SmartDraw®
And
SmartDraw Professional

Draw Anything Easily   .

User's Guide

Version 5

SmartDraw.com

Contents

Drawing with SmartDraw 54

The SmartDraw Explorer 70

Changing the Appearance of a Drawing 79

Adding Text 93

Using Tables   106

Arranging Objects   124

Appendix A Technical Support 230

Index 235

Getting Started

Welcome to SmartDraw!

SmartDraw is the easy-to-use program that lets anyone draw great looking flowcharts, diagrams, forms and other business graphics. You don't have to be an artist to get results with SmartDraw.

SmartDraw automatically aligns shapes, lines and text. Its unique, built-in library of design styles lets you pick professional looking color schemes, shadows, and textures for your drawings with the click of a mouse. Libraries of SmartDraw *Symbols* provide an unlimited selection of clip-art that you can edit or add to.

SmartDraw works as a stand-alone program, and as part of Microsoft Office and other programs that support Object Linking and Embedding (OLE). You can insert a SmartDraw drawing directly into Microsoft Word for Windows, using the Insert Object command. With the Professional version of SmartDraw, you can also insert Office documents, like graphs, equations, and spreadsheets into your drawings as SmartDraw symbols.

There are three different versions of SmartDraw:

SmartDraw Standard

This is the standard edition of SmartDraw. It is a 32-bit Windows application and requires a Pentium (or better) PC running Microsoft Windows 95, 98, NT 4.0, 2000 or later.

SmartDraw Professional

The Professional Edition of SmartDraw has all the features of SmartDraw Standard plus a collection of more advanced features, including:

- Spelling checker
- Find and Replace
- Advanced import and export filters
- OLE Client Support
- The Microsoft Office Companion

SmartDraw Professional Plus

Professional Plus has the same features as the Professional Edition of SmartDraw, but also includes a license to all nine of the SmartDraw Library and Template Collections, which include more than 30,000 symbols and example drawings.

Professional

This Manual

This manual is common to all three versions. The icon in the margin to the left indicates professional-only features.

What's New In SmartDraw 5

For users upgrading from earlier versions of SmartDraw, we highlight here some of the new features found in SmartDraw version 5.

More than 30,000 New Symbols

In SmartDraw 5 there are almost 20 times as many symbols as in SmartDraw 4. These are organized into nine different collections:

- Business & Charting

- Software Design

- NetDrawing

- Floor Plans & Facilities

- Electrical Engineering

- Mechanical Engineering

- Science & Math

- Clipart & Flyers

- Maps & Geography

The SmartDraw Explorer

The new *SmartDraw Explorer* makes it easy to browse these vast symbol collections and to search for the symbol you are looking for by name.
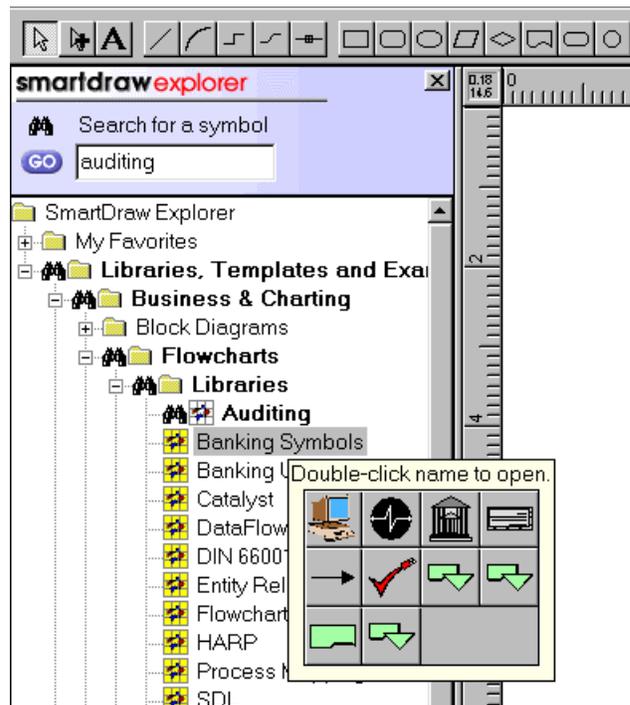
The SmartDraw Explorer

The SmartDraw Explorer shows all of the libraries and templates, organized into folders, in a tree similar to the Windows Explorer. Clicking on the folders opens and closes them. Inside the folders there are icons for each symbold library or drawing template.

A Preview appears when your mouse hovers over any file in the Explorer, showing you exactly what's inside that library or template file. To open the file, simply drag it into the drawing area, or double-click it.

Previews and on-demand installation

With SmartDraw's new library and template previews, you can search and browse the entire collection using only about 1% of the disk space that a full installation requires. When you find a symbol you want to use, opening the preview file lets you install just what you want, automatically, either from the SmartDraw Web site or from your CD.

The Library Builder Wizard

You can import your own symbols into SmartDraw Libraries using the new Library Builder Wizard. The wizard will convert thousands of images in many popular formats (including WMF, Postscript, DXF and others) into SmartDraw libraries in minutes.

Drawing to Scale

SmartDraw's new *Floor Plans & Facilities* collection really shines with the new drawing-to-scale features. You can now set the origin of the rulers anywhere in the drawing. Shapes you add from libraries scale themselves to the ruler-settings automatically and can be precisely positioned using the improved *Position and Size* Dialog.

Tighter Organization Charts

SmartDraw 5 lets you adjust the spacing between the branches of an organization chart, and any other tree built with an automatic connector, for better looking charts.

Dropping Shapes on Lines

Drawing circuit diagrams, process flows, and similar diagrams is literally a snap with SmartDraw 5's new drop-on-line feature. You can link electronics symbols like resistors and capacitors to lines and slide them up and down the lines like beads on a string.

Export to HTML

Now you can take your great-looking diagram and publish it on your web site with SmartDraw's new Export to HTML feature. Hyperlinks you assign to shapes are

preserved when you export to HTML, making SmartDraw the ideal way to draw *clickmaps* for the web.

SmartDraw Professional Features

Professional

SmartDraw Professional has the following exclusive features.

Spelling Checker

SmartDraw's spelling checker works similarly to the one in Microsoft Office. Words are checked in the background as you type, and misspelled words are underlined with a red wavy line. Right clicking on a misspelled word presents a menu of suggestions.

You can also check the spelling of an entire document upon command. Automatic correction of popular misspellings is supported, and you can add your words to your own custom dictionary.

Most European languages (including British English) are supported, and you can switch languages on the fly with a single menu command.

Advanced Import and Export Filters

SmartDraw Professional gives you access to Postscript Import and Export, plus the vast libraries of technical symbols in AutoCAD format. It supports many more file import and export formats than the regular edition of SmartDraw. These include:

- Encapsulated Postscript (EPS)
- AutoCAD (DXF)
- CGM
- HPGL
- PDF
- Adobe Illustrator
- CorelDraw (Import Only)
- MicroGrafx Draw
- Visio (Import Only)

OLE Client Support

SmartDraw Professional is an OLE client. As with Microsoft Word and other Office applications, you can insert graphs, WordArt, Spreadsheets and other OLE objects into SmartDraw Professional drawings.

In SmartDraw an OLE object behaves like any shape. It can be flipped, rotated, moved and re-opened for editing by the program that created it.

OLE objects in SmartDraw drawings can also be added to SmartDraw symbol libraries, while retaining their OLE object properties. Dragging an OLE symbol (like a graph, for example) from a library into your SmartDraw drawing creates an OLE object that can be edited by the program that created it.

The Microsoft Office Companion

If you have Office installed on your system, the Office Companion adds many more exciting features to SmartDraw Professional, including the ability to add bitmaps, graphs, equations and WordArt®, directly from the SmartDraw toolbar. The Companion also includes galleries of pre-designed graphs, text styles, and equation symbols, placed at your fingertips in SmartDraw libraries.

Global Search and Replace

SmartDraw Professional supports global search and replace for an entire drawing.

Installing SmartDraw

Before you can run SmartDraw, you must first install it by running the **Setup Program**. There are two ways you can obtain this file:

- By downloading over the Internet.
- On a CD

Internet Download

You can freely download the SmartDraw Trial Edition from www.smartdraw.com. You can also download full versions of the program that you have purchased.

In either case, the file you download to your computer is an *install* program. You must *run* it to install SmartDraw onto your system.

The simplest way to do this is to download the file to your *desktop*. This creates an icon on your Windows desktop. You can then run the install program by double clicking on its desktop icon. You can also run the install program using the **Run** command under the Windows Start menu.

CD

If you purchased SmartDraw on a CD, all you have to do is put the CD in your CD drive, and the setup program, **setup.exe,** will start automatically. If this does not happen, you must run **setup.exe** manually.

The easiest way to do this is to use the **Run** command, found by pressing the Windows Start button. Run presents a dialog that prompts you for the name of the program you want to run. If you placed the SmartDraw CD in Drive D, just type:

D:\SETUP

Follow the directions displayed by the Setup program.

Installing SmartDraw on a Network

To install SmartDraw on a network, simply install it on the server in the normal way described above. For each client that will have access to the server, create a shortcut (or icon) for SmartDraw on the client system and run the program once. SmartDraw will install itself properly on the client system.

You must have a **network license** to share one copy of SmartDraw between multiple users on a network.

SmartDraw will not run from a network drive unless you have a network license.

SmartDraw measures the number of different users that have accessed the program on the network (not including the server itself) and limits the number of unique users to the number of licenses you have purchased. If a user has accessed the program but no longer needs to use it, you can free that user's license using the network administration features under the **License** command.

Running SmartDraw

Once installed, SmartDraw is added to your start menu, and a SmartDraw icon is added to your desktop. To run SmartDraw, double-click on this icon, or run SmartDraw in the same way that you run your other applications.
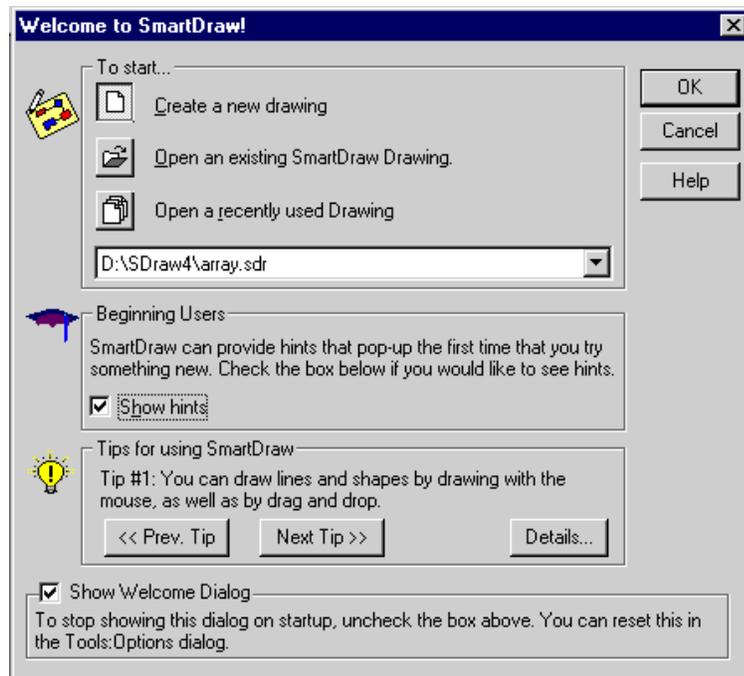
The Welcome Dialog

The first time you run the program you are presented with the **Welcome Dialog**.

This lets you choose how to start your first drawing and shows you useful tips for using SmartDraw.

You can start by creating a new drawing or by opening an existing drawing file. If this is the first time you have used SmartDraw, you will probably want to create a new drawing.

Later, once you have a list of previously saved drawings, typing **Enter** at the Welcome dialog opens the last one you were working on.

You can make one of these start-up choices permanent (if you want to skip the Welcome dialog each time you run the program) by using the Options dialog. (See page 222). As a shortcut to this, you can un-check the **Show Welcome Dialog** checkbox at the bottom of that dialog, and you will automatically create a new drawing each time you run SmartDraw.

The **Show Hints** checkbox controls whether or not you see beginner's hints while you are using the program. These are dialogs that pop up automatically when you try to use certain features of the program for the first time. They attempt to explain what you are about to do and provide a direct route to more detailed help.

Each hint will only appear once in each SmartDraw session, and the hints can be switched off from any Hint dialog. We recommend that you leave the Hints switched on the first few times you use the program.

Once switched off, hints can be switched on again using the Options dialog.

Getting Help

SmartDraw has extensive on-line help. There are several ways to access the help system.

Help Menu

The Help menu shows several commands that open the help window.

View Tutorial displays a quick, 12-lesson Tutorial on drawing with SmartDraw. It covers just the basics to get you up and running fast.

Contents shows the table of contents. Double clicking on any of the underlined items takes you to the screen for that topic.

Index presents the index to the help system. If you start to type the name of the subject you are looking for, the scrolling list of topics will show any words that match.

Using Help opens the help files for the Windows help application. If this is not installed on your system (by Windows), this command will not work.

Help in Dialogs

All dialogs contain a help button. Pressing this button, or typing the **F1 key**, opens the help system showing a screen that describes that dialog's controls.

Context Sensitive Help

When a dialog is not showing, pressing **Shift-F1**, or pressing the help button on the toolbar (shown at left), puts you in the **help state**. While in this state, selecting any of the menus, or pressing any of the buttons in the toolbar or library window, opens Help with the appropriate screen displayed. The Help State is canceled after you click or show a help screen.

Tips

Tips are helpful hints that bring some of the richer features of the program to your attention. A new tip is shown each time that you see the Welcome dialog. You can also look at tips at any time using the **Tips** command under the Help menu. This presents the **Tips Dialog**.
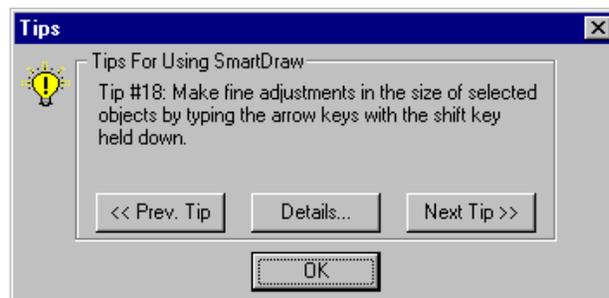
The Tips Dialog

You can browse through all the tips using the **Next** and **Previous** buttons. The **Details** button brings up a help screen describing the tip in more detail.

SmartDraw Advisors

SmartDraw Advisors are special help screens that appear in the **Advisor Window** when certain libraries and templates are opened. They provide tips for using the template or library in question.
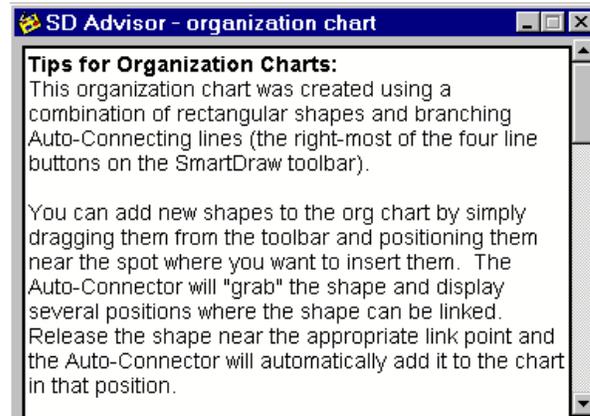
The SmartDraw Advisor Window

The Advisor window always floats on top of the drawing window. You can drag it (by its title bar) to any convenient position. If you open (or simply click in) a second document or library that has a different advisor screen, the contents of the Advisor window will change to display the new information.

If you close the Advisor window by clicking in the "X" box in the title bar, you can choose to turn off this particular advisor so that it does not show automatically in the future. You can also turn off all advisors. If you make this choice you can turn them on again using the **Options Dialog** (see page 222).

You can create your own advisors and associate them with drawings and libraries. See page 220.

Creating a New Drawing

A new drawing is created (a) when you start the program, or (b) when you press the **New Drawing** button on the toolbar, or (c) when you use the **New...** command under the File menu. In all cases, SmartDraw shows the **New Drawing Dialog**.
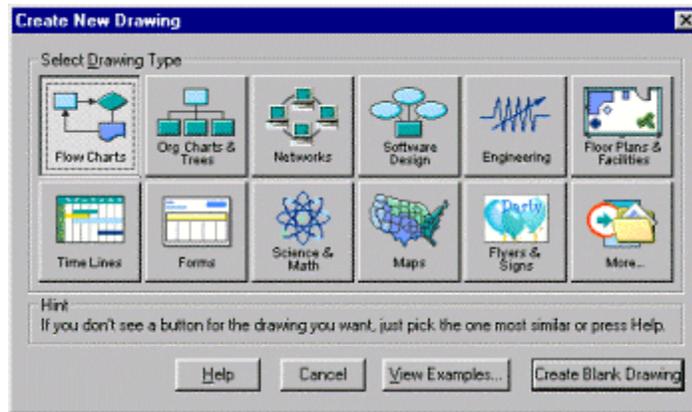
*The **New Drawing** Dialog*

This shows a button for each type of drawing you can create with SmartDraw.

If you double-click on a picture button (or select one with a single click and then press Create Blank Drawing) you create a new *empty* drawing space with the correct settings for this kind of drawing. These settings include ruler properties, line- and shape-linking properties, and sometimes a special toolbar for this type of drawing.

If you don't see a button for the type you want, select the one that seems most similar.

The **View Examples** button allows you to select a SmartDraw *Template*. A template is a drawing that already contains objects, as well as the correct settings and toolbars. Some templates are *Example Drawings*, while others are designed to serve as a starting point (like an empty form template that is ready to be filled in)..

There is a detailed discussion of how to modify the buttons, or create your own, in *New Drawing Buttons* on page 215.

