

Introduction to Visio 5.0

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Visio

Introduction

Visio is a software tool that allows you to create a variety of professional looking graphics. You do this by opening a *template*, which gives you a piece of “paper” along with one or more stencils. *Stencils* are a group of related *shapes*, which you then drag on to your document.

When you’re done with your document, you can print it or you can e-mail it to anyone who also has Visio of the same or higher version on their computer.

But what if they don’t? Then you can **Select all**, copy your drawing, and paste it onto any Word, PowerPoint or Excel document. Then you can e-mail it to anyone in the company, since almost everyone in Navtech has Microsoft Office 97 on their computers. They can read and view your drawing, but again, they can’t change it unless they have Visio.

To edit a drawing in a Microsoft document, simply double-click it. Visio will open and your document will be ready to edit.

This document was written using Visio Standard 5.0. You can also buy Visio Technical and Visio Professional, though both cost more.

- ◆ Visio Standard 5.0 has a new name, plus new and improved capabilities throughout that help you clarify, manage, and communicate business information effectively through graphics.
- ◆ Visio Technical 5.0 makes creating and sharing 2-D drawings and technical schematics easier and more efficient than using traditional CAD programs.
- ◆ Visio Professional 5.0 makes it easier than ever to visualize the IT infrastructure of your business. New network equipment shapes and enhanced database and software design capabilities make this version a must-have management and analysis tool.
- ◆ IntelliCAD® 98 by Visio offers unparalleled Autodesk AutoCAD compatibility, smooth Microsoft Windows integration, and numerous productivity features to anyone who creates or uses CAD files.

(From Visio Web page: <http://www.visio.com/products/>)

General Steps

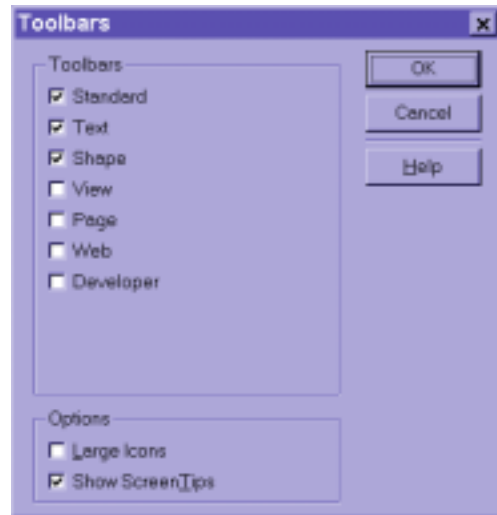
1. **Open a template.** You will see a sheet of paper and all the stencils associated with that template. (*Note:* **.vsd** is the extension for a Visio drawing and **.vst** is the extension for a Visio template.)

2. **Add shapes to your new drawing** by dragging them from the stencil to the drawing page. Or you can draw your own shapes using the Drawing toolbar. You can have no stencil, one, or multiple stencils open at one time.
3. **Arrange the shapes to create the drawing.** The grid and ruler help you align and place your shapes. You can place guides on your drawing, and you can *Align* or *Distribute* shapes to put them where you want in relation to each other. Or you can use the **Size & Position** command (go to **Shape** in the menu bar, then **Size & Position**) to enter coordinates and dimensions.
4. **Glue shapes together**, so they'll stay together when you move one or more.
5. **Add text to your drawing.** Click any shape and start typing. Or use the text tool to type anywhere on a drawing.
6. **Modify the appearance of your shapes.** You can change colors, patterns, size, and borders. You can give three-dimensional effects by using fill and color effects and shadows. You can also define your own styles and save them for future use.
7. **Use the drawing.** You can print it, or copy it and paste it into most Windows documents.

