparent. If the transparent option is selected in the **Fill Colors** dialog box, no fill pattern will be used, and objects beneath a transparent object can be seen beneath the transparent object.

## **Tool Palette**

The Tool Palette is the column of icons at the left of the WinDraw workplace. A drawing tool can be selected from the Tool Palette by clicking on it.

## **vertical stacking order**

When objects are drawn or moved such that they overlap one another, the order in which they are stacked from the lowest layer on the page to the topmost layer is called the vertical stacking order. An object's position in the vertical stacking order can be changed with the **Layout Bring to Front** and **Layout Send to Back** commands.

## **visible grid**

The visible grid in a drawing is displayed and hidden with the **Layout Hide/Show Visible Grid** command. When the visible grid is turned on, a pattern of dots will appear at 1/4 inch intervals on the surface of a drawing. The visible grid can be displayed independently of the drawing grid.

**workplace**

The WinDraw workplace is the space that is available inside the WinDraw program window. Multiple drawing and library windows may be open in the workplace, and windows may be present in icon form in the workplace.