Selecting a Template

Pressing the **View Examples** button in the **New Drawing** dialog takes you to the **Template Dialog**.
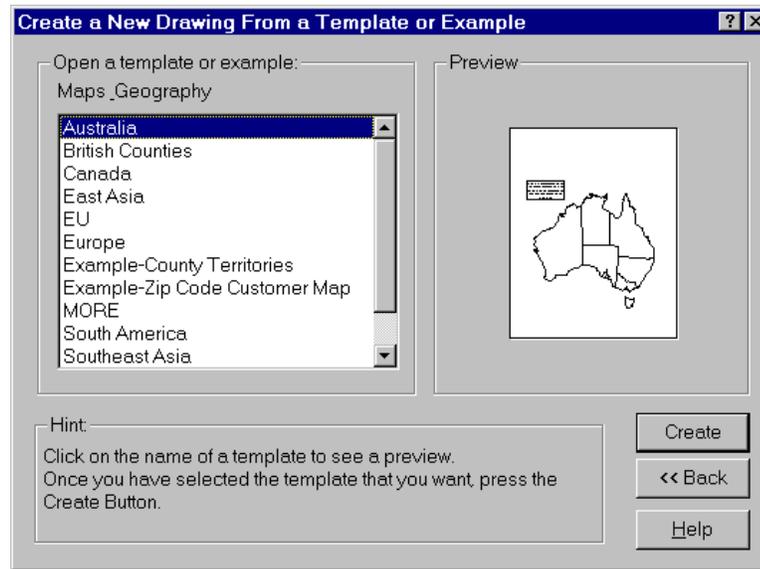
The Template Dialog

The **Template Dialog** allows you to preview each template by selecting its name in the list. Once you have made your selection, pressing the **Create** button creates a new untitled document that has the same settings and contains the same shapes as the currently selected template.

Templates are described in more detail on page 218.

Each drawing has its own scrollable window. Normally drawing windows are opened so that they fill the entire SmartDraw program window (they are maximized). Depending on the settings on your system, you may have up to 32 different drawings open at the same time.

Closing and Saving Drawings

You may close a drawing window using the **Close** command under the File menu, or by clicking the window's close box in the title bar. Any changes you have made to your drawing DO NOT become permanent unless you save them. If you have made changes since you last saved, you

are reminded to save your drawing before the window closes.

You can save drawings to a file on your hard disk using the **Save** or **Save As** commands under the File menu. Pressing the **Save File** button on the toolbar also saves the drawing.

New drawings must be given a name before they are saved. You do this with the standard **Save Dialog** you see in all Windows programs.
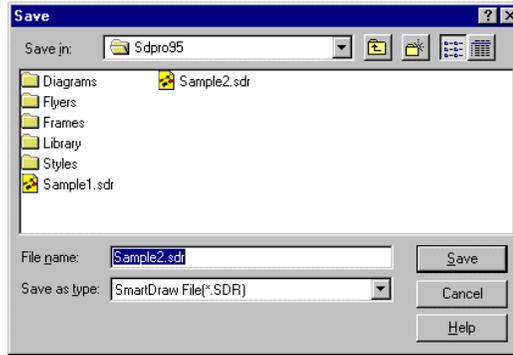
The Save Dialog

For drawings that have been saved, and already have a file name, the **Save As** command can be used to save the drawing to a different file name. The **Save** command saves the drawing to same filename.

While you can save templates with the Save Dialog, if you want them to show in the SmartDraw Explorer, use the **Save As Template** command (File menu) instead.

Opening an Existing Drawing

Once a drawing has been saved to a file on disk, you can re-open it using the **Open** command under the File menu or by pressing the **Open File** button on the tool bar. These commands show you the standard Windows **Open Dialog**.
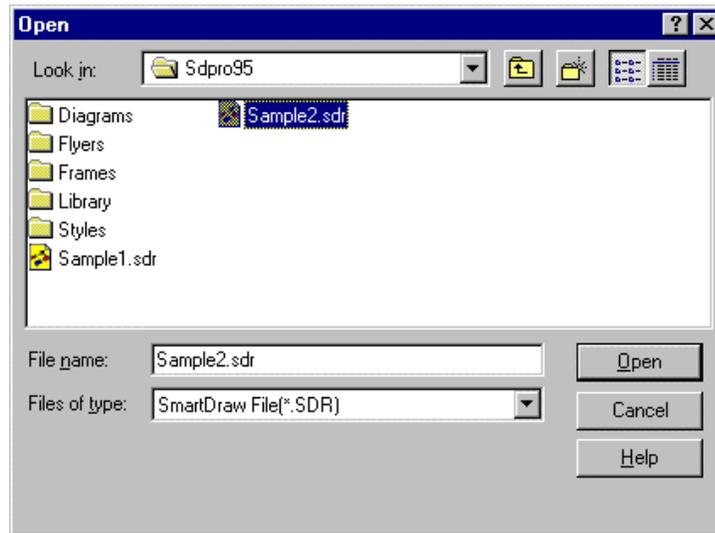
The Open Dialog

You can also open the SmartDraw drawing files by simply dragging them from the Windows Explorer and dropping them anywhere in the SmartDraw window.

Drawings and Windows

Each SmartDraw drawing has its own **document** window. SmartDraw is a Multiple Document Interface (MDI) application, and up to 32 drawing windows can be open at the same time.

When these windows are maximized, as is usually the case, the front-most window covers the entire screen, or program window, so that none of the other drawing windows can be seen. This can be changed using the commands under the Window menu.

Cascade Windows and **Tile Windows** commands both show all the drawing windows, the former by overlapping them, the latter by dividing up the program window.

The remaining items on the Window menu are the names of the open drawings. Selecting one of the items brings that drawing to the front.

All menu, and other, commands apply only to the front-most drawing.

Right Mouse Button Menus

Clicking with the right mouse in the document window displays a **context-sensitive** menu. The contents of this menu depend on what you have clicked on. You will find this a convenient shortcut to many of the features found on the main menu bar.

The Program Toolbar

The **Program Toolbar** lies above any drawing windows and below the menu bar.

The Program Toolbar

The program toolbar can be shown or hidden by selecting the **Show Toolbar** item under the View menu.

The buttons on the top row are shortcuts for menu commands. You can find out what each one does by holding the cursor over a button for a second or more. A small yellow window pops up describing its purpose. This is called a **ToolTip**.

The buttons in the second row are used for drawing. One of these buttons appears to be pushed in, indicating that this button is selected. The button selected determines what will happen when you click with the mouse in the drawing.

When the *arrow* button is selected, clicking in the drawing selects, moves or resizes existing objects.

When the *multiple selection* button is selected, clicking on an object selects it without deselecting other selected objects. This makes it easy to select more than one object at a time.

When the text button is selected, clicking on a shape opens it for text entry. If you click in the background of the drawing, you create a new background text object.

When the line button is selected, clicking and dragging in the drawing draws a straight line. Dragging and Dropping also draws a line.

When the arc button is selected, clicking and dragging in the drawing draws an arc of a circle. Dragging and Dropping also draws an arc.

When the segmented line button is selected, clicking and dragging in the drawing draws a segmented line. Dragging and Dropping also draws a segmented line.

When the curve button is selected, clicking and dragging in the drawing draws a curved version of a segmented line. Dragging and Dropping also draws a curve.

When the **Connector** button is selected, clicking and dragging in the drawing draws an *Automatic Connector.* Automatic Connectors are described in more detail in *Automatic Formatting with Connectors* on page 134.

The remaining buttons draw the shape shown on their face. The shape buttons can be configured to show any of the 24 standard shapes, and to control the default size and proportions of the shapes that are dragged and dropped. You can change the button settings, by double clicking on the button, or selecting the **Toolbar** item under Tools menu. This is described in *Changing the Toolbar* on page 224.

The Document Toolbar

A **Document Toolbar** appears at the top of a document window. When the document is maximized, the document toolbar appears to be a third toolbar below the program toolbar.

Document Toolbar below the Program Toolbar.

A document toolbar is a **SmartDraw Library** window that has been dragged to the top a window and "docked" there. It behaves just like a library window and is fully customizable. Many of the built-in templates have their own specialized toolbar.

Document toolbars are described in more detail on page 145.

Rulers and Grids

Rulers are normally displayed along the top and left edges of the drawing window.
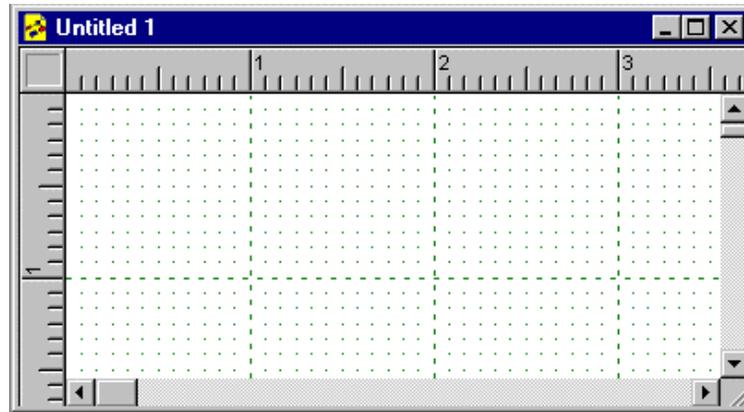
Drawing Window with Rulers and Grid Showing

The divisions on the ruler define the spacing of a grid that covers the drawing area. You can show or hide the grid using the **Show Grid** command under the View menu. The same grid (whether showing or not) controls the spacing of the snaps.

The top-left corner, where the rulers cross, shows a digital display of the current position of the cursor in the units of the ruler.

Clicking in a ruler displays a temporary dotted line, called a **Guide**, that follows the position of the cursor. This can be used to measure the position of an object in the drawing. Clicking in the corner, where the two rulers cross, and then dragging displays two of these lines forming a "cross hair" arrangement.

Symbol Library Windows

Symbol Library Windows contain symbols that can be added to SmartDraw drawings, just like any of the standard shapes on the toolbar.

Groups of symbols are stored in **Libraries**. Libraries are usually groups of similar symbols that are used for a particular type of drawing. SmartDraw has hundreds of libraries with symbols for flow charts, computer networks, floor plans, clip art, engineering, geometric shapes, and many more.

Once a library has been opened, its symbols are displayed in a **Library Window** that "floats" above the drawing. Up to 16 library windows can be open at the same time, each showing the contents of a different library. The Libraries menu shows the most recent libraries that were opened and shows a check mark next to the names of those that are currently open. Selecting one of these menu items either opens it or brings it to front.

Any library window that was left open when the last drawing was closed is always re-opened automatically (in the same location) whenever a drawing is opened again.
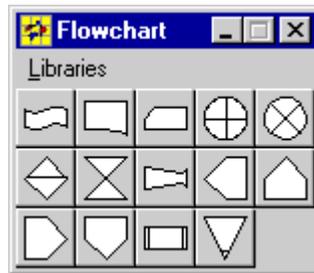
A SmartDraw Library Window

The library window shows rows of buttons, each displaying a different symbol from the current library. The name of the current library is shown in the window title bar.

The SmartDraw Explorer

All of the libraries, templates and example drawings that are included with SmartDraw are shown in the SmartDraw Explorer panel on the left of the drawing area. You can show or hide this panel using the View menu, but it is shown by default.
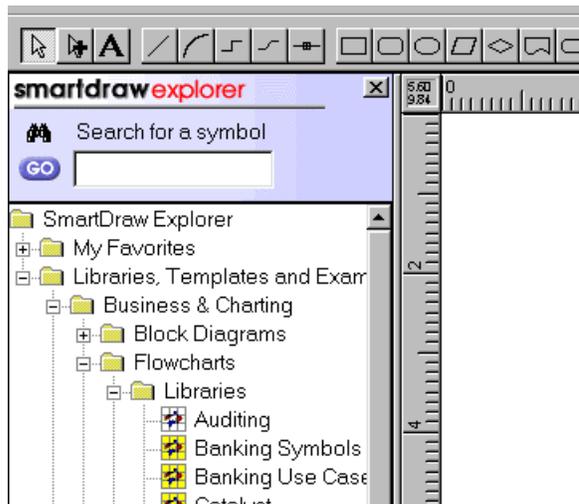
The SmartDraw Explorer Panel

The panel shows the libraries and templates installed as icons in an explorer-like tree organized into categories. Double clicking on a library icon or dragging it into the drawing area opens the library window. Double clicking or dragging a template icon into the drawing area opens the template into a new window. The SmartDraw Explorer is described in much more detail on page 70.

Undo

Almost any change you make to a drawing can be undone using the **Undo** command, under the Edit menu.

When you undo, the undo menu item changes to **Redo**. Using Redo returns the program to its state before the undo command was used. Repeated use of Undo toggles the program between the current state and the state before the most recent operation.

If the command is gray, there is no previous state to return to.

The Undo button on the toolbar can also be used to perform an undo or redo.

Changing the Page Size and Orientation

All SmartDraw drawings have the same 50x50 inch drawing area. This fixed area is divided up into "tiles" equal in size to the printable area of the printer paper currently selected.

Unless your drawing is large, you normally work only with one page in the top left corner of the 50x50 area. However, this system allows you to draw very large charts that flow across many pages, print them out on normal paper, and then join the sheets together to re-create the drawing at full size.

You can change the size and **landscape/portrait** setting of the pages using the **Page Setup** command under the **File Menu**. Just select a new paper size and orientation using the **Page Setup** dialog. This will not change your drawing area, but it will change the way the drawing is printed out. You can see the page boundaries in the drawing area as dotted lines. Change the **View** to **Fit to Window** to see this quite clearly.

Page Margins

Because SmartDraw drawings are often printed on several pages and then re-assembled again into one large chart, SmartDraw always prints on as much of the page as is allowed by the printer.

Most printers reserve a small margin of about ¼" on each page that cannot be printed on.

If your drawing fits onto just one page and you want larger margins than this, simply leave extra space at the edges of your drawing. You can center your drawing on the first page using the **Center Drawing on Page** command under the **Arrange** menu.

Storing Two or More Drawings in the Same Document

Because SmartDraw supports 24 or more pages per document, you may be tempted to put independent drawings on different pages in the same file.

Don't do this! Store each independent drawing in its own document.

The multiple page feature of SmartDraw is intended to allow you to draw one drawing, larger than a single page. It is not intended to allow you to put 6 different flowcharts in one file. Commands like **Center Drawing on Page** and **Print on One Page** assume that the contents of a file are one drawing. There is nothing to gain by storing multiple drawings in one file. Put all the drawings you want to print separately in their own drawing file.

If you have already put more than one drawing in the same file, it is easy to separate them using **Copy** and **Paste** as is explained on page 178.

Default Settings

In SmartDraw you change the default characteristics (color, thickness, font, etc.) for new objects by changing the characteristics of an *existing* object.

When you change a property of an existing object, such as the fill color of a shape, the next shape you create will have this fill color automatically. When you change a property, you change the default setting for new shapes and lines at the same time.

The few exceptions to this rule are specialized settings that users are unlikely to want as a default.

You can also set the initial defaults for new drawings. This is described in *Settings for Empty Drawings* on page 220.

Exiting SmartDraw

You can exit SmartDraw by using the Exit command under the File menu. You can also click in the program window close box. Before the program quits, you are prompted to save any open drawings that have been changed.

The Basics of Flow Charting

Flow charts are diagrams that portray the flow of information and the decision-making process that controls the flow. While many styles of flow-charting have developed, each with its own set of specialized symbols, most processes can be represented using just a few simple symbols.
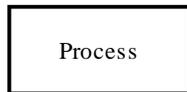
Process

This represents an activity such as "signing a check", or "requesting a bid".
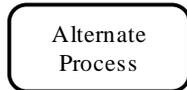
Alternate Process

This represents an alternate type of process. You can use the two types of process symbols to classify processes into two groups: customer vs. supplier, for example.

Decision

This is used to represent a decision that must be made. Lines representing different decisions are often drawn coming out of some of the 4 different points in the shape.
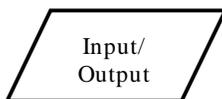
Input/ Output

This symbol is used to represent information coming in and going out of the system, such as a customer order (input) or a product (output).

Document

This symbol is used to represent printed information generated by the system such as an invoice or other report (output).
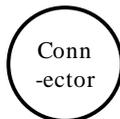
Conn -ector

This symbol is used to connect multiple lines together, or when labeled with a letter, to indicate that the flow

continues at the connector with the same letter on another page, or somewhere else in the system.

```
( Terminal )
```
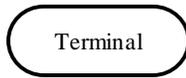
This symbol represents the starting or ending point of the system. It is usually labeled "Start" or "End".

The SmartDraw Quick Tutorial

SmartDraw Quick Tutorial: The Basics of SmartDraw in 12 Easy Lessons

What Can I Do With SmartDraw?

SmartDraw is the easy-to-use graphics program that takes the *drawing* out of drawing. With SmartDraw you simply **drag and drop** lines and shapes with your mouse to create beautiful, professional-looking drawings and diagrams:
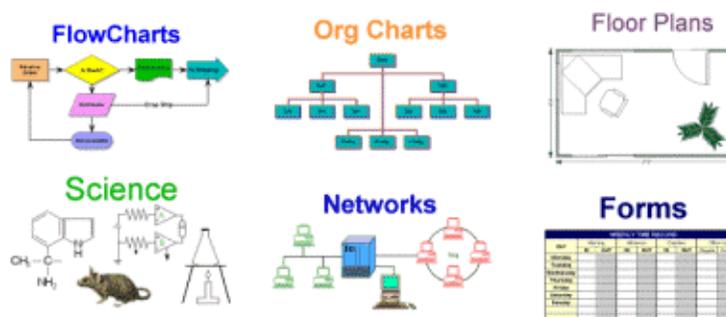
Plus:

- Circuit Diagrams
- Fishbone Diagrams
- Chemical Formulae
- Mechanical and Electrical Engineering Diagrams
- Maps
- Flyers, Invitations, Signs, Certificates
- Timelines
- Many other types of business and technical graphics

Drawing Made Easy

SmartDraw automatically aligns shapes, lines and text for you. Its built-in library of design styles lets you pick professional-looking color schemes, shadows, and textures with the click of a mouse. You'll find over 30,000 ready-

made shapes and images in the *Symbol Libraries*, and you can even add your own, for a truly limitless collection.

Working with Other Programs

SmartDraw works as a stand-alone program, and as part of the Microsoft Office, and other programs that support Object Linking and Embedding (OLE). You can insert a SmartDraw drawing directly into Microsoft Word for Windows with Cut & Paste, or with the Insert Object command.

Tutorial Lesson 1: Starting the Program

When you run SmartDraw, you are presented with the *Welcome Dialog*. (A dialog is window that gives you choices.) You can choose to *Start a New Drawing* or *Open an Existing Drawing*.