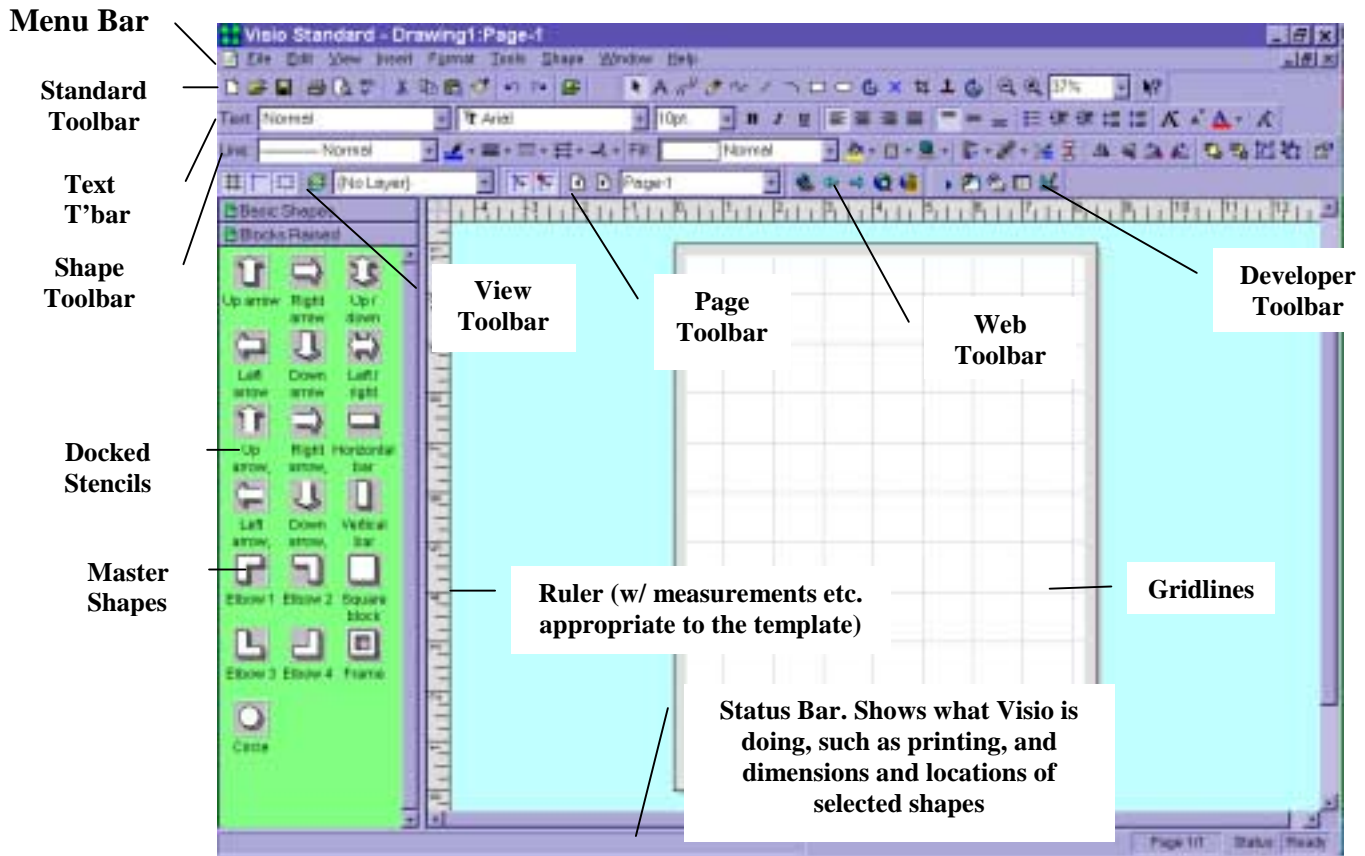
Toolbars

Go to **View>Toolbars** to get this dialog box, and choose the Toolbars you want. Below is a description of what they give you.

- ◆ **Standard.** Tools for dragging and dropping, drawing shapes, and opening, closing, saving and printing files.
- ◆ **Text.** Style lists for text along with tools for choosing format, alignment, size, color and bullets.
- ◆ **Shape.** Style lists for lines and fills, and tools for shadows, layout, grouping, stacking order, and rotation.
- ◆ **View.** Buttons for showing or hiding the grid, guides, connection points, and displaying particular layers of layer properties.
- ◆ **Page.** Buttons for paging forward or back, displaying a particular page, and turning snap and glue on and off.
- ◆ **Web.** Tools for inserting hyperlinks, paging forward or back on the Web, opening Internet Explorer, and starting **Shape Explorer**.
- ◆ **Developer.** Tools for running macros, displaying the ShapeSheet spreadsheet, opening **Visual Basic for Applications**, and switching to design mode while working in VBA.



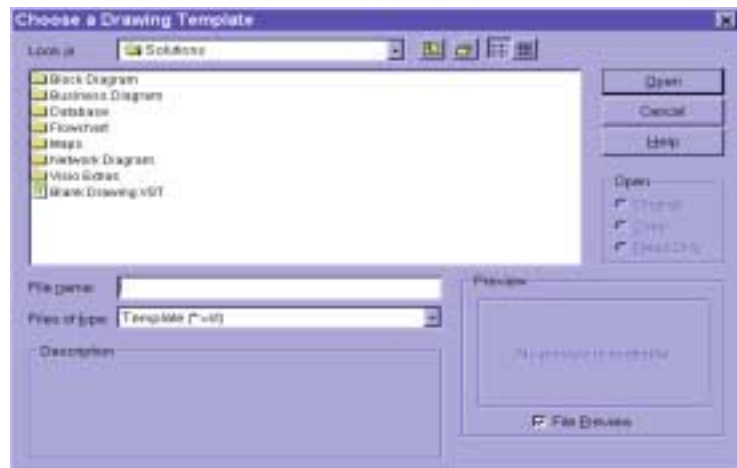
Note: To see what a toolbar button does, move the cursor over the button and a description will appear.



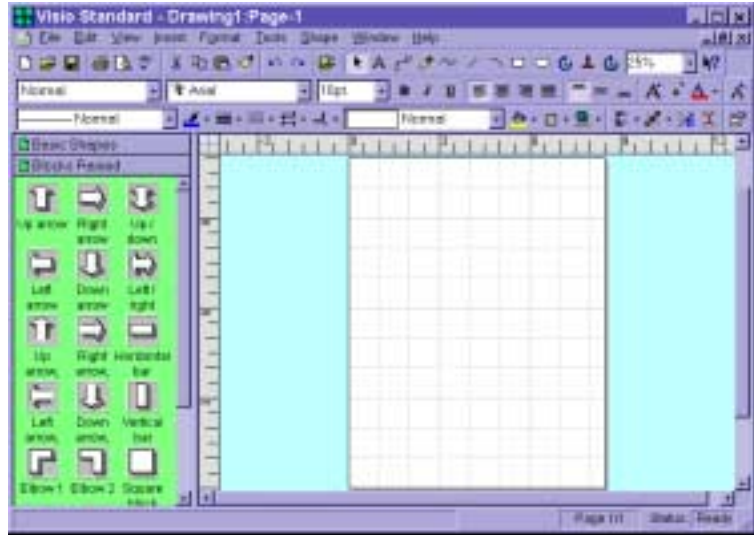
Using Stencils

When you first open Visio, you'll get this dialog box:

You can now choose the template you want from the list. All of the folders have at other possible templates you want, with the exception of Blank Drawing .VST, which is a blank sheet of paper with no stencils (collections of shapes.) It doesn't matter much which you choose, because you can always open and close stencils from the drawing.



To open an additional stencil, click on the **Open Stencil** toolbar button and choose the stencil you want. All stencils will be “docked” on the left of the screen. In this case, the two stencils are **Basic Shapes** and **Blocks Raised**, with the lowest title bar (Blocks Raised) being the title of the stencil currently on view.



If you click on the icon on the title bar, you can **Close** the stencil, cause it to go to the right of your “paper” by clicking **Switch Sides**, or **Float** if you want to drag the stencil somewhere else. If you choose float, you can “dock” it again by dragging it back to the stencil docking area.

Here are some things you can do with a stencil:

To get this effect	Do this
Switch between stencils	Click the name of the stencil
Open Additional stencils	Choose File>Stencils>Open , choose the stencil you want and click OK . <i>Or...</i> click the stencil button in the toolbars and you’ll get the same dialog box.
Close a stencil	Right-click the stencil’s title bar, then chose Close from the shortcut menu.
Make a stencil float	Click inside the stencil where there are no buttons or icons, then drag the stencil away from its docked position. Or, right-click the stencil’s title bar and click Float from the shortcut menu.
Dock a stencil	Click inside the stencil where there are no buttons or icons, then drag the stencil to the left or right side of the drawing window. Release the mouse button when an outline of the stencil appears.
Minimize a floating stencil	Click the minimize button on the stencil’s title bar. To expand the stencil again, click the maximize button on the stencil’s title bar.
Move a docked stencil from one side of the drawing window to another	Right-click the stencil’s title bar, then click Switch Sides .
Change how masters display	Right-click the stencil’s title bar, then choose Icons and

To get this effect	Do this
on a stencil	Names to display both master shape icons and names, Icons only to display only master shape icons, or Names Only to display only the master shape name.
Change the order of masters on a stencil	Open the original stencil and drag each master shape icon to arrange them in the order you want.

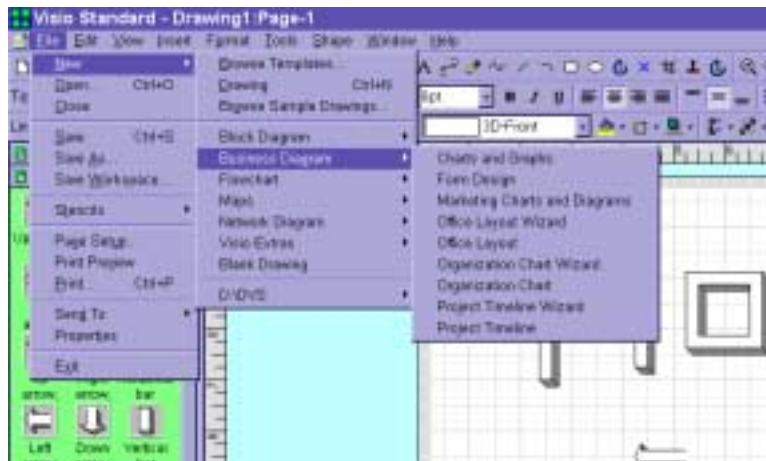
Templates

To start Visio and open a new drawing file based on a template

1. Start Visio
2. Double-click to open the folder that contains the type of drawing you want, choose a template, click **OK**.

To start a new drawing using a template

1. Click **File>New**.
2. Choose one of the Template groups from the new drop-down menu.
3. Choose a template. (See below.)



To open a new drawing without basing it on a template

- ◆ Choose **File>New>Drawing**. You'll get an unscaled drawing page with no stencils.

What's in a Visio Template?

When you start a drawing with a Visio template (.vst file), you'll get these items:

- ◆ The appropriate stencil(s) showing the shapes you need.
- ◆ A blank drawing using a grid and measurement system appropriate for the drawing.
- ◆ A drawing page set up with the correct scale and page size.
- ◆ Styles for text, lines and fills to the type of drawing you're creating.

Templates Available in Visio Standard 5.0

To display template help, go to **Help>Template Help>Visio Templates** and choose a template.

Note: Versions will differ. These are the templates available in Visio Standard 5.0a.