If you *Start a New Drawing*, SmartDraw displays the *Create a New Drawing* dialog. You can start your drawing with an Example or Template (a ready-made drawing that serves as a "starting point"), or you can simply click **Create Blank Drawing** to start with an empty page.
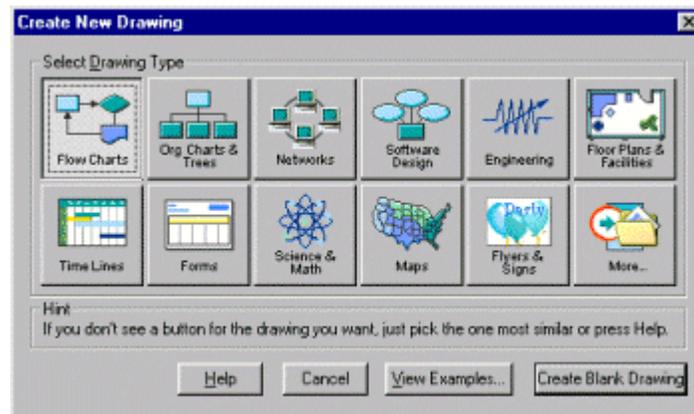
The "Create a New Drawing" dialog

If you don't see a button for the kind of drawing you want, you can press **More** to see additional types. If none of the available types are exactly what you want, just pick the one most similar.

To create a new blank drawing, just click on the button for the desired type, then click **Create Blank Drawing**. If you want to see some ready-made examples or templates for your chosen type of drawing, click "View Examples."
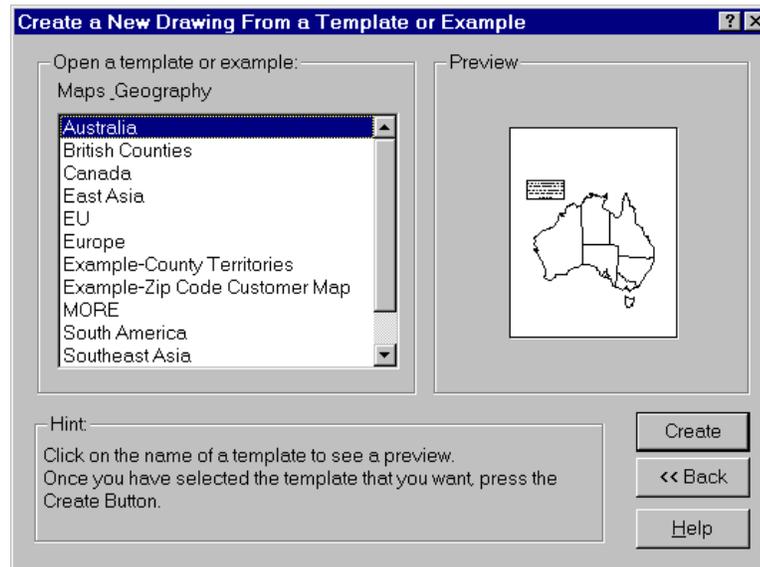
The Template Dialog

Clicking *View Examples* displays the **Template Dialog**. You can choose from the list of examples and templates available for your type of drawing. Finally, click **Create** to start your drawing with the chosen Template.

Tutorial Lesson 2: Basic Drawing

You begin most drawings by dragging *Shapes* from a library or Toolbar and dropping them on the page. With the left mouse button, click down on the desired shape on the SmartDraw toolbar; drag the shape into the drawing area, and release.
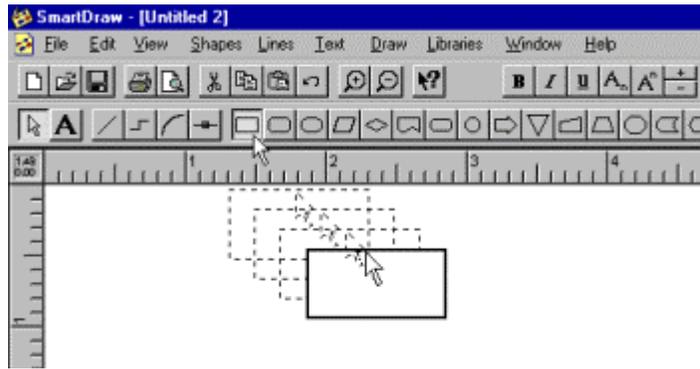
Dragging a rectangle from the Toolbar

You can connect shapes with *Lines*. To connect two shapes with a straight line, click on the **Straight Line Tool** ◿ on the Toolbar and release.

Now your cursor looks like a pencil. ✎ Touch the pencil to the edge of one shape and click down with the mouse (you'll see black dots on the edge of the shape). Drag the pencil to the edge of another shape, and release.
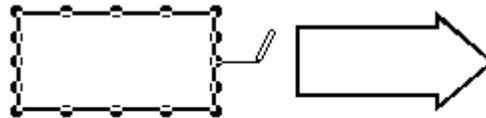
Starting a line from a shape
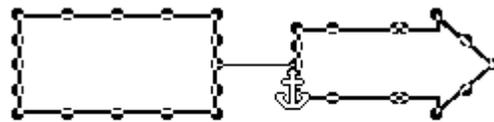
Anchoring a Line to a Shape

The black dots are *Connection Points*.

These points mark the places where a shape can be attached to a line or another shape. When you see Connection Points, you know your shape is ready to be attached to something. The *Anchor* Symbol ⚓ appears when a Line is *anchored* to the edge a shape.

Once connected, lines and shapes stay connected, even if they are moved or stretched.

Shapes stay connected
when one is moved.
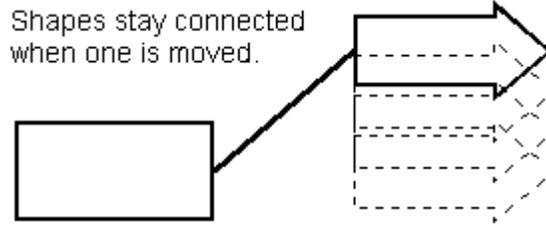
*(Note: if your lines don't stay connected to your shapes, make sure "Allow Lines to Link," under the **Arrange** menu, is turned on.)*

Infinite Connection Points

If you want more Connection Points on a particular shape, you can choose **Connection Points** from the Shapes menu and select *Infinite Connection Points*. This allows you to attach lines to any point on the shape's perimeter.

Dropping Shapes on Lines

You can also "drop" a shape on a line, when **Allow Shapes to Link to Lines** is turned on under the *Arrange* menu.

—slide along the line—▶
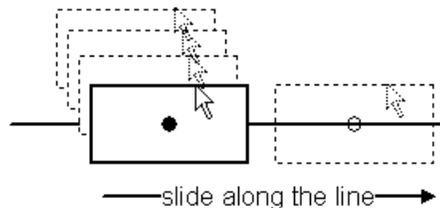
Dropping a Shape on a Line

The center point of the shape will attach to the line. Once attached, the shape will stay with the line if the line is moved. You can slide the shape along the line like a bead on a string. This is ideal for making electrical circuits and other engineering diagrams.

Repeating an Operation (or, Making a Toolbar Button "Stick")

When you need to perform the same operation several times in a row (for example, drawing a series of lines), you need not select the same button on the Toolbar time after

time. To make a Toolbar button "stick" in the selected position, hold the **Shift Key** while you click on it.

Tutorial Lesson 3: Selecting Objects

Before you can move, stretch, color, or manipulate a line or shape on your page, you must *Select* it. The *Selection Tool* (at the far left of the Toolbar) is your normal cursor. To *Select* a line or shape on the page, simply click on it with the Selection tool.

A selected object has black *Selection Handles* at the corners.

By dragging these handles, you can stretch or resize the object.
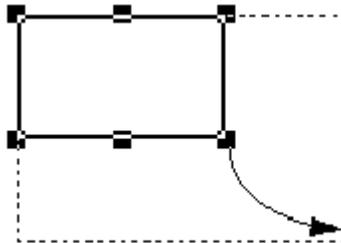
Growing an object

A selected object also has a *Rotation Handle*.

By dragging the rotation handle, a shape or line can be rotated to any angle.
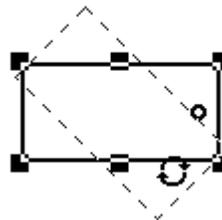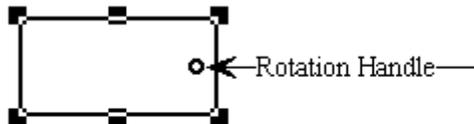
Selecting Multiple Objects

You can select several objects at one time. (This is useful for *Grouping* objects or for applying a common property, like a color, to all of them).

SmartDraw offers three ways to select several objects:

1) Hold the **Shift-Key** down while clicking on each object in turn with the normal selection tool.

2) Choose the Multiple Selection Tool on the toolbar (beside the regular selection tool) and click on a series of objects with it.

3) Trace an imaginary "box" around the group of objects with the mouse. Click in an empty area of the page, hold the mouse button down, and drag the mouse until the dotted box encloses the objects you want to select. Then release. All of the objects inside the box will be selected.

"Boxing" with the mouse

All objects selected
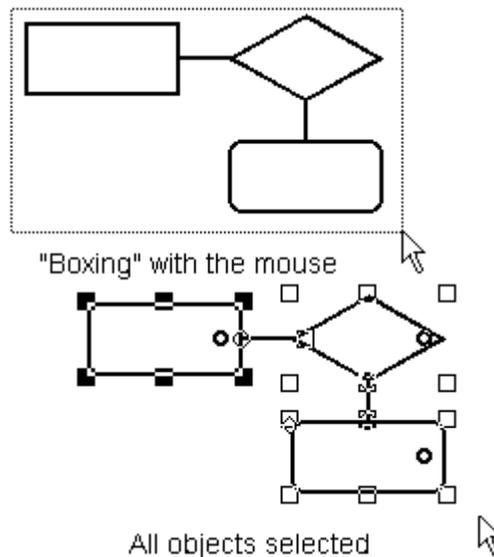
Boxing is useful for deleting unwanted objects from your page. Simply trace a box around the area you want to delete, then hit the delete key.

Select All

You can select all the objects in your drawing at once by choosing *Select All* from the **Edit** menu.

Tutorial Lesson 4: Using Lines

SmartDraw has four basic types of lines.

The *Straight Line* draws a straight line between two points. In Lesson 1, we connected two shapes with a straight line. You can also connect lines to other lines.

The *Arc* draws a section of a circle, of any size and curvature you want. You can bend the arc (using its handles) create anything from a straight line, to a complete circle of any desired radius.

Some of the things you can do with an Arc

The *Segmented Line* attaches itself perpendicularly to objects. It travels from point A to point B in straight segments with 90-degree turns. (Don't worry if it flops around while you're drawing it. When you finally anchor it, it will fall neatly into place.)
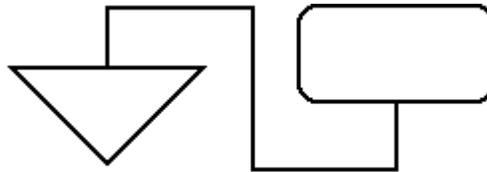
A Segmented Line connecting two shapes

The *Curved Line* attaches itself perpendicularly to objects, and it travels from point A to point B in a smooth curve.
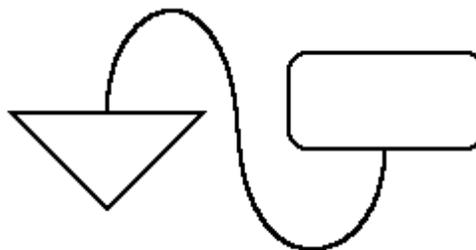
A curved line connecting two shapes

Change Line Shape

Any line in your drawing can be instantly converted to a line of another type by using the *Change Line Shape* command under the **Lines** menu.
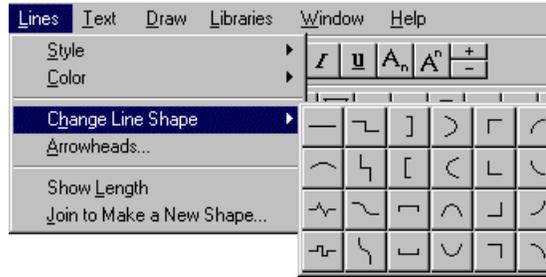
Tutorial Lesson 5: Adding Text to Your Drawings

SmartDraw makes it easy to add *text* to your drawings. If you want the text to appear inside an object, simply select the object (click on it) and start typing. Your text will automatically appear inside the object, and it will stay there even when the object is moved.

If you type more text than the object can hold, the text will automatically shrink (to a minimum size that you can control). Or, if you choose, your shapes can grow to accommodate more text as you type. You control this behavior using the **Text Entry Properties** command under the Shapes menu.
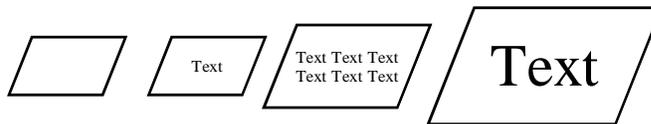
Objects can grow to accommodate text
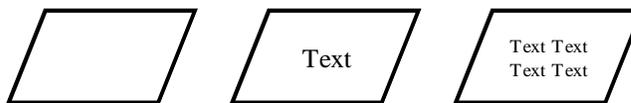
Or text can shrink to fit the object

By default, your text will appear in the center of your objects. But you can always change the position and alignment of the text with the *Alignment* feature on the **Text** menu.

The text alignment menu

Editing Text

To modify a piece of existing text, double-click on it to enter the *Editing mode*. All of the normal Windows text editing conventions apply: Dragging with the mouse selects text. Selected text can be cut, deleted or copied. The font, size, style and color of selected text can be changed using commands on the Text menu.

Adding Text to Lines

SmartDraw makes it easy to label the lines in your drawings. As with shapes, you can add text to any line by selecting the line (clicking on it) and typing text.
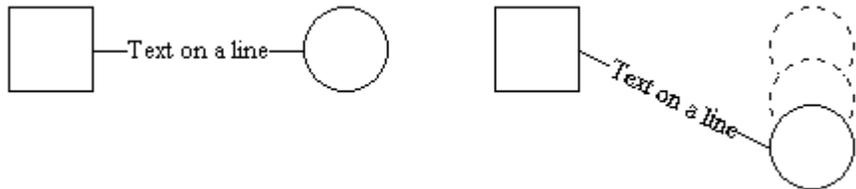
The text stays attached to the line, even when the line or its adjoining shapes are moved.

Background Text Objects

Text in SmartDraw does not have to be attached to a shape or line. You can create *Background Text Objects,* free-floating, independent objects that can be moved, rotated, or repositioned anywhere in your drawing.

Text Object　Text Object○　

Text Object

Text objects can be selected, rotated and repositioned

To create a Background Text Object, first select the Text Tool **A** by clicking on it. Then click once anywhere in the empty background of your drawing. A blinking "insertion cursor" will appear. Enter your text, then click once in an empty area of your drawing to end the text entry session. Any text you typed will become a free-floating object. You can move, rotate, or reposition this text object anywhere in your drawing.

Tutorial Lesson 6: Colors, Shading, Borders, Arrowheads

You can fill a SmartDraw shape with color or change the weight, style and color of its borders. Select the shape, then choose the appropriate command from the **Shapes** Menu.

| **Basic** | **Heavy Border** | **Fill Color** | **Shading** |
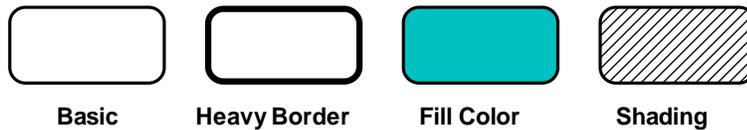
Lines can be modified using the **Lines** menu. You can change the weight and style of a line, or put arrowheads on it with the *Arrowheads* command. Each end of a line can have a different kind of arrowhead.

| **Basic Line** | **Heavy Style** | **Dash Style** | **Arrowheads** |
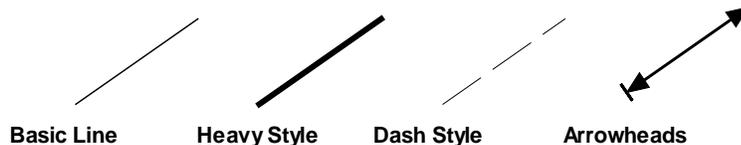
Tutorial Lesson 7: Automatic Connectors (the Easy Way to Draw Perfect Charts)

The *Automatic Connector* [icon] is a special kind of line that automatically connects several shapes together into evenly spaced patterns.

Organizational Chart   Network Diagram   Fishbone Diagram
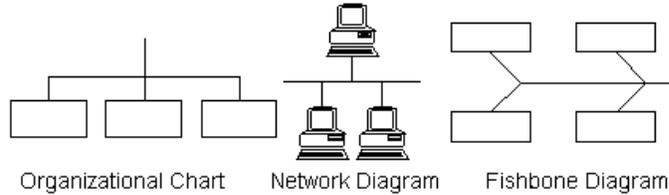
To use a new connector, drag and drop a connector [icon] from the toolbar onto the page. Then drag a shape from the tool bar and drop it on the connector, so it looks like this:

Then drag another shape to the connector, and another, so it looks like this:

Three boxes on a Connector
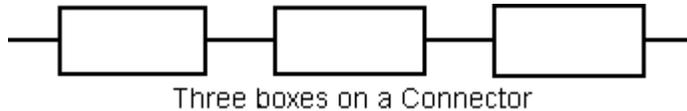
The connector arranges the shapes in a straight line and spaces them evenly.

To change the connector's shape, select the connector line, then choose **Change Connector Shape** from the **Lines** menu. Choose from the array of connector shapes:
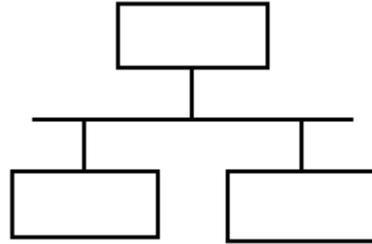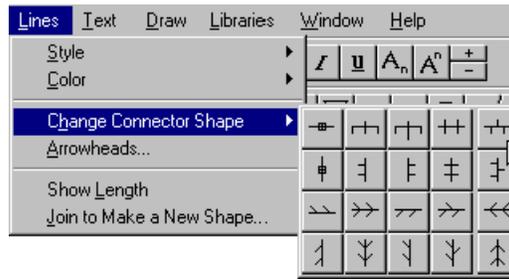
The result

Loose Ends

The ends of the connector stick out so they can be attached to other objects. To get rid of the loose ends, select the connector line, then grab the end and tuck it under the nearest line or shape.
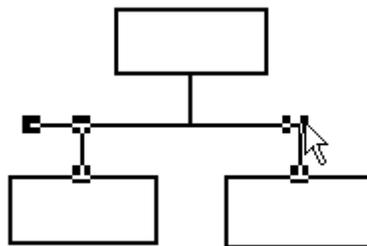
Tucking away a loose end

To get the end back, select the connector and pull the end out from the nearest line or shape.