- ◆ Audit Diagram
- ◆ Basic Diagram
- ◆ Basic Network
- ◆ Blank Drawing (Doesn't include any stencils)
- ◆ Block diagram
- ◆ Block Diagram with perspective
- ◆ Charts and Graphs
- ◆ Data Flow Diagram
- ◆ Directional Map
- ◆ File converter
- ◆ Flowchart – Advanced
- ◆ Flowchart- Basic
- ◆ Flowchart – TQM diagram Wizard
- ◆ Form Design
- ◆ Geographic Maps
- ◆ IDEF0 Diagram
- ◆ Marketing Charts and diagrams
- ◆ Mind Mapping Diagram
- ◆ Office Layout
- ◆ Organization Chart
- ◆ Organization Chart Wizard

- ◆ Project timeline Wizard
- ◆ SDL System Description Language) Diagram
- ◆ Stencil Report Wizard
- ◆ TQM diagram
- ◆ Work Flow Diagram

Using Shapes

Adding Shapes to Drawings

- ◆ Choose a shape from the Stencil and drag it (or actually, a copy) onto your drawing. Visio snaps the shape to the nearest grid line or ruler subdivision. To place it more accurately, zoom in. You can change what you snap to by choosing **Tools>Snap & Glue**.
- ◆ To see an object while moving it, rather than just its box, click and drag it, then pause while still holding down the mouse button until the shape appears.

Multiple Copies of a Shape

- ◆ Use the **Stamp Tool** in the Standard Toolbar. Just click on the stamp tool, then click on the shape you want in the stencil, and click on your drawing each place you want a copy of that shape. To turn the stamp tool off, click on the Pointer Tool in the same toolbar.
- ◆ Use the **Duplicate** function. Click on the object you want to duplicate, then simply press **Control +D**.

Deleting a Shape

- ◆ Click on it and choose **Edit>Clear**, or press the **Delete** key. (You can also **Copy** or **Cut** any shape.)

Saving Your File

- ◆ You can enter file properties when you save the file for the first time, or if you use **Save As**.
- ◆ You can save a preview of each page. (This will significantly increase the size of your file.) (**File>Save As**.)
- ◆ You can save your file as a drawing (.vst), Template (.vst) or Stencil (.vss). You can save it as a Visio 4 drawing, template or stencil. You can also save your drawing in a variety of graphics types, including Windows, Adobe, HTML, and Web types. You can also save it as an Adobe Acrobat file. (**File>Save As**.)

- ◆ You can save the workplace as well as the file. This means when you open the drawing next time, the stencil and drawing page will look the same. (**File>Save As.**)
- ◆ You can save it as Read-only. (**File>Save As.**)

Using Pages

Why Use Pages?

- ◆ Keep related drawings in the same file.
- ◆ Keep revisions of the same drawing in one file.
- ◆ Link pages together like a Web site.
- ◆ Place items on background pages that you want to appear on every page, such as company logo.
- ◆ Rotate pages to make it easier to edit information at an angle.

What is a Page?

- ◆ The page you see on the screen is the *drawing page*.
- ◆ The page you send to the printer is the *printed page*.
- ◆ The result of printing is the *printed drawing*.

(Usually all three are the same, but for a large drawing, you might end up printing across several pages.)

Important Note: Make sure orientation is the same on the printed page (**File>Print>Properties>Paper**) and the on-screen page (**File>Page Setup>Page Size**).

Creating and Deleting Pages

The default in Visio is a document with only one page, but you can add more. A new page inherits the size, orientation, scale, measurement units, shadow offset and grid settings of the already existing page(s). You can change these setting in the **Page** dialog box when you insert the page, or later in the **Page Setup** dialog box.

To create a page

1. Click **Insert>Page**.
2. On the Page Properties tab, type a name for the page, or use the default.
3. If you want to, click the **Drawing Scale** tab to change the scale, or the **Page Size** tab to change the page size.

4. Click **OK**.

To delete a page

1. Choose **Edit>Drawing Page>Delete Pages**.
2. Choose the page to be deleted.
3. To update default page names to reflect the new page order, check **Update Page Names**.
4. Click **OK**.

Background Pages

Each Visio drawing contains at least one foreground page, the one you normally think of as your drawing, and may also contain one or more backgrounds, which are pages that appear behind the drawing, such as a company logo used as a watermark or a background in PowerPoint. The background can be changed independently of the drawing.

Note: If you use the **Page Layout Wizard (Tools>Macro>Visio Extras>Page Layout Wizard)** to set up a drawing, the wizard automatically creates a background and placeholders for title blocks, borders, or whatever else you create. If you later want to modify the background, you must display the background page.

To create a background

1. Click **Insert>Page**
2. On the **Page Properties** tab, select **Background** for **Type**.
3. You can click the **Drawing Scale** tab to change the scale or the **Page Size** tab to change the page size for the new page.
4. Click **OK**.

To convert a foreground page to a background

1. Open the page to be converted.
2. Click **File>Page Setup**, then **Page Properties** tab.
3. For **Type**, select **Background**.
4. Click **OK**.

To display a background so you can edit it

- ◆ Display the page, then choose **Edit>Go>Background**.

To assign a background to a page

1. Display the page to which you want to assign the background.
2. Choose **File>Page Setup**, and the **Page Properties** tab.
3. In the **Background** list, select the name of the background that you want to assign.
4. Click **OK**.

Full-Screen View

If you want to view the drawing without all the toolbars etc., such as for a presentation, you can go to **View>Full Screen**. Notice you can't edit from here. To exit full-screen view, press the **Escape** key.