Lines (and connectors) can be attached to a connector to make a hierarchy of levels.
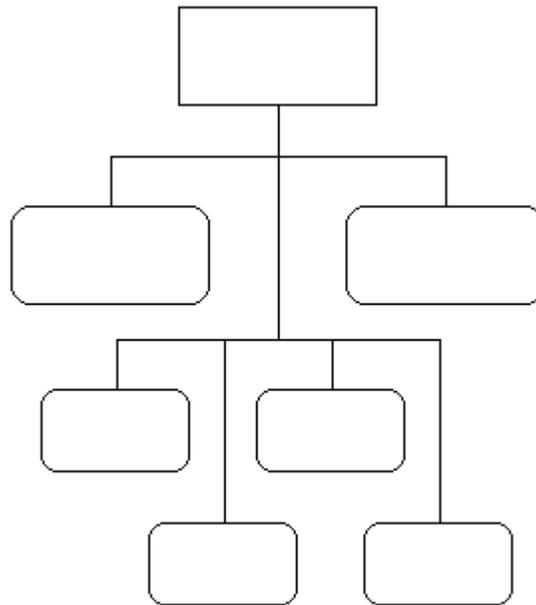
Organizational chart with 2 connectors

Adding Shapes to a Connector

When a shape or line is moved near a connector, *Link Points* appear, and the outline of the moving object jumps to the closest link point, showing its position if linked.

Releasing the mouse attaches the object to the connector, inserting the object at the link point.
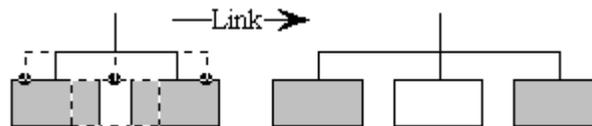
Linking to a Connector

Moving a shape away from the connector disconnects it, and the shapes still linked to the connector draw together to fill the space.
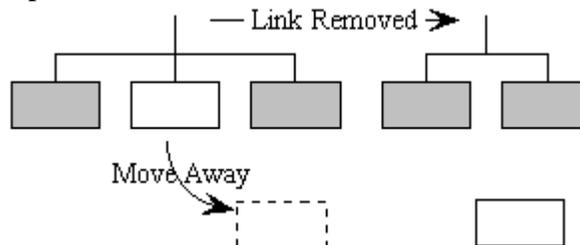
Breaking a Link to a Connector

Dragging a shape from one link point to another changes the order of the shapes.

Re-arranging a Link to a Connector
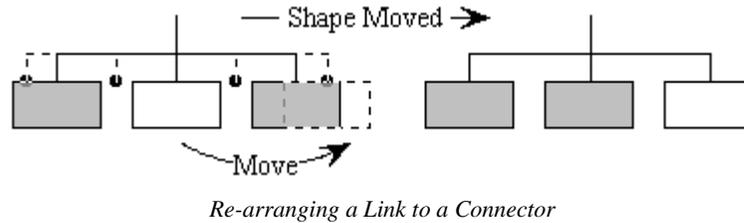
Tutorial Lesson 8: How to Line Things Up

SmartDraw can automatically arrange the objects in your drawings into neat, regular patterns. First, Select the objects you want to arrange. Do this by clicking on each object in turn with the Multiple Selection Tool.
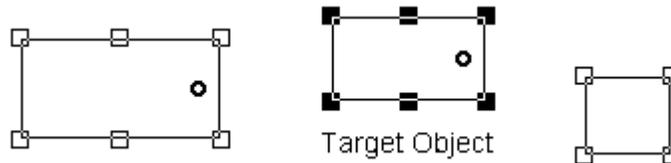
The last object you click is called the *Target Object*. It has black selection handles. When you use *Align* or *Make Same Size* (under the **Arrange** menu), all the selected objects will be aligned or re-sized to match the Target Object.

When you choose *Space Evenly*, the objects at each end of a series stay fixed, and the others are spaced evenly between them.

Results after using: Align, Make Same Size, and Space Evenly

Using Grid Snaps

Behind the SmartDraw page is a *Grid*, an invisible set of lines that can help align your objects. To see the Grid, select *Show Grid* from the **View** Menu. When you draw with *Use Snaps* turned on (**Arrange** menu), the objects in your drawing automatically align themselves with the

nearest Grid line. This makes it easy to get straight lines and neat arrangements.

Using the *Define Rulers and Grid* command (**View** menu), you can choose which point in your objects aligns with the grid (you can snap to either the *center* or *top left corner*).

To position your objects freehand, without using to the grid, turn off *Use Snaps* under the **Arrange** menu.

Making Fine Adjustments in Position

To move any line or object in the smallest possible increments (1 pixel at a time) select the object you want to move, and "nudge" it with the **arrow keys**. This technique is much more precise than moving with the mouse.

Other Commands on the *Arrange* Menu

- *Flip* (mirror) an object.
- *Rotate* an object to a specific angle (permitting greater precision than the manual *Rotation Handle*.)
- *Send to Back*, or *Send to Front*. If the object you want is hidden behind another, select the obstructing object and *Send to Back*.
- *Allow Lines to Link* - When this is on, lines "link" and stay connected to lines or shapes.
- *Allow Shapes to Link* - When this is on, shapes "link" and stay connected to each other.
- *Allow Shapes to Link to Lines* - When this is on, shapes "link" and stay connected to lines. They can be moved up and down the line like beads on a string.

Tutorial Lesson 9: Grouping and Un-Grouping Objects

Sometimes several objects are more conveniently handled as a *Group*. When objects are **Grouped**, they are treated as a single unit. They maintain their positions relative to each other, even when moved or rotated. A change made to one applies to all.

To *Group* several objects, first select them all (using the Multiple Selection Tool). ⊞ Then select **Group** from the **Arrange** menu.

Separate Shapes   Select All   After "Group"   Rotated Group
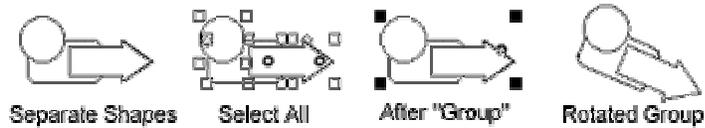
Once Grouped, the objects can no longer be selected individually. If you rotate or re-size a group, all the objects rotate or re-size together. If you change a property (like a color), all objects in the group change.

To use the Grouped objects individually, you must *UnGroup* them. Select the Group, then pick **UnGroup** from the **Arrange** menu.

Tutorial Lesson 10: Using the Libraries

SmartDraw has hundreds of *Symbol Libraries*, containing special shapes, objects, and pieces of clip-art ready to be dropped into your diagrams.

Clicking on the Open Library button 📂 on the Toolbar, or choosing **Open SmartDraw Library** from the **Libraries** menu, opens the **SmartDraw Explorer**. This is normally already open.

You can see all your SmartDraw libraries and templates in the Explorer Tree.

As your mouse hovers over each library in the tree, a **Preview** pops up showing the contents of that library.

Double-click the library to open it, or drag it to the drawing area. The newly opened library floats above your document. You can move it by dragging on the title bar of the library Window.

A floating Library Window

Docking

If you drag a library window to the top of your document window, it will *Dock* and become a *Document Toolbar*. You can *Detach* a docked toolbar by right-clicking on it and selecting **Detach**.

Document Toolbar below the Program Toolbar

The Document Toolbar is a *Library* of symbols appropriate to a particular kind of diagram. It appears below the Program Toolbar (the "normal" toolbar) at the top of the SmartDraw Window.

Drag and Drop from Libraries

Drag shapes and objects from the library onto your page (by clicking and dragging with the mouse), just as you would from the Toolbar.

Adding Shapes to Libraries

You can add a shape or symbol (even one you created) to any SmartDraw Library. Open the library to which you want to add the shape. Then simply drag the shape from your page and drop it in the library.

If the shape is a new one that you created, you can use the *Join to Make a New Shape* command (**Lines** menu) to join your separate lines into a shape that SmartDraw recognizes as a single unit.

Drawing To Scale

Objects in libraries can automatically scale themselves to your drawing as you add them.

To use auto-scaling, double-click on any symbol button in a floating library window to bring up the **Edit Symbol** dialog. Click on **Scale to Ruler Settings** and type in the real-world size of your object.

Make sure the ruler settings for your drawing are set to the appropriate scale (see **Define Rulers and Grid** under the **View** menu). When you add the object to the drawing, it will scale itself according to the ruler settings.

For example, if a drawing has rulers set so that one screen inch is equivalent to 48 inches, then a 36-inch desk symbol will be sized automatically to be 0.75 inches long in the drawing.

This is useful for scaled drawings like Floor Plans.

Creating New Libraries

To create a Library of your own, select *Create New Library* from the **Libraries** menu. You will be prompted for the name and location of your new library. (For more details, see *Libraries, New* in the SmartDraw **Help**.)

Add shapes to your new Library by dragging them from your page, or from other libraries. You can make a custom library of the shapes you use most often, and *Dock* it as a toolbar for your convenience.

Tutorial Lesson 11: Tables and Forms

You can create a *table* by clicking the Table Button 	on the toolbar, or by selecting **Add New Table** from the **Tables** menu. Tables are particularly useful for creating timelines, organizational charts, software diagrams, and business forms.

Adding a new table presents the **Format Table Dialog,** where you define the properties of your new table:
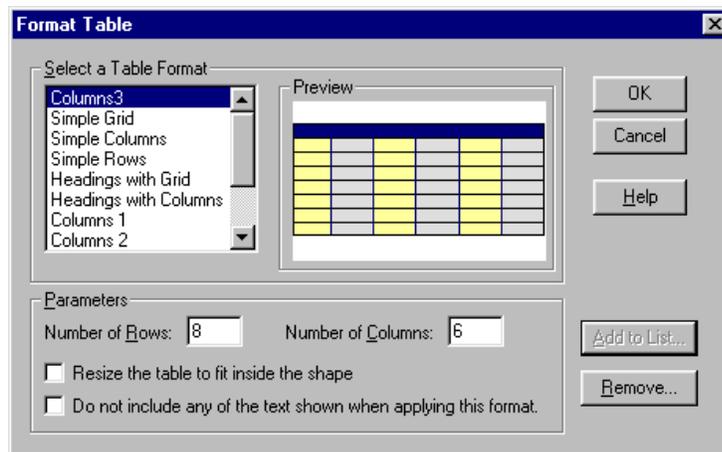
The Format Table Dialog

You can choose from among the ready-made table formats, or define your own by specifying the number of rows and columns. Click OK to add the new table to your drawing.

You can even insert tables inside shapes, to create multiple text-entry areas:
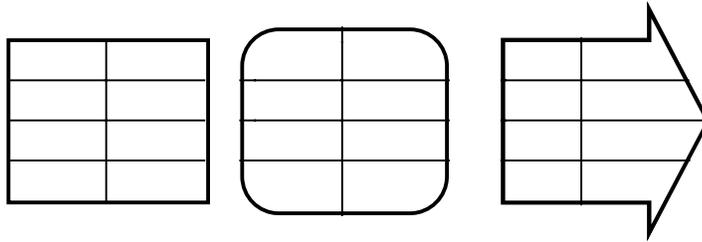
Different Shapes Containing the Same 2x4 Table

You can manipulate a table's rows, columns and cells in countless ways. You can join, split, or color the cells. You can drag the cell dividers to create wider or narrower rows and columns. You "lock" the text in certain cells so it can't be modified (very useful for creating the prompts in business forms.) SmartDraw can even *automatically* fill in the cells with numbers, dates, days of the week, months of the year, and other common data patterns, saving you the trouble of typing long series of data.

Some different table formats

You can even create business forms containing "live" data fields that can be filled-in on-screen:

WEEKLY TIME RECORD							Time Clock _____

Employee's Name_____

Department_____ Week Ending _____

DAY	Morning		Afternoon		Overtime		Office Use	
	IN	OUT	IN	OUT	IN	OUT	Regular	Overtime
Monday								
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								
Sunday								
					Totals			

Approved by_____

This entire business form consists of a single table

To learn more about the powerful features of SmartDraw's Tables, browse through the commands under the **Table** menu or see *Adding Tables to a Drawing*.

Tutorial Lesson 12: The Professional Finish (Colors and Shadows)

SmartDraw provides dozens of pre-formatted *Styles* to give your drawings a polished, professional look. Choose *Colors and Shadows* from the **Edit** menu to see a list of styles you can choose from.

Selecting a style affects your entire drawing—each shape and line in the drawing is modified to match the selected Style. You can choose from different background colors, border and fill colors, shadows, and three-dimensional (raised and lowered) edge effects.

Here are just a few examples:

Basic Black & White

Color on White

Pastel Raised
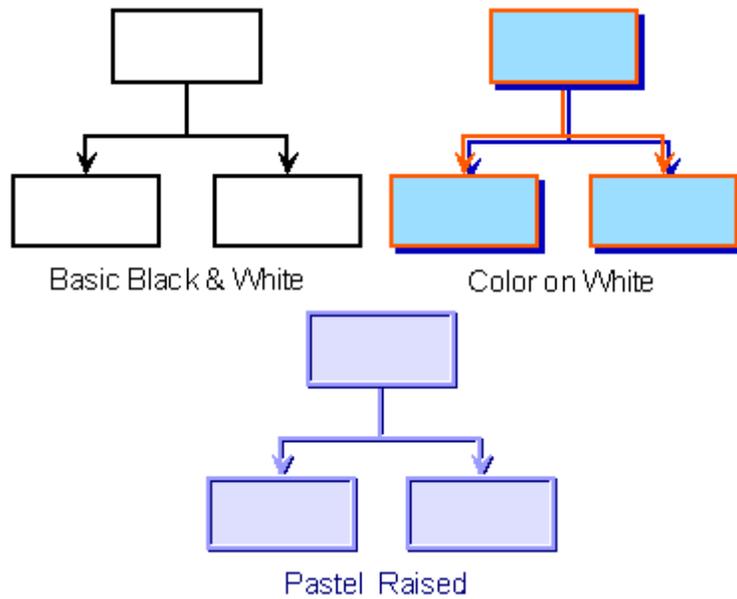
Enjoy SmartDraw

We hope this quick overview has helped you get started with SmartDraw. For complete information on SmartDraw's features, which go well beyond those described here, consult the rest of the on-line or printed SmartDraw User's Guide.

Drawing with SmartDraw

Adding Objects

A SmartDraw drawing is made up of shapes and lines. Shapes and lines are called **Objects**.

You add shapes and lines to your drawing using the bottom row of buttons on the program toolbar,

The Line and Shape Toolbar

Or from Symbol Libraries, show in floating windows above the drawing.
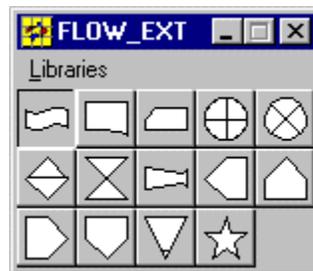
Symbol Library Window

There are two ways to add shapes and lines to your drawing:

Drag and Drop

This method requires only one mouse click and gives you a shape or line with a standard size and shape. This is best explained with an example.

To add a rectangle shape, first click on the rectangle button on the toolbar without letting go of the mouse button. While still holding down the mouse button, move the cursor onto your drawing. (This is called dragging with the mouse.) A rectangle shape follows the cursor. Once you let go of the mouse button, a new rectangle is added to your drawing.
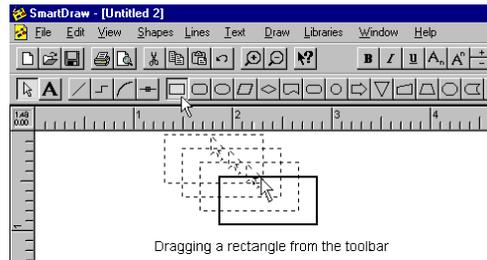
Drag and Drop

Double clicking on the shape button can set the size of the shapes you drag from the toolbar.

Lines created by Drag and Drop are always the same size and shape. (Lines are usually drawn using the **Pencil** method instead, described below).

Symbols can also be dragged and dropped in the same way by clicking on the buttons in a library window.

Pencil Drawing

The pencil method requires two clicks but gives you full control over the size and shape of the object that you draw.

To add a rectangle shape using this method, first click on the rectangle button in the toolbar, and then let go of the mouse button. As the cursor is moved into the drawing window it changes to the pencil cursor. Now if you click in the drawing window and keep the mouse button pressed and you move the mouse, a rectangle is drawn, as if the mouse were a pencil. This method can be used for shapes, lines and library symbols.

For shapes that can be stretched to any proportion, like rectangles, perfectly square versions can be made using the pencil draw method. To do this, simply hold down the **Ctrl key** while drawing the shape. This trick with the **Ctrl key** also applies when resizing a shape with the mouse.

Sticky Tool Selection

Normally, after you have drawn an object using the pencil method, the selection (pointer) tool is selected automatically. If you want to draw several copies of the same kind of object, you can force the drawing tool that

you are using to remain selected by holding the **Shift key** down the first time you click on it. Holding the **Shift key** down when you select any drawing tool, causes it to remain selected until you click on another tool, or drag and drop a shape.

Drawing Lines and Curves

Lines and curves are usually drawn using the pencil method. There are four kinds of line: straight lines, arcs, segmented lines and curved lines.

Straight Lines

Straight lines connect any two points. They may be drawn at any angle, but will snap to perfectly horizontal or vertical directions if drawn close to these directions**.**

Lines may have one of three different shapes shown on the **Change Line Shape** menu.
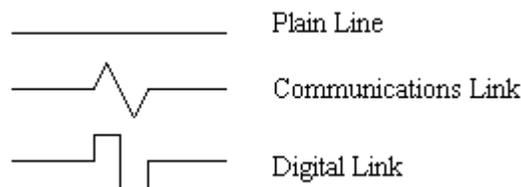
Line Types

A straight line is initially drawn as a plain line. You can change its shape by selecting it and applying the **Change Line Shape** command.

Arcs

Arcs connect any two points with the arc of a circle. Like straight lines, arcs can be rotated and converted to other line shapes using the **Change Line Shape** command. The degree of curvature of an arc can be adjusted using the special selection handle at its center.
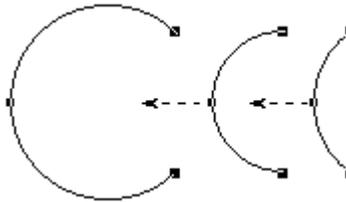
Adjusting the Curvature of an Arc

Segmented Lines

Segmented lines are designed to connect shapes. When
linked to a shape (see *Connecting Lines and Shapes* on
page 128) the end linked becomes perpendicular to the side
of the shape that it is linked to (i.e. it sticks out from the
side). If the other end is linked to another shape, it also
becomes perpendicular to the side of the shape that it is
attached to.

Moving the shapes around causes the segmented line to
change its shape to maintain the directions of its starting
and ending segments. Segmented lines can have from 1 to 5
segments, depending on the arrangement of the shapes
linked.

You can change the shape of segmented lines using the
Change Line Shape menu. The **Flip** command (page 68)
can also be used to create additional variations.
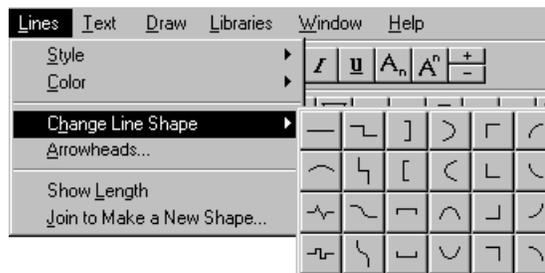
Change Line Shape

You can also change segmented lines into straight lines and
curves using this command.

Curved Lines

Curved lines are the same as segmented lines with rounded
corner. They too are designed primarily to link two shapes
together. They follow the same rules as segmented lines,

always maintaining a direction that sticks straight out from the side of the shape they are linked to.

When not linked, a curve is initially a simple "**S**". The **Change Line Shape** command can be used to change its shape to a semi-circle, an "S" curve, or any other line shape.

Automatic Connectors

An Automatic Connector is a special type of line that changes shape as other objects are linked to it. The best way to explain this is to consider an automatic connector designed to create the classic horizontal organization chart, as an example:
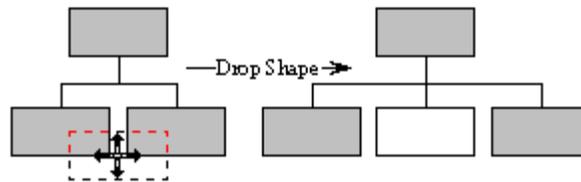
Adding a new shape to an automatic connector

As the figure shows, dropping a shape on an automatic connector automatically adds the shape to the group of shapes on the connector, with all necessary lines added automatically.

Connectors are described in their own chapter, *Formatting with Automatic Connectors*, on page 134.

Connectors are either perfectly horizontal or vertical. The arrangement of the shapes attached to them can be changed using the **Change Connector Shape** command on the Lines menu. This replaces **the Change Line Shape** command when a connector is selected. Connectors cannot be changed into the other line types and vice-versa. The **Flip** command (page 68) can also be used to create additional variations.
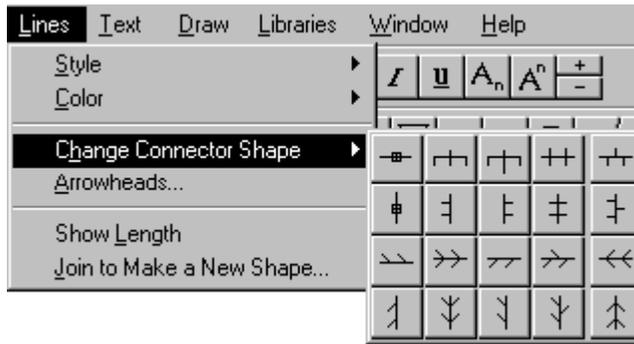
Change Connector Shape

Selecting Objects

Before any menu operations, such as color changes, can be applied to an object, it must first be selected.

Selected objects are shown with **Handles** on the corners and sides as shown below.
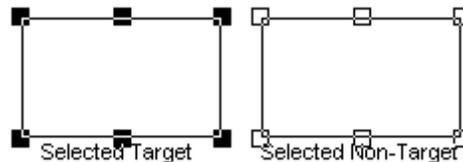
The most recently selected object is always shown with solid (black) handles and is called the **Target**. Other selected objects are shown with hollow handles. The target object is called the target because other selected objects are aligned or re-sized to match it when you use the **Align** and **Make Same Size** commands.

Objects that are linked to other objects have round handles at the connected points.

Objects are selected by clicking on them with the mouse while the Arrow button on the toolbar is depressed. Shapes filled with the transparent color must be clicked on their border.

Selecting an object by clicking on it de-selects all other selected objects unless you hold the **Shift** or **Ctrl key** down while you click. With the **Shift** or **Ctrl key** held down, clicking on a selected object de-selects it.

Selecting Multiple Objects

The easiest way to select more than one object is to first click on the **Multiple Selection** tool on the toolbar. With this tool selected, clicking on an object does not de-select others. You can select more than one object by simply clicking on them one at a time. Clicking in the background of the drawing cancels the selection of the **Multiple Selection** tool.

You can also select more than one object by dragging the mouse with the Arrow button depressed. To drag the mouse, hold the left mouse button down and move the mouse. Then let the mouse button up.

Dragging the mouse this way across the drawing window draws a temporary dotted rectangle. Any objects completely enclosed by this rectangle are selected once the mouse button is released. Holding the **Shift key** down while dragging adds the enclosed objects to any existing selection.

Sometimes, it's hard to click on the object that you want because other objects lie on top (or in front) of it. There are two ways to overcome this:

You can select the objects on top and use the **Send to the Back** command under the Arrange menu.

You can also drag around all the objects, selecting them all. Shift clicking on the objects in the front now de-selects them, leaving only the object you want still selected.

To select all the objects in a drawing use the **Select All** command under the Edit menu.

Once selected, the colors, borders and other attributes of objects can be changed using the menu commands. Selected objects can also be cut, copied and duplicated. Typing from the keyboard when a shape is selected adds text to it. These actions are described in much greater detail later.

Moving Objects

Using the Mouse

You can move an object simply by clicking on it with the mouse, and then moving the mouse, while keeping the mouse button pressed down. An outline of the object follows the mouse as you move it.

If you hold the **Shift key** down while you use the mouse to move an object, it moves only horizontally or vertically (not diagonally).

Moving a Group of Objects

If more than one object is selected, clicking on one of them moves all of the selected objects as a group. More than one object may also be moved if the object clicked on is linked to others. When a group of objects is moved, an outline of the rectangle that encloses the group follows the mouse.

Using the Arrow Keys

You can use the arrow keys to move a selected object very precisely. Typing an arrow key moves the object by one screen pixel (1/100 of an inch at normal viewing magnification) with each keystroke. The right and down arrows move the object to the right and bottom. The left and up arrows move it to the left and up. If more than one object is selected, all are moved.

Aligning Objects

The **Align** command under the Arrange menu can be used to align all selected objects with the selected target object. This is described in detail in the *Arranging Objects* section on page 125.

Spacing Objects Evenly

The **Space Evenly** command under the Arrange menu can be used to arrange all selected objects so that they are separated by equal distances. This is described in detail in the *Arranging Objects* section on page 126.

Centering the Drawing on the Page

The **Center Drawing on Page** command under the Arrange menu can be used to move all the objects in the drawing so that they are centered in the minimum number

of pages needed to print them. This is described in detail in the *Arranging Objects* section on page 126.

Sizing Objects

Using the Mouse

To change the size and shape of an object you must first select it, and then click on one of the selection handles (or black squares) with the mouse. Moving the mouse, while keeping the mouse button pressed down, moves the handle and changes the size of the object.
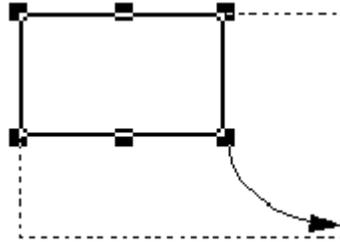
Growing an Object

Only one object at a time can be resized this way.

Some shapes, like rectangles, can be sized to any proportion. Others, like circles, can grow so as to maintain their proportions.

Handles drawn in the middle of the sides of the rectangle grow the object only in the direction perpendicular to that side. Handles at the corners grow in all directions for non-proportional shapes.

Proportional shapes (like circles) have no handles on their sides, and their corner handles grow the shape only proportionately.

For shapes that can be stretched to any proportion, like rectangles, perfectly square versions can be made by holding down the **Ctrl Key** while dragging with the mouse.

Holding down the **Shift Key** forces them to grow in proportion to their current shape.

For shapes that can normally only be sized proportionately, holding down the **Shift Key** while dragging with the mouse allows them to be sized to any proportion.

Sizing with the Arrow Keys

You can finely adjust the size of a selected object using the arrow keys . Typing an arrow key, while holding down the **Shift Key**, increases or decreases the size of the object by one screen pixel (1/100 of an inch at normal viewing magnification) with each keystroke. The right and down arrows increase the size at the right and bottom. The left and up arrows decrease the size at the right and bottom.

You can apply these changes to more than one object simultaneously, by selecting more than one first.

Make Same Size

The **Make Same Size** command under the Arrange menu can be used to make all selected objects the same size as the selected target object. This is described in detail in the *Arranging Objects* section on page 125.

Grouping

Objects may be combined into **Groups**. When grouped they may be sized proportionately as a single object. This is described in detail in the *Creating Your Own Shapes* section on page 163.

The Shape Properties Dialog

The **Shape Properties Dialog** allows you to change the sizing and other behaviors of a shape.
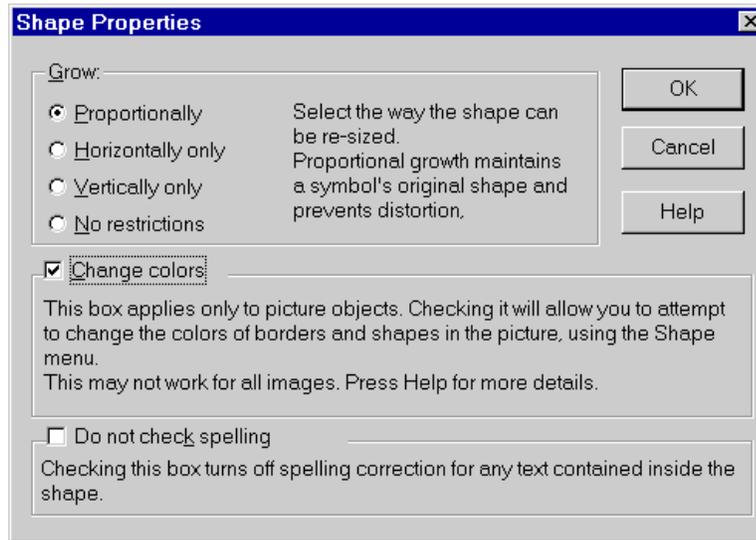
Shape Properties Dialog

There are four choices of sizing behavior:

Proportional objects have only four grow handles (one at each corner) and maintain their proportions when re-sized. Imported images (and many library symbols) are initially set to resize proportionally.

Horizontal Only objects have only two grow handles and can be re-sized only in the horizontal direction.

Vertical Only objects have only two grow handles and can be re-sized only in the vertical direction. This is good for objects that represent vertical lines.

No restrictions allows objects to grow in all directions without maintaining proportions. These objects have the usual 8 grow handles.

The **Change Colors** box applies only to certain library symbols and imported images and is described on page 179.

The **Do not check spelling** check box turns off (or on) spelling correction for the text inside this particular shape. This is useful if you want to keep spelling correction turned on for your drawing in general, but want it off for a particular shape that contains a proper name or some other text that is flagged as misspelled by the spelling checker. When you group objects, spelling correction is turned off

for text inside the group. You can turn it back on again with this setting.

The Position and Size Dialog

You can set the size and position of an object to an exact value using the **Position and Size Dialog**. This allows you enter dimensions and position for a single object in the same coordinate system shown on the rulers (page 167). You show the dialog by first selecting an object and then using the **Position and Size** command under the Arrange menu.
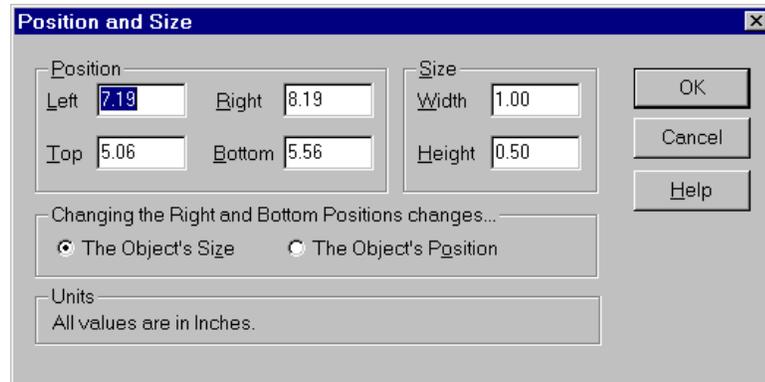
The Position and Size Dialog

You can specify the left, top, right, and bottom of the shape in the units shown.

Changing the left and top values also changes the right and bottom, shifting them to maintain the same width and height.

The two radio buttons control whether changing the object's bottom or right value changes the object's size (by leaving the left and top unchanged) or changes the object's position (by changing the left and top to maintain the dimensions).

Lines have position dialogs that differ from shapes, allowing you to enter the length of the line.

Rotating Objects

All shapes, text and straight lines can be **Rotated** by any angle. You can do this manually by selecting the rotation handle that these objects show when selected. The cursor changes to the "rotation" shape shown in the margin when positioned over a rotation handle.
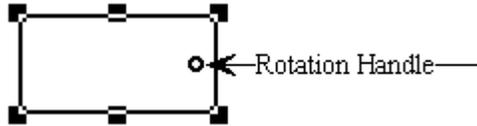
A Rotation Handle

Clicking on the rotation handle and dragging with mouse rotates the shape about its center.
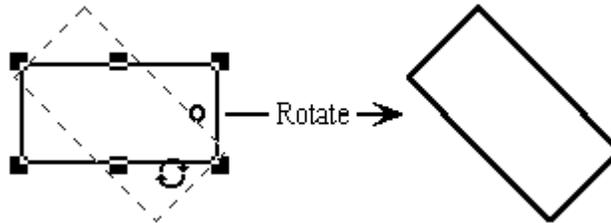
Rotating a Shape

When the **Snap to Grid** feature is turned on, the angle of rotation snaps to an increment of 15 degrees (15, 30, 45 and so on.).

You can also rotate objects using the **Rotate** commands on the Arrange menu The **Rotate** sub-menu provides commands to rotate objects by 90 degrees in either direction, and to return an object to the horizontal position.

The **Set Angle** command allows you to specify the exact angle of rotation within one tenth of a degree, via the **Set Rotation Angle Dialog**.
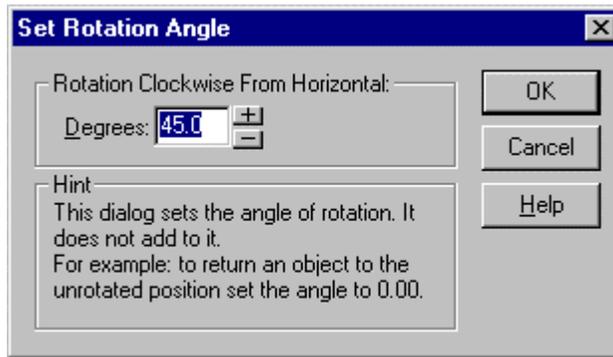
Set Rotation Angle Dialog

The rotation commands on the menu apply to all selected objects. This allows you to rotate a group of objects by the same angle. Furthermore, the angle shown in the Set Rotation Angle dialog is the one associated with the last object selected (the **target object**, described on page 59).

This feature allows you to align the rotation angle of a group of objects to one particular object: Simply select the objects that you wish to align, then, holding the **Shift key** down, select the target object that you wish to align them to. Now select the **Set Angle** command and press **OK**.

You can rotate straight lines, any shape, and most imported images. Segmented lines, curves, bitmapped image objects, and automatic connectors do not rotate. Also, objects linked to others do not rotate. (Since they cannot maintain their link if they do!) However, you can rotate a shape or line before you link it. Objects that do not rotate do not show a rotation handle.

When an object is rotated, the text associated with it rotates too.
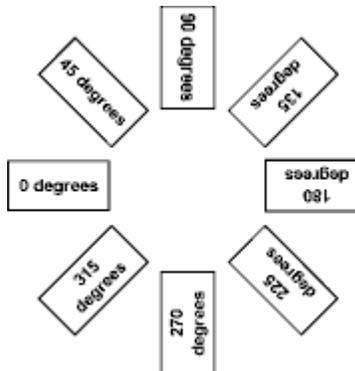
If you want the text in a rotated object to remain horizontal, you can change it into a new (rotated) shape, before you add text. This is described in *Creating Your Own Shapes* on page 162.

Flipping Objects

All objects, except bitmapped images, can be **Flipped,** either horizontally or vertically.

Horizontal flipping changes an object as if it were reflected in a mirror **down** its middle.
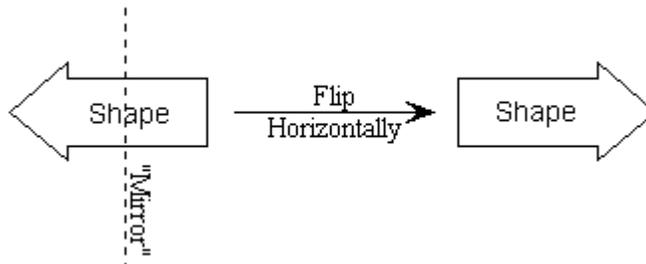
Horizontal Flipping

Vertical flipping changes an object as if it were reflected in a mirror **across** its middle.
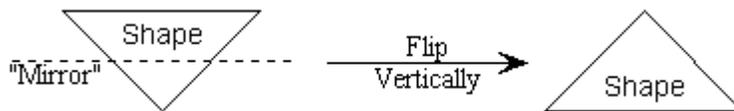
Vertical Flipping

Note that text is unaffected by flipping.

Flipping can be used to generate even more styles of connectors and segmented lines than are available on the **Change Connector Shape** and **Change Line Shape** menus.
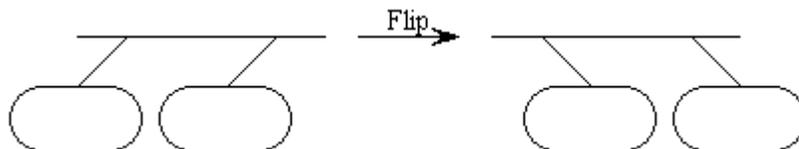
Changing Connector Styles with the Flip Command

Deleting Objects

You can delete objects from a drawing by simply selecting them and then typing either the **Del key**, or the **Backspace**. The **Clear** command under the Edit menu has exactly the same effect.