Working with Shapes

When you're working with shapes, you can do any of these things:

- ◆ Resize
- ◆ Move
- ◆ Flip
- ◆ Rotate
- ◆ Change their stacking order relative to other shapes (move them "in front of" or "behind" other objects.)
- ◆ Add and format text.
- ◆ Glue them to other shapes and guides.
- ◆ Snap them to a guide, guide point, grid, or the alignment box of another shape.
- ◆ Revise them by adding segments or changing the way they curve.
- ◆ Control how they appear onscreen, whether they print, and how they behave when you double-click them.
- ◆ Associate them with data and use the data to generate reports.
- ◆ Add links that go to other pages in the same drawing, to other files, or to Web sites.
- ◆ Control their behavior by modifying their **ShapeSheet** spreadsheets.

Closed and Open Shapes

Open shapes are lines and arcs, and have no "fills". Closed shapes have a closed outline which you can "fill" with colors, patterns, etc.

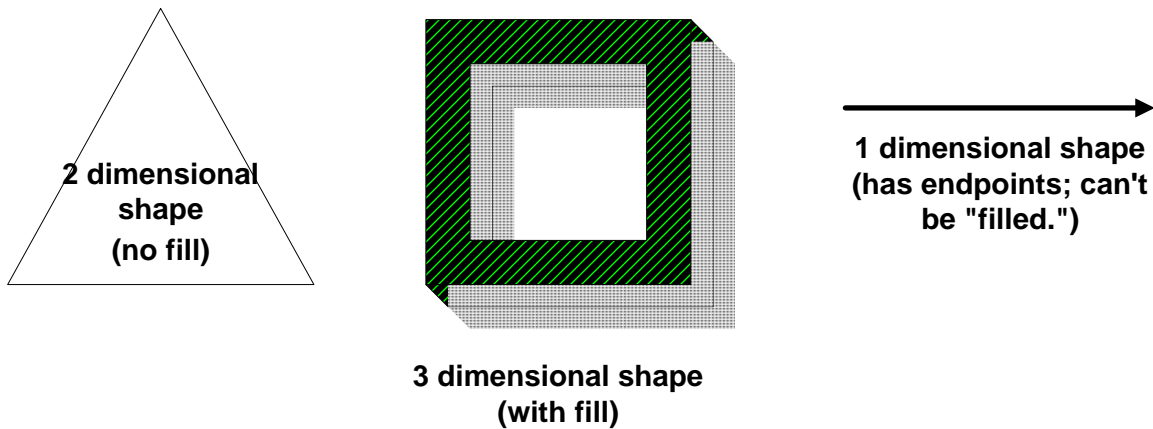
Customizing Shapes (Using ShapeSheets)

Every Visio shape is described in a ShapeSheet spreadsheet, which contains information about the shape's geometry, coordinates, and dimensions. The information can be defined by formulas, which allow a shape to behave differently based on how it's used.

To display a ShapeSheet spreadsheet, select a shape, then choose **Show ShapeSheet** from the Window menu. (See below.) You can alter characteristics from here.

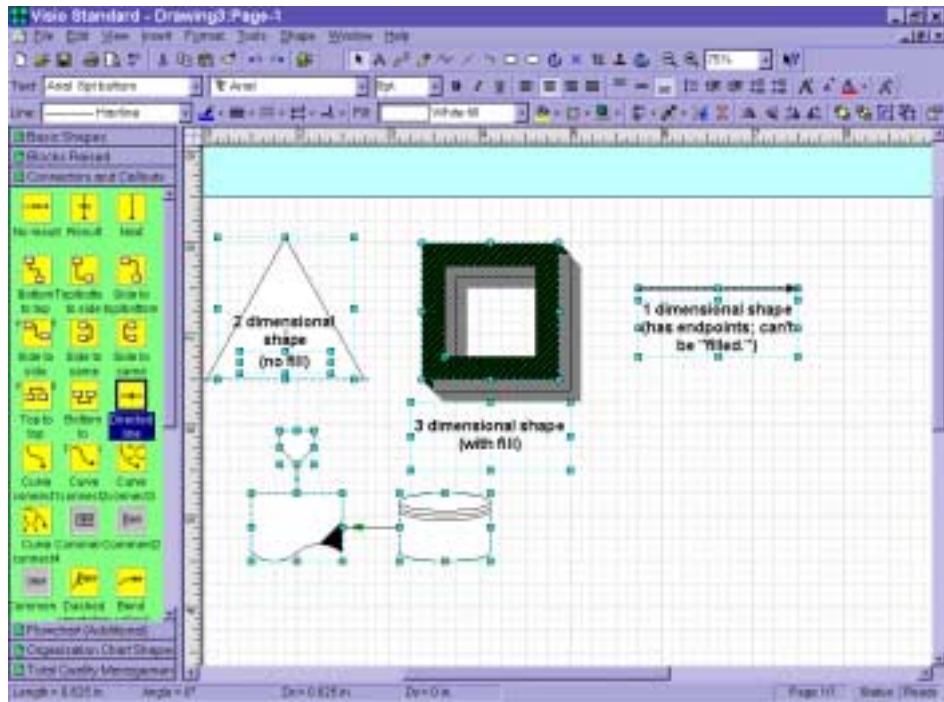
Label	Prompt	Type	Format	Value
Prop: Slices	"Enter number of slices required"	1	"1,2,3,4,5,6,7,8"	"5"
Prop: Pie1	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"25"
Prop: Pie2	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"25"
Prop: Pie3	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"25"
Prop: Pie4	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"25"
Prop: Pie5	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"25"
Prop: Pie6	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"25"
Prop: Pie7	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"33"
Prop: Pie8	"Set percentage of pie slice. Total of all slices pie	2	No Formula	"33"

1, 2 and 3 Dimensions



Using Shape Handles

When you click on a shape, as in any other object in an Office document, you get “handles” as shown below. To move a shape, simply grab it anywhere in the object except the handles and drop it where you want it. In a one-dimensional object, you can make the object longer or shorter and change its angle by moving the endpoint(s).