Duplicating Objects

The **Duplicate** command, under the Edit menu, makes a copy of the selected objects and adds them to the drawing, offset by a small distance from the original objects.
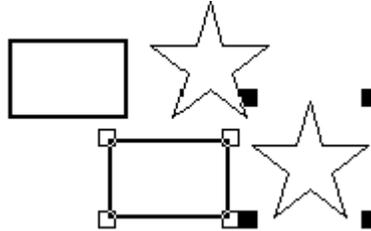
Duplicating Two Objects

The duplicated objects are automatically selected so that they can be moved as a group by clicking on one of them. If the newly duplicated objects are moved with respect to their original copies, the new distance between them and the original set is used as the offset for further duplications. You can use this feature to create rows and columns of evenly spaced lines or shapes very easily.

The illustration below shows the steps involved in making a column of evenly spaced lines.
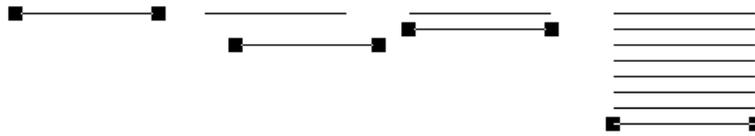
Step 1 - Draw a line   Step 2 - Duplicate it   Step 3 - Adjust the offset   Step 4 - Duplicate again and again

The SmartDraw Explorer

The SmartDraw Explorer Panel

The **SmartDraw Explorer** shows a list of libraries, templates, and examples in a panel on the left of each drawing. This panel is open and visible by default.
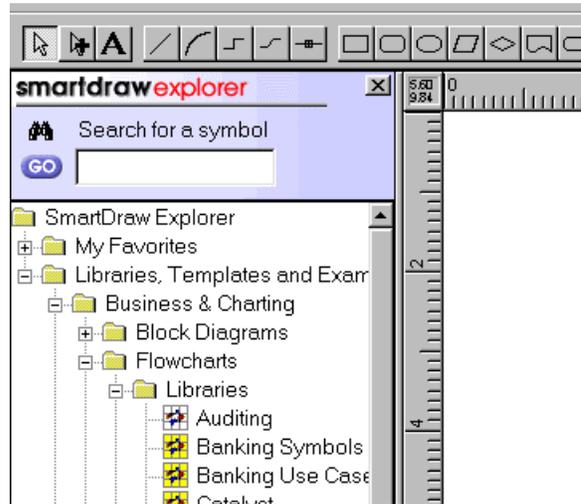
The SmartDraw Explorer Panel

You can close the panel by clicking in the close box at its top-right, or by dragging the divider that separates the panel from the drawing area all the way to the left. This divider can also be moved to adjust the width of the panel. It can never be more than 50% of the document window.

You can re-open the panel by using the **Show Explorer** command on the View menu, by pressing the **Open Library** button on the toolbar, or by selecting the **Open Symbol Library** command from the Libraries menu.

The Explorer Tree Control

The SmartDraw Explorer panel contains a *Windows Explorer*-like tree control that shows all of the libraries,

templates and examples installed on your system, organized into a hierarchy of categories.

Each category appears as a folder icon. If you click on a folder it opens up showing either more folders representing sub-categories, or icons for libraries and templates.
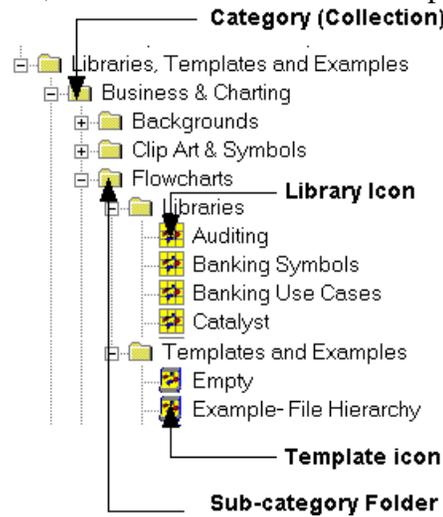
SmartDraw Explorer Tree Control

This organization lets you browse through each category looking for the library or template that you want, like a table of contents.

Browsing is made easier still by the Preview images of the libraries and templates that pop up as your mouse hovers over the library or template icons.
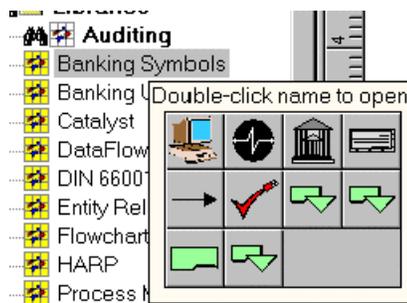
Preview Images

Clicking on an open folder closes it again.

You can also open and close folders by clicking on the + and – buttons next to the folder icons. Folders with + icons contain other folders and clicking on the + opens them. An

open folder containing other folders has a – next to it. Clicking on this closes the folder.

Searching the Tree

At the very top of the SmartDraw Explorer panel is the **Search Bar**. Typing a word into this bar and pressing the **Enter Key,** or clicking on the **Go** button in the bar, searches all of the libraries and templates in the tree for matches to the word.
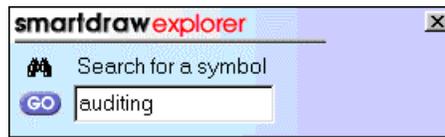
The Search Bar

In addition to their titles, every SmartDraw library and template contains keywords that describe its content. These too are searched. If browsing the tree is like looking in the table of contents of a book, then using the **Search Bar** is like looking in the index.

Once the search has been completed, the folders that contain matching libraries or templates are expanded and shown in **bold** with the search icon next to them:

Results of a Search

If you search with no search string, or no matches are found, all search icons and bolding are removed and the tree is closed up to its default state.

You can enter more than one word into the **Search Bar**, separated by spaces or commas. SmartDraw finds matches

for libraries that contain *any* of the words, but not necessarily *all* of the words. (OR not AND).

The search is not case-sensitive. (It doesn't matter if the words are in capital letters or not). Partial matches are found as long as the word begins with the search word. For example, if you searched for *Form*, matches would be found for *Forms and Formula* but not *Perform.*

The first time you search, SmartDraw has to build the word index. This can take several minutes. However, the next time you search, finding the symbol you are looking for is almost instantaneous.

Each time you cause the tree to be rebuilt, either by command or because you installed new collections, the word index also has to be rebuilt the next time you search.

Opening Libraries and Templates

Once you find the desired library in the Explorer tree , you can open and use it by simply dragging its icon to the drawing area. You can also open it by double-clicking on the icon, or selecting it and typing the enter key.

You can open a template in the same way. When you open a template, it normally opens in a new document window.

Favorites

At the very top of the tree is a folder called **Favorites**. You can drag library and template icons from the **Libraries, Templates and Examples** section of the tree into Favorites. You can also add an open library to your favorites using the **Add To Favorites** menu item under the Libraries menu that shows in the library window itself.

Your **Favorites** folder contains short cuts to any library or template you add to it. It provides quick access to the libraries and templates you use most often.

You can create your own sub-categories inside **Favorites** by clicking on the folders with your right mouse button. (See page 74). You can also drag icons (and sub-folders)

from one Favorite sub-folder to another. You can organize this section of the tree however you wish.

Because your **Favorites** folder contains only a short cut to the library or template itself, you can clear or delete favorite short cuts without deleting the libraries themselves.

Your **Favorites** folder is stored in your personal preferences and is not shared with any other user.

Right Mouse Button Menus

Clicking on the icons in the **SmartDraw Explorer** with the right mouse button displays a menu that depends on the type of icon clicked-on.

Library and Template Icons

Right clicking on a library or template icon lets you open it, add it to your favorites, or display a Preview that stays up until you click somewhere else.

Favorite Library and Template Icons

Right-clicking on a library or template icon in your **Favorites** folder lets you open it, remove it from your favorites, or display a Preview that stays up until you click somewhere else.

The Favorites Folder

Right-clicking on the **Favorites** folder itself lets you clear all favorites.

Favorites Sub-Folders

Right-clicking on a Favorites sub-folder lets you create your own sub-folder within. If the sub-folder is one you created, you can also delete it and rename it.

SmartDraw Explorer

Right-clicking on the **SmartDraw Explorer** folder at the top of the tree lets you refresh the tree or clear the favorites. Refreshing the tree is not normally something you want to do.

Refreshing the Tree

Closing the **SmartDraw Explorer** folder in the tree control and then re-opening, causes the tree structure to be rebuilt. There is rarely a reason to do this, since it will cause your next search to rebuild the word index.

Sometimes installing new libraries or templates will cause this to happen automatically.

If SmartDraw sometimes crashes when the tree is rebuilt, your Windows system has a mismatched set of system files that manage the tree control. You can normally correct this by installing Microsoft Internet Explorer 5.0 (or above). See Troubleshooting on page 231.

Previews and on-demand installation

SmartDraw's preview files provide all the benefits of having SmartDraw's complete catalog of symbols available, while using about 1% of the disk space required by the full libraries and templates.

A *preview* is a copy of a library or template file that contains only the ToolTip preview shown when you browse the tree and the keywords used when you search. Previews let you browse and search the catalog as if it were completely installed on your system. Previews are shown in the tree with white instead of yellow icons.

When you attempt to open a library or template preview file, you are given the opportunity to install the full copy, using the **Install Dialog**.
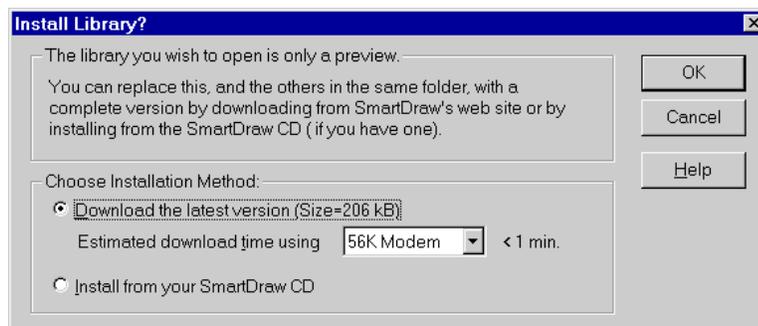
The Install Dialog

You can install either from your SmartDraw CD, or, if you are connected to the Internet, by downloading directly from smartdraw.com. Installing from smartdraw.com has the advantage that you are always getting the most recent version of the library or template.

If the library or template you are about to install requires a **Collection License** that you don't have, the **Install Dialog** warns you. You can use unlicensed symbols and then later purchase a license without having to repeat your work (images already placed in documents become licensed when you install a Collection license).. See page 77 for a complete description of Collection Licensing.

Downloading Your Installation

If you choose to install by downloading, selecting your connection speed gives you an estimate of the time required to complete the download. Pressing the OK button presents the **Download Dialog**.
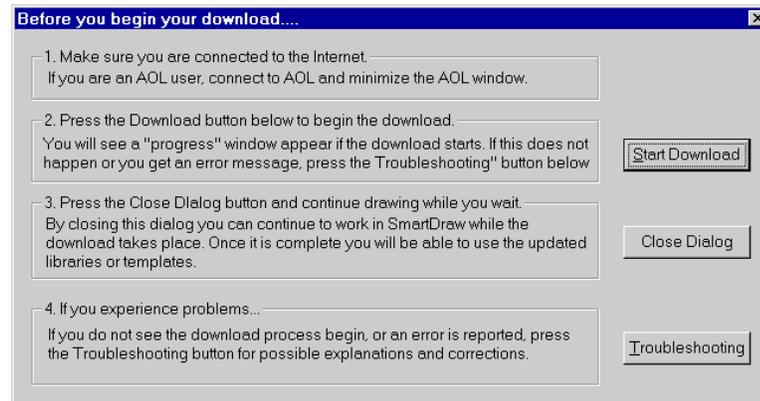
The Download Dialog

Press the **Start Download** button to begin the download and wait for a window to appear that shows the progress of the download.
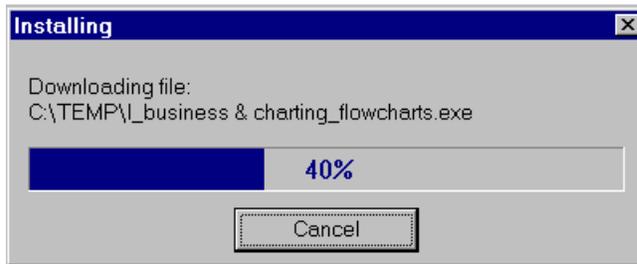
Progress Dialog

Once downloading has begun, you can close the **Download Dialog** and continue with your work. When the download is successfully completed the library or template you wanted to install will open automatically.

You must have access to *ftp* to install from smartdraw.com. Some corporate users have this service blocked. Talk to your network administrator if you have difficulties.

Installing from the CD
If you choose to install from the CD, the **CD Dialog** appears. Place the SmartDraw CD into your CD Drive and select its path using the **Browse** button.
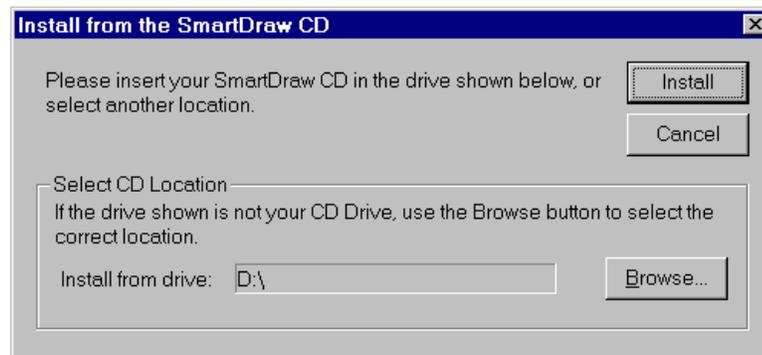
The CD Dialog

Pressing the **Install** button begins the install process. The library or template that you want to install is opened automatically once the install has successfully completed.

SmartDraw Collection Licenses
All of the SmartDraw libraries and templates are organized into nine *Collections* covering specific subject areas such as

Business & Charting, **Network Design** and others. These appear as top-level folders under **Libraries Templates and Examples** in the **SmartDraw Explorer** tree.

All of the collections are freely available for download from smartdraw.com. They are also included on the SmartDraw CD. However to use them without restriction you must install a license for each collection. SmartDraw Professional Plus includes all nine licenses automatically.

Using Unlicensed Symbols

When you use a symbol or template that requires a license without that license installed on your system, the symbols are displayed superimposed with an unlicensed *stamp*.
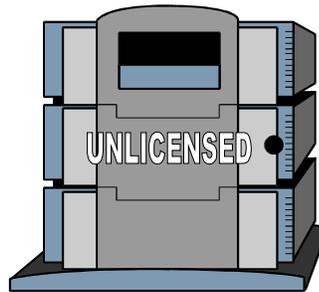
Unlicensed Symbol

When you install a valid license for the collection that the symbol belongs to, the unlicensed stamps go away. This happens even in drawings that have been drawn with unlicensed symbols, so *you can use symbols in their unlicensed state without having to recreate any of your work later when you obtain a license*.

The Baseline Set
Some of the libraries and templates in a collection require no license. SmartDraw includes selections from all of the collections in a *baseline set* of libraries and templates that require no additional licenses.
Every SmartDraw user has full, unrestricted use of these symbols and templates.

Changing the Appearance of a Drawing

Changing the Appearance of Shapes

The Shapes menu can be used to change the color and border style of existing shape objects.

The first step is to select the shape or shapes you wish to change, by clicking on them. (See *Selecting Objects* on page 59.) Selecting a color from the **Fill Color** menu will change the fill color of any selected shape. This color will also be the fill color of any new shape added to the drawing afterward. Lines, Image objects and symbols that are not re-colorable (See *Changing the Settings for a Symbol* on page 146) are not affected by fill color.

The Color Menu

The fill color can be transparent, which means that the background of the drawing shows through the shape. You can also pick from any of the 16 million colors supported by Windows using the **More Colors** selection.

Shapes have a border around their edge. This can be dotted, dashed, or solid with several weights. Heavy borders always grow towards the center of the shape.

Symbols that can be re-colored respond to border style changes by changing their appearance. Those that do not, show a border around the rectangle that encloses the drawing.

Shapes may also have no border (**None**). These shapes must have a different fill color than the background or they will not be visible.

The **Border Color** and **Border Style** menus change the appearance of selected shape borders. The values selected also become the default settings for the border of any new shape added to the drawing.
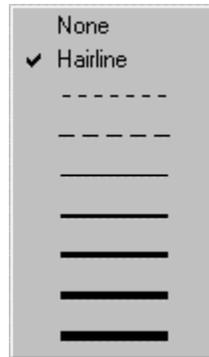
Border Style Menu

The **Shading** menu is used to fill a shape with a hatched pattern. The menu shows five hatched patterns and a plain (no hatching) choice.
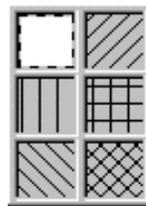
The Shading Menu

The hatched patterns use the border color for the hatching on a background determined by the fill color (including transparent fills). If a hatched pattern is selected and the border and background colors are the same, the border color is changed to a contrasting color.

Changing the Shape

The shape of an existing shape object can be changed to any of the other 24 standard SmartDraw shapes, using the **Shape** command under the Shapes menu. This displays the Change Shape menu.

Change Shape Menu

Any selected shapes are converted to the shape chosen from this menu. The command has no effect on library symbols or images.

Adjusting Shape Outlines

The outline of many of the standard toolbar shapes can be adjusted (for example, the degree of roundness of rounded rectangles or the angle between the vertical and horizontal sides of a parallelogram). The defaults for these quantities can be set when editing the toolbar. (See *Changing the Toolbar* on page 224.)

You can adjust the outlines of objects already in the drawing by clicking on their **Adjustment Handles**.
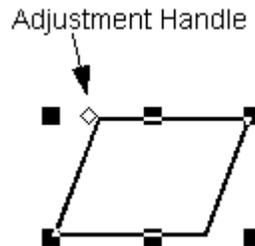
Adjusting Shapes

To adjust the outline of an adjustable shape, click and drag on the open diamond-shaped handle that appears when an adjustable shape is selected. You can see the effect of the

changes you are making in real time as a temporary dotted image shows the new outline of the shape. Release the mouse and the shape changes its outline to match the dotted image.

Redesigning Shape Outlines

Shapes can also be completely decomposed into their component lines and curves using the **Edit Shape Outline** command. . You can use this feature to redesign the outline of a shape, and then join the outline back into a new shape using the **Join to Make a New Shape** command under the Line menu. This is described in more detail on page 162.

Changing the Appearance of Lines

The Lines menu can be used to change the color and thickness of selected straight lines, arcs, segmented lines, curved lines and connectors.

The **Line Style** command changes the style. This can be dotted, dashed, or solid with several weights.

The **Line Color** command changes the color of any selected lines.

Arrowheads

You may add arrowheads to either or both ends of any line. There are 35 different built-in arrowhead styles, and you can also create your own. The style, size and placement on the line may be set using the **Arrowhead Dialog**. This is presented via the **Arrowheads**... command under the Lines menu.

Arrowhead Dialog
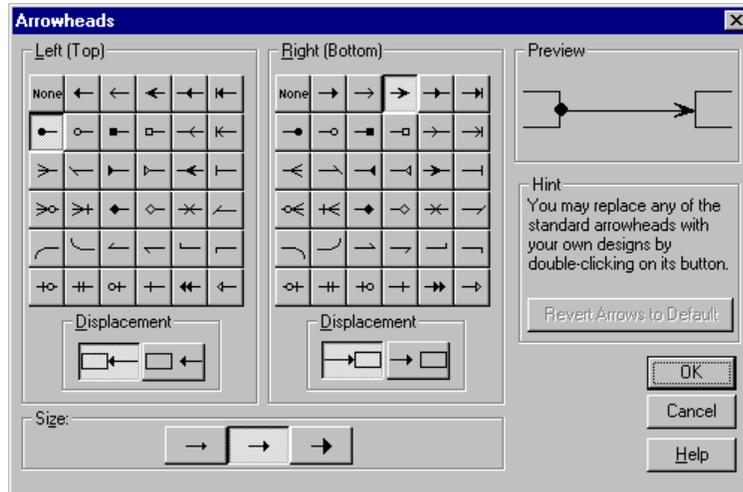
The Arrowheads Dialog

The buttons lets you pick an arrowhead style for each end of the line:

Left (Top)
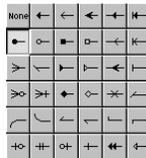
Clicking on one of the 36 style buttons changes the type of arrowhead that will appear on the left end (or top end if vertical) of the lines currently selected. A preview of the effect of this selection on a horizontal line is shown in the preview window. The "None" selection results in no arrowhead at the left end.

Right (Bottom)
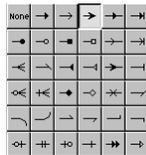
Clicking on these buttons changes the style of the right end (or bottom end if vertical) of the lines currently selected.

Displacement

This property controls whether the end of a line with an arrowhead is drawn to its full length or a little short. This is useful when lines are linked to shapes. If the line is displaced, it does not appear to touch the shape but still remains linked to it. This property can be controlled independently for each end of a line, and does not apply to ends with no arrowhead.

Size

Clicking on one of these three buttons controls the size of the arrows and applies to both ends of the line.

Arrowheads in the Center of Lines

Three of the arrowhead styles place an arrowhead at the center of the line instead of at the end.
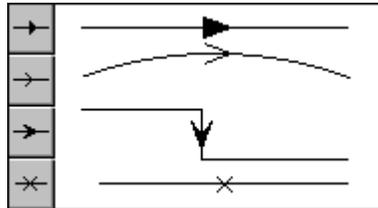
Centered Arrowheads

Lines with different settings

If the Arrowhead dialog shows no setting for a property, then the lines currently selected have different values for this property. For example, if two lines have different right arrows, no right-arrow buttons will appear to be pushed in when the dialog is displayed. If you leave the style buttons un-pushed, but you push one of the size buttons, then, when you press the OK button, both arrowheads will change size but they will retain their different right arrow styles.

Once assigned, an arrowhead remains fixed on the end to which it was assigned, despite any later changes in the line's direction.

Creating Your Own Arrowheads

In addition to the 35 built-in arrowhead styles, you can create your own. There are four steps involved:

1. Create an image for your arrowhead

Begin by drawing the symbol you want to use as an arrowhead, either with SmartDraw, or with some other drawing program. You can draw the symbol at a comfortable size. It need not be as small as the eventual arrowhead. SmartDraw will eventually scale it to the right size.

The arrowhead design should be for a *right-facing* horizontal arrow. SmartDraw will handle transforming the image for other directions. The arrowhead will eventually be drawn with dimensions that are 1.75x longer than wide. For best results, draw your symbol with that ratio of length to width.

New Arrowhead Image

2. Copy it to the clipboard

Use the **Copy** command to transfer your image to the clipboard (page 178).

3. Open the arrowhead dialog

Select a line and use the **Arrowheads** command under the Lines menu to open the arrowhead dialog.

4. Double-click on a right-facing button.

You may replace any of the standard arrowheads with your custom design. Select the arrowhead you want to replace and double-click on its right facing button. (When you replace an arrowhead on the right-facing button you automatically replace it for the left-facing button also.) You are presented with the **Customize Arrowhead Dialog**.
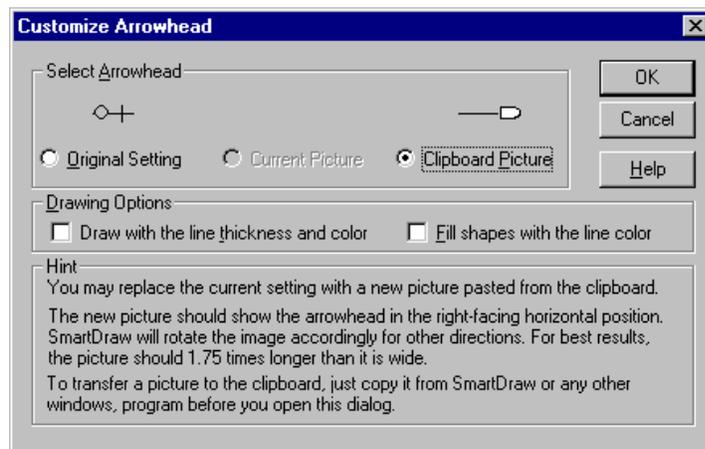
Customize Arrowhead Dialog

You should see your design attached to the end of a line above the **Clipboard Picture** radio button. Selecting this radio button replaces the built-in arrowhead with your

image. You can also use this dialog to return to the standard arrowheads at any time.

There are two other choices you can make with this dialog: To draw the outline of the custom arrowhead with the same thickness and color as the line it is attached to, and to fill any shapes in the design with the same color as the line.
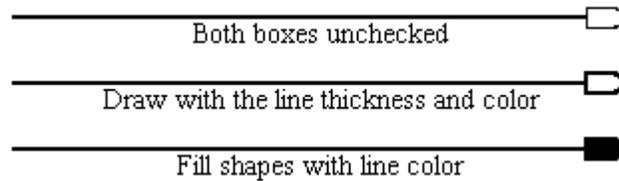
Effect of Custom Arrowhead Dialog checkboxes

The effects of these choices are shown above.

Once you have assigned a custom arrowhead to a button in the arrowhead dialog, you may assign it to any line in the normal way. The arrowhead is stored in your SmartDraw preferences (smartd4.opt) in your Windows directory. You can revert all of your arrowhead settings back to their default using the **Revert Arrows to Default** button in the arrowhead dialog

Changing Line Shape

Lines and Automatic Connectors can have many different shapes, and you can convert one line shape into another using the **Change Line Shape** and **Change Connector Shape** commands. Note than you cannot change a line into an Automatic Connector, and vice-versa. These commands are described in the section beginning with *Straight Lines* on page 56.

Changing the Background Color

The background of the drawing itself may be colored. You change the background color using the **Background Color** command under the View menu. One of the selections is transparent. Drawings with this colored background differ from those with white backgrounds only in the way their images are exported. Drawings with transparent

backgrounds export transparent images that acquire the background color of the document that displays them. Drawings with white backgrounds export images that have opaque white backgrounds, no matter where they are displayed.

The background color is one of the settings specified in the Color and Shadow style.

Colors and Shadows

The **Colors and Shadows** command, under the Edit menu, allows you to apply a design **Style** to your drawing. A style is a color scheme, specifying the color of the drawing background, shapes, borders, lines, text and shadows, and a shadow type. Using the command presents the **Colors and Shadow Dialog**.
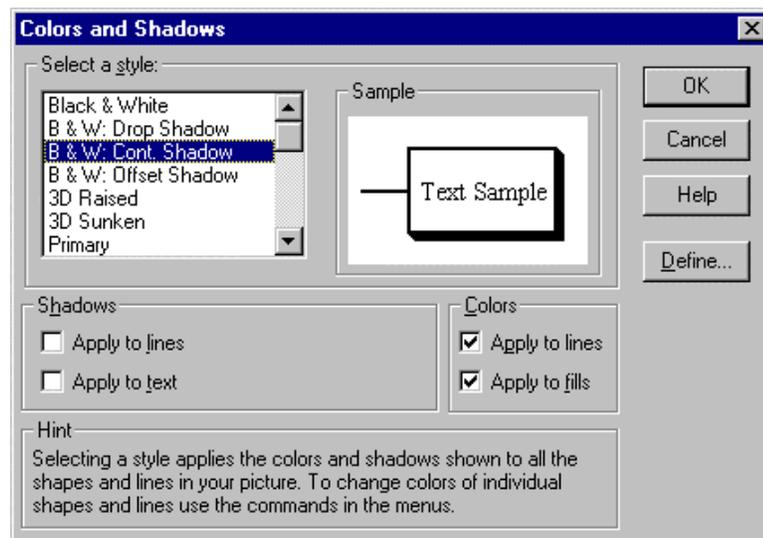
The Colors and Shadows Dialog

SmartDraw provides many ready-made styles. These are listed in the **Select a style** list box. A preview of the style's appearance is shown in the **Sample** window to the right of it. Changing the style selection changes the preview. You can browse through the available styles using the up and down arrow keys to change the selection.

Once you have selected the style you want, pressing the OK button applies the colors and shadow styles to your drawing. This is a very quick and easy way to change all the colors in a drawing to a consistent style in one operation. You can undo any change you make, or you can apply another style to try any number of different "looks".

If you select a shadowed style, shadows are applied to your shapes. Some styles also apply the same kind of shadow to lines and to text. The 3D styles give the raised and sunken looks common in Windows dialogs.

You can control whether a shadowed style applies the shadows to lines and text by checking the boxes in the shadow section of the dialog:

Apply To Lines
Checking this box applies the selected shadow style to lines as well as shapes. This is only visible if a shadow style is selected, and is forced to be on for the raised and sunken shadow styles.

Apply to Text
Checking this box applies the shadow style to text as well as shapes. This is only visible if a shadow style is selected. Text does not look good shadowed unless it has a point size of 18 or greater.

Reverse Text Shadow
This option is only available if the raised or sunken 3D shadow styles are chosen. Checking this box applies the reverse text shadow: raised if the shape shadow is sunken, sunken if the shape shadow is raised. This can give an interesting effect.

Controlling Color Changes
You can also control whether color changes are applied by checking the boxes in the Colors section of the dialog. If the **Lines** box is checked, changes are applied to both borders and lines. This is forced to be on for 3D shadowed styles. If the **Fills** box is checked, then color changes are applied to both text and fill colors.

Overriding Shadows

SmartDraw allows you to override the shadow styles for individual shapes, lines and text blocks.

Shape and Line Shadow

You can use the **Hide Shadow** command, under the Arrange menu, to turn off any shadows for shapes or lines that are currently selected. If any of the shapes or lines selected already have hidden shadows, the menu item changes to **Show Shadow**, and selecting it turns the shadows back on for these objects.

Show Shadow has no effect on selected lines if the current style does not normally apply shadows to lines.

Usually it is not a good idea to remove shadows when using the three dimensional sunken or raised styles, since borders and lines are the same color as the background and will look as if they have disappeared if their shadows are removed.

Text Shadow

The **Shadow** command, under the Text menu, has an effect on text shadows similar to the effect **Hide** and **Show Shadow** have on the shadows of lines and shapes. Selecting this command toggles text shadows on and off for selected objects. Its status is shown by a check mark. This command has no effect if the current style does not specify text shadows. Again, it is not a good idea to remove the shadows of sunken or raised text.

Defining Your Own Styles

Pressing the **Define** button in the **Colors and Shadows** dialog allows you to add your own styles, or to modify the standard ones, by presenting the **Define Colors and Shadow Styles Dialog.**
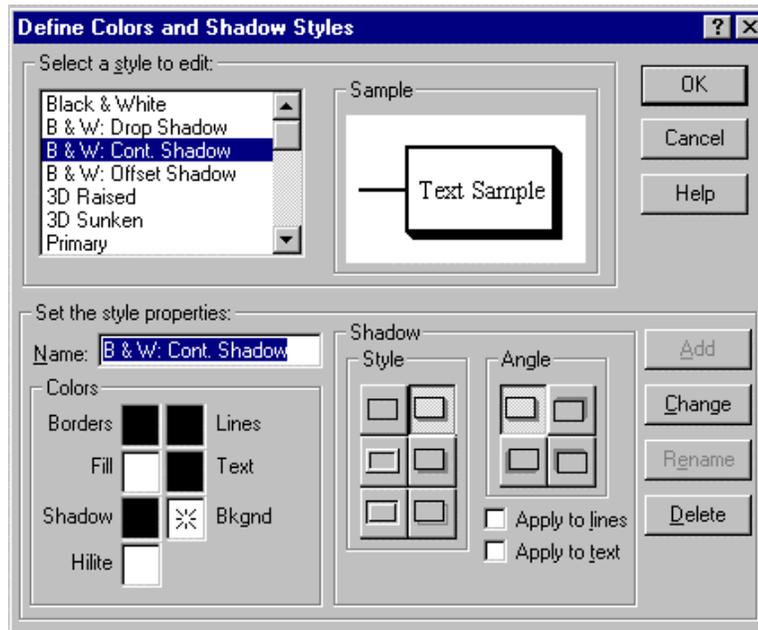
The Define Colors and Shadow Styles Dialog

Selecting a Style to Edit

Selecting an item in the scrolling list selects the style to be edited. The style's name is copied into the **Name field**, and the **Change** button becomes active. Changing the style selected in the list cancels any changes made to the previously selected style.

The **Sample** window shows a preview of the current style as the selection in the list is changed, and as the settings for the selected style are changed.

Changing Style Settings

The style settings are controlled by the color and shadow controls. Seven color panels are displayed showing the current color scheme. Pressing on any color panel with the mouse displays the color menu. The menu changes the color selection.
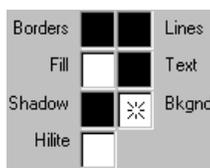
The selection on the color menu shown with a dotted border represents the **Transparent** color.

The **Border** color sets the color of shape borders. **Line** color sets the color of lines, segmented lines and curved lines. **Fill** Color sets the color of the inside of shapes. This

can be transparent. **Text** color sets the color of text. **Shadow** color sets the color of any shadows. **Highlight** color is only used by the raised and sunken three-dimensional shadow styles.

Background color sets the color of the drawing background. This, too, can be transparent.

There are six shadow styles to choose from. These are shown in the array of shadow buttons, with the top left button representing no shadow. If a shadow style in the right column is selected the angle of the shadow can also be controlled using the controls labeled **Angle**.
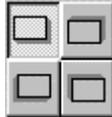
The four angle buttons show the current angle for the shadow. Pressing one changes the selection to the angle shown on its face. These controls are only visible if one of the shadow styles in the right column of the shadow control is selected.

Shadows can be applied optionally to lines and text. Check boxes control these selections.

Adding a Style
You can add a new style by pressing the **Add** button. This button becomes active when you change the **Name** field so that it no longer matches the style selected in the list, **and** the settings for colors and shadow have been changed. Pressing it adds the current color and shadow settings as a new style with the name you choose.

Changing a Style
You can change the currently selected style by pressing the **Change** button. This button is active when the name in the **Name** field matches the style selected in the list **and** the settings for colors and shadow have been changed. Pressing it changes the selected style to the current color and shadow settings.

Renaming a Style
The **Rename** button becomes active when the name of the selected style has been changed, but the parameters have not. Pressing it renames the current style.

Deleting a Style

The Delete button is active when the name in the **Name** field matches the style selected in the list. Pressing it removes the selected style from the list.

Overriding Styles

All new shapes and lines added to your drawing adopt the color scheme and shadow style of the current style.

You can change the colors of any object, after it has been created, using commands on the Shapes and Lines menus. This changes the color scheme of the current style, and any new objects added adopt the new scheme. Existing objects that are not selected when a color is changed are unaffected.

You cannot change the shadow style of individual objects. Every object follows the shadow scheme of the current style. To change the appearance of shadows, you must select another style, or modify the current style's shadow scheme.

Adding Text

There are two ways to add text to your drawing: inside a shape or as a *background text* object.

Entering Text in Shapes

You can enter text inside the 24 standard SmartDraw shapes displayed on the toolbar, and inside most library symbols.

A shape can be opened for text entry by simply selecting it and starting to type. Shapes can also be opened for text entry by double clicking on them or by pressing the text button on the toolbar and clicking once on the shape.

When a shape (or background text object) is opened for text entry, the standard Windows insertion point appears. This is a flashing vertical line. All of the normal Windows text editing conventions apply: Dragging with the mouse selects text (shown as inverted). Selected text can be cut, deleted or copied. The font, size, style and color of selected text can be changed using commands on the Text menu.

Automatic Text Resizing

As you add text to a shape it word-wraps like a word processor until the shape is full. Then, as you enter more text, the size of the text shrinks automatically to allow more to fit inside the shape. Finally, when the text has shrunk to a minimum size, the shape grows to accommodate more text. This is shown below.
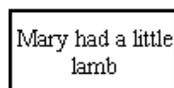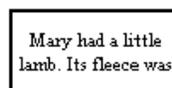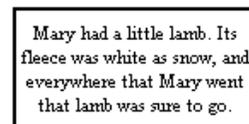
The text shrinks, and then the box grows, as you add more text.

The way a shape grows to accommodate more text is determined by both the alignment of the text in the shape,

and the sizing rules chosen using the **Text Entry Properties Dialog**.