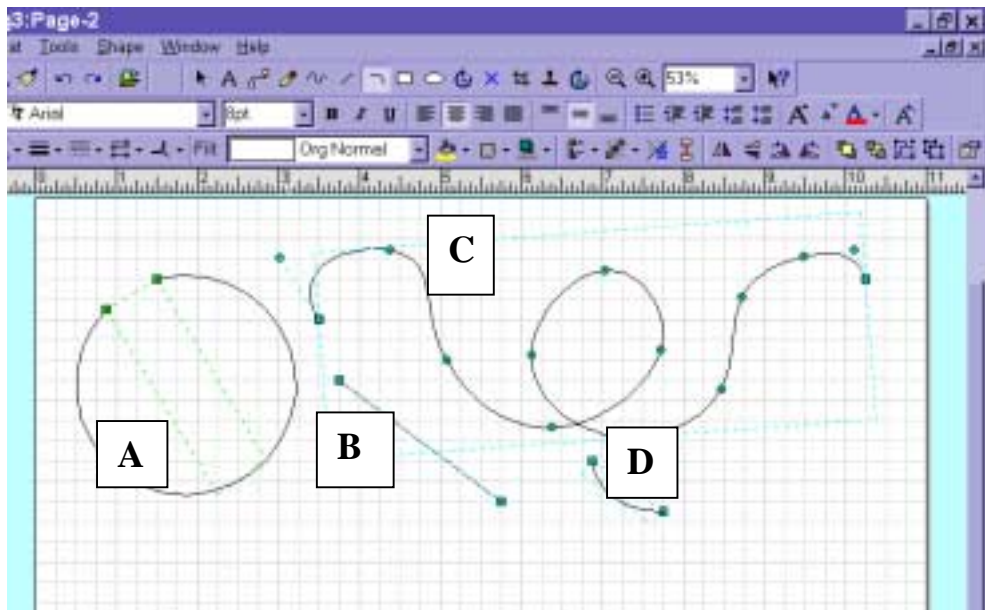
Connections Point, Connectors, and Glue

Notice that the flowchart shapes above also have “connection points”, little x’s. Use the **Connectors And Callouts** stencil and drag in the appropriate connector. Then drag the endpoint of the connector to a shape’s connection point, and the end will turn red. This means that the end of the connector is “glued” to the shape, and they’ll stay connected no matter where you move one or both of the shapes.

If your object doesn’t have connection points, you can make them with the Connection Point tool on the Standard Toolbar. It looks like a blue X. (To turn the **Connection Point** tool off, click the Pointer tool again.)

Rotation Handles

Rotation handles appear when you select a shape with the rotation tool on the Standard toolbar. To rotate a shape, drag a corner handle and the object will pivot around the rotation point pin, the little circle probably in the center of the object. To change the center of rotation, move the rotation pin by dragging it.



Drawing Lines

- A. Line drawn using the **Pencil** tool on the Standard toolbar.
- B. Line drawn using the **Line** tool on the Standard toolbar.
- C. Line drawn using the **Freeform** tool on the Standard toolbar..
- D. Line drawn using the **Arc** tool on the Standard toolbar.

Selecting Shapes

To work with a shape you must select it. Here are some suggestions:

To do this...	Do this
Select one shape	Move the pointer over a shape. When the pointer changes from a black arrow to a white arrow, click to select the shape. The selection handles appear in green.
Select multiple shapes by clicking	Select the first shape, hold down the Shift key, then click to select other shapes one at a time. The primary (first) shape has green selection handles, and all others shapes have blue selection handles.
Select multiple shapes by dragging	Use the pointer tool from the Standard toolbar and drag a selection net around all the of shapes you want to select.
Select all shapes on the page	Choose Edit>Select all . If there are more than 25 shapes, they appear with a magenta outline to show that they are selected. Otherwise, they're green and blue.
Select all of a particular kind of object.	Choose Edit>Select Special , then check the types of object you want to select, such as shapes, groups, or guides.
Cancel a selection	Click away from the selected shape or press the Escape key.
Cancel the selection of one shape when several are selected.	Shift +click the shape.

Flipping Shapes

1. Select a shape
2. From the Shape menu, choose **Flip Vertical** or **Flip Horizontal**. You can also use the flip vertical or horizontal button on the Shape toolbar.

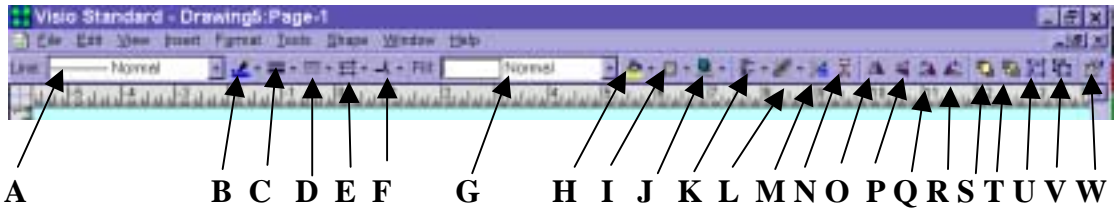
Reversing a Shape

Select a shape. Choose **Shape>Reverse ends**.

Formatting Shapes

You can format shapes by using Toolbar buttons or the Format menu.

Toolbar:

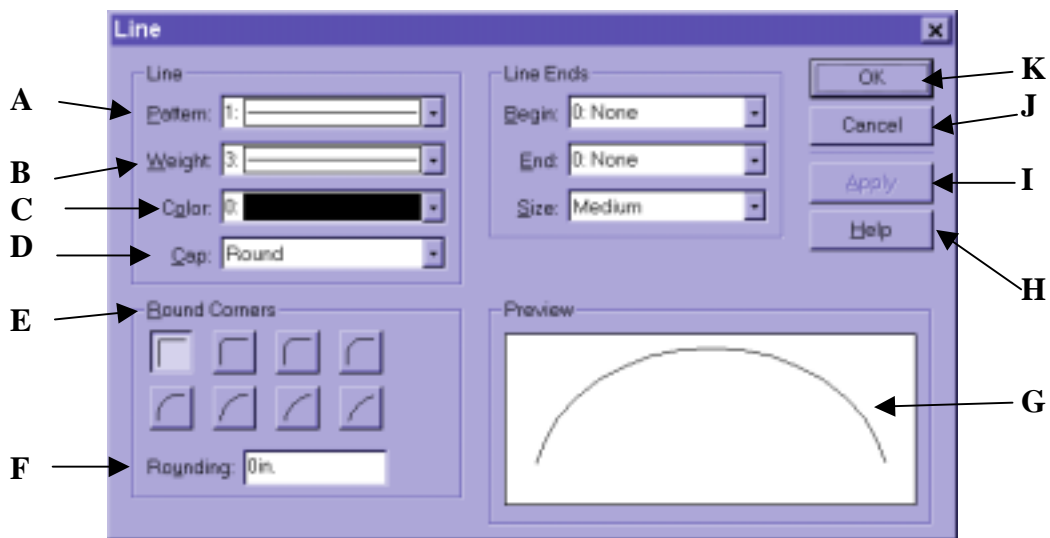


- | | |
|--|---|
| <ul style="list-style-type: none"> A. Line style list B. Line color palette C. Line Weight list D. Line pattern list E. Line ends list F. Corner roundings list G. Fill style list H. Fill color palette I. Fill pattern list J. Shadow color palette K. Align shapes L. Distribute shapes | <ul style="list-style-type: none"> M. Lay out shapes N. Connect shapes O. Flip horizontal P. Flip vertical Q. Rotate right R. Rotate left S. Bring to front T. Send to back U. Group V. Ungroup W. Custom properties |
|--|---|

Note: Buttons S-V only appear if your resolution is higher than 600x800.

Formatting lines

Click on a line and click **Format>Lines**. You'll get this dialog box:



- A. Choose among none, solid and dashed lines. The spaces between dashes are transparent.
- B. Choose among line widths.
- C. Choose colors that are set in the Visio color palette. To add a new color to the color palette, choose **Custom**. All the colors are solid (not dithered) and opaque, including white.
- D. Choose **Round** or **Square**. This applies to open shapes only.
- E. Choose among various corner formats. This applies only to shapes with corners.
- F. You can enter a numerical equivalent for the roundness of the corners instead of choosing one of the corner options. The higher the number, the rounder the corners.
- G. Displays a sample line with the formatting options you have selected.
- H. For **Begin** and **End**, choose among various line ends of the line. For **Size**, choose the size of the line end. Line ends only apply to open shapes.
- I. Applies formats without closing the dialog box.
- J. Closes the dialog box without applying any of the formatting you've selected, even if you clicked **Apply** previously.
- K. Applies the formatting options you selected and closes the dialog box.

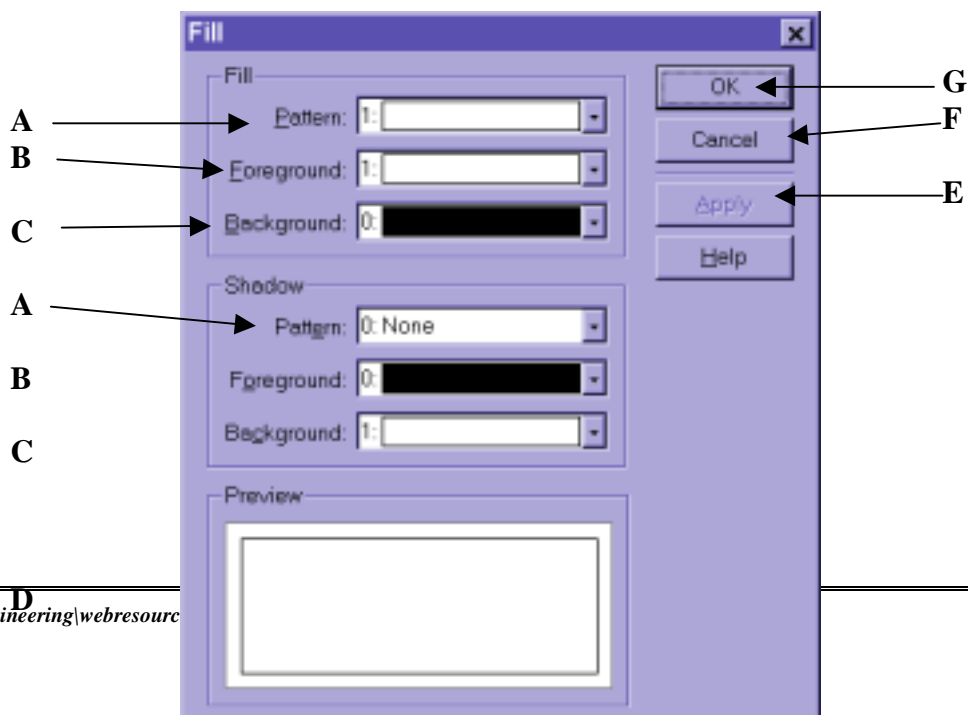
Adding Colors and Shadows to Shapes

You can fill closed shapes, and you can give shadows to both closed and open shapes.

Fills and shadows can be a solid or bitmap pattern. Fills can also be a gradient pattern. You choose colors and a pattern from set lists to which you can add custom colors or patterns you create.

The only difference between fills and shadows is that a shadow is a copy of the shape that is offset from and behind the shape to which it's applied.

Select a shape, then go to **Format>Fill**. You'll get this box.



- A. For both **Fill** and **Shadow**, you can specify a blank (transparent), solid, or bitmap pattern. For fill you can also specify a gradient pattern. When you specify colors for foreground and Background, Visio changes the display of the **Pattern** list according to your color choices. The number preceding the patterns and colors in the **Pattern**, **Foreground** and **Background** lists act as labels.
- B. For both fill and Shadow, you can specify a foreground color. If you choose the solid pattern, Visio uses the foreground color for the fill or shadow. Each bitmap and gradient pattern uses both the foreground and background colors. The foreground color is applied to the dots and lines making up the pattern.
- C. Choose the color you want for the background of a bitmap pattern or for the second color in a gradient pattern.
- D. Displays a sample fill with the formatting options you've selected.
- E. Applies formats without closing the dialog box.
- F. Closes the dialog box without applying any of the formatting you've selected.
- G. Applies the formatting options you've selected and closes the dialog box.

Aligning and Distributing Shapes

- ◆ You can align shapes to ruler intervals and grid lines.
- ◆ You can zoom in so that you can be more precise.
- ◆ You can align shapes to other shapes. You can align the tops, bottoms, left sides, right sides, or centers of shapes.
- ◆ You can create guides or guide points and align shapes to them. When shapes are glued to a guide, the aligned shapes move with the guide.
- ◆ You can distribute three or more shapes to create an equal distance between the ends or centers of the shapes.
- ◆ When you're aligning shapes to one another, the primary shapes, indicated by green handles, is the first shape you select and is the shape to which other shapes align. Select that shape first, then press **Shift** and select the other shapes to be aligned or distributed one by one. If you drag a selection net around several shapes, the top shape in the stacking order is the primary shape.

Aligning Shapes

1. Select the shapes to align.
2. Select **Tools>Align Shapes**. Or, you can click the Align tool on the toolbar and choose one of the alignments. If you click on the box on the right of the align button, you'll get 6 alignment possibilities. Note that you can align by the shapes' left or right edges or by the axes down the middle of each if your aligning vertical objects. Or you can align by top edges, bottom, or the middle axes if they're horizontal objects. If you click on the left side of the button, you get more

options, including the option of creating a guide. Or you can click the red X to cancel your selection.

3. Select the alignment options you want.
4. To create a guide and glue the shapes to it, check **Create Guide and Glue Shapes to it**. If you choose this option, you can move all the shapes and maintain their alignment by selecting and moving the guide.
5. Click **OK**.
6. Another way to create a guide and glue shapes to it is to drag a guide from the ruler onto the drawing page. The guide is a green line that turns blue when it's not selected. Choose **Tools>Snap & Glue** to make sure that glue is checked under **Currently Active** and **Guides** is checked under **Glue to**. Click **OK**.
7. To align shapes to a guide point, point to the crossbar at the intersection of the two rules, and drag to where you want the guide point. The guide looks like two blue crossed lines. Now position the shapes you want to align with their centers, selection handles (for 2-D shapes) or endpoints (for 1-D shapes) on the guide point.

Distributing Shapes

Distributing shapes refers to creating an equal distance between the ends or centers of the shapes. When you distribute shapes vertically, the top and bottom shapes in the selection define the boundaries of the distribution. For horizontal distribution, the leftmost and rightmost shapes define the boundaries.

1. Select the shapes you want to distribute.
2. Click **Tools>Distribute Shapes**. You can also use the Distribute Shapes buttons on the Shape toolbar. You can distribute centers horizontal, distribute horizontal spacing, distribute centers vertical, or distribute vertical spacing. Choose a distribution option.
3. To add guides and glue the shapes to them, distribute shapes by going to **Tools>Distribute Shapes** and check **Create Guides and Glue Shapes to Them**. If you choose this option, you can move an outermost guide to redistribute all the shapes.

Adding Text

- ◆ You can add text to any Visio shape, including connectors, by selecting the shape and typing.
- ◆ If you want to add text anywhere in your drawing, select the Text tool, create a text-only block on your drawing, and type.
- ◆ You can format the font, font size, alignment, color, and weight.