Text Entry Properties

The **Text Entry Properties Dialog** is displayed using the command of the same name under the Shapes menu. Changes made with this dialog apply to any selected shape (including a shape that contains a table).
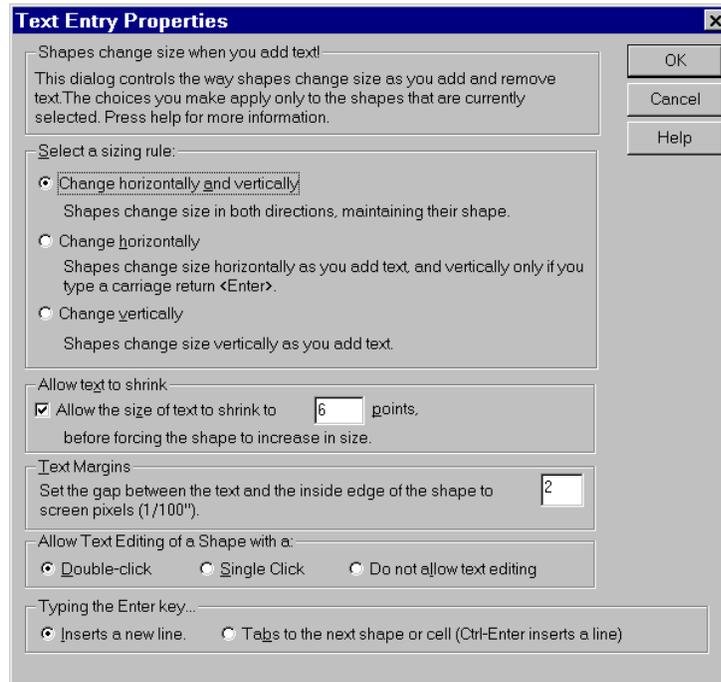
Text Entry Properties Dialog

This dialog allows to you to set:

- The way shapes grow as you add text
- The gap between the edge of the shape and the text it contains
- How to begin text entry by clicking with the mouse.

Text Sizing Rules

There are three different ways shapes can grow as you add text.

Horizontally and Vertically

This is the default for most shapes. The shape grows so as to maintain its proportions.
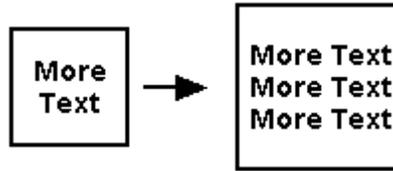
Horizontal and Vertical Text Sizing

Horizontally

This is the default for background text objects and the text that appears below or above image objects and symbols. New text is added on the current line. New lines occur only when the **Enter Key** is typed.

Horizontal Text Sizing

Vertically

Text "wraps" within the width of the shape, like a word processor does when the text reaches edge of the page. The shape grows vertically as new lines are added.
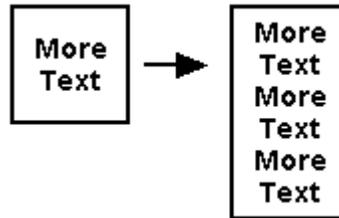
Vertical Text Sizing

Effect of Text Alignment

As a shape grows according to these rules, it maintains a fixed point according to its text alignment. If text inside a shape is centered, the center of the shape remains fixed and the shape grows outward from the center. A shape with left-aligned text remains fixed at its left edge and grows on the right. Shapes with top-justified text grow downward, and so on.

Allowing Text to Shrink

You can force the text inside a shape to attempt to shrink before it causes the shape to grow by checking the **Allow Text to Shrink** checkbox. You can also specify the minimum size that the text will shrink to before it forces the shape to grow.

Text Margins

The gap between the edge of the text inside a shape and the inside of the shape border is set using the Text Margins control. This setting is in 1/100 of an inch and defaults to 2. Reducing this value will allow more text to fit inside a shape.

Text Entry and Mouse Clicks

The three **Allow Text Editing with a…** choices allow you to set whether a single-click or a double-click on a shape opens it for text editing, or whether it can be opened for text editing at all!

Normal shapes require a double-click for text editing. (A single click is used to move and select them.) Shapes that contain tables, on the other hand (see page 106), normally require only a single click to begin editing.

Sometimes it is useful to require a single click for editing normal shapes. A good example of this is using SmartDraw to fill-in a form. Equally, if you have created a multiple-text-entry-area flow-charting symbol, you will probably want it to require a double-click for text editing like normal shapes.

The **Do not allow text editing** choice is also useful for forms. It prevents the labels and prompts in the form from being changed while filling-in the form.

Text Entry and the Enter Key

Normally, typing the **Enter Key** inserts a new line into the text you are editing. Selecting the **Tab to the next shape…** option causes an **Enter Key** to behave like the **Tab Key** and move you to the next shape or cell within a table (see page 176). **Shift- Enter** moves back, just like **Shift-Tab**. This

behavior is very useful when using SmartDraw to design and fill-out forms.

When the **Enter Key** is set to behave like the **Tab Key**, holding the **Ctrl Key** down while you type the **Enter Key** adds a new line in the normal way.

Defaults
All of the settings in the **Text Entry Properties** dialog become the defaults for newly created objects once applied to a selected object, with the important exception of the mouse-clicks setting.

Entering Background Text

If the text button on the toolbar is pressed, then clicking in the background of the drawing starts a text entry session. Any text entered forms a new object called a **Background Text Object**. This is a *rectangle* shape that initially has no border, and has a transparent fill.

You can select background text objects and open them for further text entry like any other shape. You may assign them a border and colors and rotate them, like any other shape. However, they do have some properties that differ from a normal shape.

Text objects align to the **Snaps** according the baseline of the first line of text, not their center or top-left corner like other shapes. Also, they are removed from the drawing if all their text contents are deleted, so that your drawing does not become cluttered with invisible empty shapes.

Attaching Text to Lines
In addition to adding text to shapes, you can also label lines with text. To do this, simply select a line and begin typing. A background text object will be created and attached to the line, normally in the center.

This text object will remain attached to line when you move it. It can change its orientation to match that of the line, or it can remain horizontal. You control this using the

Align Shapes and Text on the Line command settings, found on the **Lines Menu**. There are two choices: **Along the Direction of the Line**, and **Horizontally.**
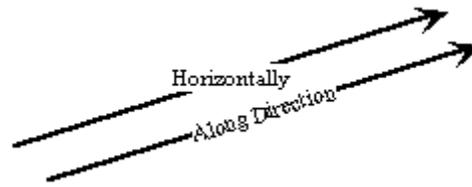
Text attached to a line

The text is positioned on the line according to the current text alignment setting for the *line* (not the text object attached to it). You can change this by selecting the *line* and using the **Alignment** command on the Text menu.

When the text is added on top of the line, the text is automatically given an opaque background that hides the line underneath. When text is added below or above the line, the text is given a transparent background so that the line shows through.

You can show the line through the text (or vice versa) by selecting the *text object* itself and changing its fill color to transparent, using the Shape menu.

The text entry position for an imported image or a library symbol can be set so that text goes above or below it and not inside. These shapes behave similarly to lines with respect to entering text. Selecting the shape and starting to type creates a background text object that remains linked to the shape.

Dimensioning: Showing Line Length

You can set lines to show their length in the same units as currently displayed on the rulers (see page 167) using the **Show Length** command under the Lines menu. This causes any lines that are selected to display their current length as an attached text object, or **Length Label**.

Show Length Command
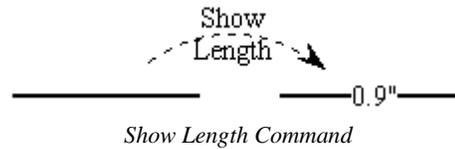
The length label changes its value as the length of the line is adjusted. Changing the ruler scale, or its units, using the **Define Rulers and Grid** dialog also changes the value of the line length label.

A length label is removed from a line by clicking on the label itself and deleting it.

If you want to use your own units or descriptions, you can attach your own text to any length label simply by typing it in. Text that is not part of the length value is preserved as the line changes length:

User-defined Text in a Length Label
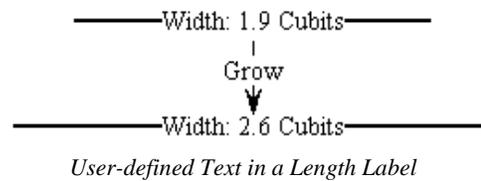
Length labels are used to create *automatic dimension lines*. There are arrowhead styles that can be placed at each end of line to complete the appearance. Segmented and curved lines can also show their length. For segmented lines, the length is the distance between the ends in the direction of the text label:

Length Labels
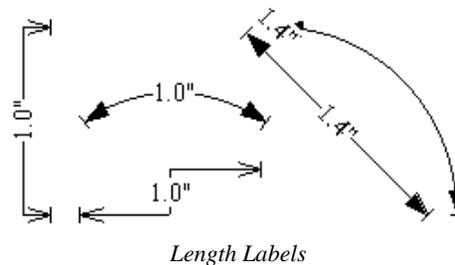
Changing Fonts, Size and Style

You can change the font, size and style of text using the **Font** command under the Text menu. This presents the standard **Font Dialog**.
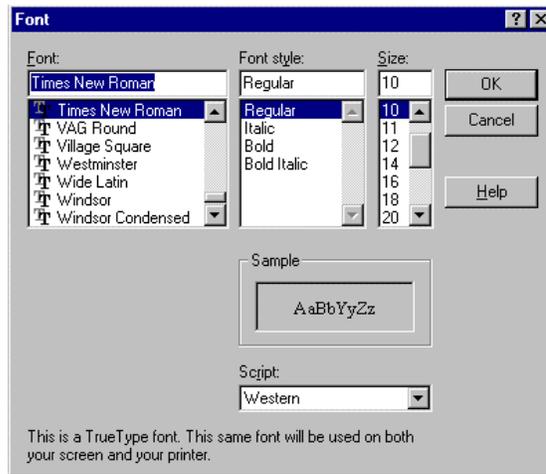
The Font Dialog

There are three controls in this dialog, along with a **Sample** window that shows the selected typeface.

Font

This shows a list of all True Type fonts in the system. If none is highlighted, the range of text or shapes selected has more than one font. Leaving this list un-selected will result in no change to the font.

Size

This shows a list of sizes for the selected font. If the size you want is not listed you may enter it in the size field. If no size is highlighted, the range of text or shapes selected has more than one size. Leaving this list un-highlighted will result in no change to the size.

Style

This shows a list of styles (or weights) for the selected font. If no style is highlighted, the range of text or shapes selected has more than one style. Leaving this list un-highlighted will result in no change to the style.

Applying the Change

Selecting a new font from the **Font Dialog** changes the typeface for any of the characters that are currently selected in your drawing. Selected text is shown in reverse color as

in other Windows programs. If no characters are selected, the next character you type will be in the new typeface.

When one or more shapes that contains text, rather than the text itself, are selected, applying a change using the Font Dialog changes all the text inside the selected shapes. You can change the typeface of all the text in a drawing by using the **Select All** command (page 60), followed by the Font command.

The typeface applied using the Font Dialog becomes the new starting typeface for text entered into empty shapes, or as background text.

Changing Text Using the Toolbar

You can also change the size and style of a shape that contains text, or text that is being edited, using toolbar buttons.

Pressing the buttons for bold, italic, etc. toggles the text style. For example, pressing the **Bold** button when it is not depressed turns bold on. Pressing it again, when it is already depressed, turns bold off. If the **B** on the button is gray, then the objects or text currently selected is a mixture of bold and plain.

The following keyboard short cuts can also be used to change styles:

Bold	**Ctrl+B**
Italic	**Ctrl+I**
Underline	**Ctrl+U**
Superscript	**Ctrl+ +**
Subscript	**Ctrl+ -**

Superscript and **Subscript** behave in a similar way to the other styles (bold, italic and underline), except that they can only be applied to selected text and not to selected objects.

The size of text can be increased or decreased using the text-sizing buttons. The "+" button increases the text size, and the "-" decreases it.

Positioning Text Inside Shapes

Text entered inside a shape does not always fill it completely. You can control the position of the text inside the shape using the **Alignment** command under the Text menu.

Text can be aligned in shapes in all possible combinations of four horizontal positions (left, right, center or flushed) and three vertical positions (top, bottom or center). The resulting twelve alignment styles are shown graphically on the Alignment menu under the Text menu.

The Text Alignment Menu

The **Alignment** command can be used when a shape that contains text is selected, or when a shape is open for text entry. Alignment affects both the way text is displayed within the shape, and the way the shape grows when text is added. (See *Text Entry Properties*).

When text is open for editing, different alignments may be applied to individual paragraphs within the same shape.

Flush alignment is similar to left alignment except that wrapped lines have smooth right edge as well as left edge. Left-aligned text has a ragged right edge. This paragraph is flush justified. All of the others are left justified.

Changing the alignment of background text often has little noticeable effect because the text fits inside its shape exactly. Changing whether it aligns right or left has no visible effect if the text is already touching both sides of its shape. The direction that the background text object will grow as text is added is affected however.

Positioning Text Along Lines

The text alignment command also changes the position of text associated with a line:

Left/Top	Center/Top	Right/Top
Left/Center	Center/Center	Right/Center
Left/Bottom	Center/Bottom	Right/Bottom
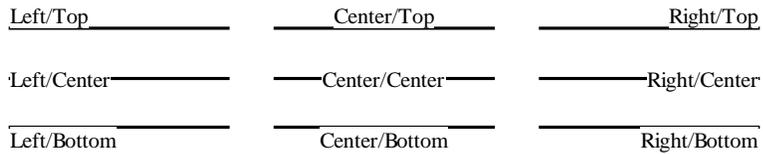
Text Alignment and Lines

Deleting Text

If you delete text from a shape, or make the text a size smaller, so it occupies less space, the shape may or may not shrink.

The "real" size for any shape is the size set using the normal sizing commands, such as clicking and dragging on a selection handle. If the shape is forced to grow because more text is entered inside than will fit, it remembers its original size. When text is removed from the shape, it shrinks back to its original size if it can. If the shape is already at its "real" size, then removing text has no effect.

Inserting Symbols

The **Insert Symbol** command, under the Text menu, allows you to quickly insert a character in a particular font. It presents the **Insert Symbol Dialog** and is active only when a text entry session is open. Selecting one of the symbols from the dialog inserts it into the stream of text.
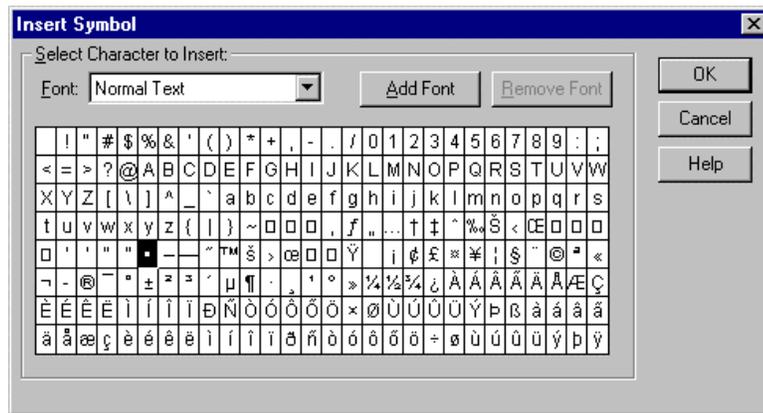
The Insert Symbol Dialog

You select a symbol by clicking on it. Pressing OK, or a double-click, inserts the symbol and closes the dialog.

If the font drop-down list shows "Normal Text", the typeface of the inserted character is the same as the current font. If a specific font is selected, the inserted symbol has this font.

You can add new fonts, or remove them from the list, using the **Add Font** and **Remove Font** buttons.

Special Characters

SmartDraw supports text entry of the following special characters:

- **Tab.** You can enter a tab character by typing **Ctrl-Alt-Tab**. (Normally tabs move you from one object to another)

- **Hard Space.** Typing **Ctrl-Space** enters a hard space. This joins two words so that they are not separated by word wrapping. Hard spaces are also not hidden at the end of lines when they wrap, like normal spaces are.

- **Soft Hyphen.** Typing **Ctrl-hyphen** enters a soft hyphen. This is invisible but allows a word to be split by word wrapping, in which case it shows as a hyphen at the end of a line.

Bulleted Text

You can use the **Bullets** command, under the Text menu, to automatically format text with one of four bullet styles, with proper indentation. Bullets can be applied to the entire shape, or individual paragraphs within a shape.
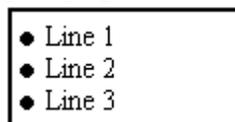
Bulleted Text

Changing Text Color

You can change the color of text using the text color menu (under the Text menu).

You can change the color of individual characters. The color selected from the menu is applied only to the range of text currently selected.

Changes can also be applied to selected shapes that contain text. In this case, the new color is applied to all the text inside the selected shapes.

Changing Text Shadows

Whether the text in a drawing shows a shadow is determined by the properties of the current *Color and Shadow* style, and whether this has been overridden for a particular shape, using the Shadow command under the text menu. These issues are described on page 89.

Using Tables

What are Tables?

Tables are particularly useful for creating timelines, organizational charts, Gantt charts, software diagrams, and business forms. We'll discuss each of these at the end of this chapter, but first let's look at the basics of tables.

Normally, text entered into a SmartDraw shape occupies a single text entry area that fills the shape. However, SmartDraw also supports *Tables*, or multiple text entry areas within the same shape.

Normal Shape   **Table**

One entry area	Entry Area 1	Entry Area 2	Entry Area 3
	Entry Area 4	etc......	

Each text entry area (or *cell*) acts like a separate shape as far as text entry is concerned. Each cell has its own text alignment and background color and the text inside shrinks or grows independently of other cells.

Adding Tables to a Drawing

You can add a new table to your drawing simply by clicking on the table button. This is a shortcut to the **Add New Table** command under the Table menu.

This command presents the **Table Dialog**, which shows a list of pre-defined table formats. Pressing the OK button adds a new table with the selected format to your drawing.

In addition to the format, you can choose the number of rows and columns you want your table to have by changing the values shown in the dialog.
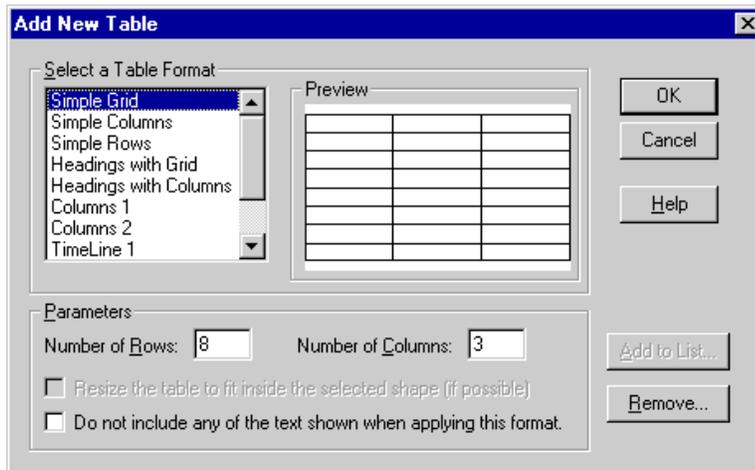
The Table Dialog

As a shortcut you can also *drag and drop* a table into your drawing from the toolbar table button. This creates a table using the most recently selected format from the **Table Dialog**.

Tables created by the table button or the **Add New Table** command are always rectangular.

Changing a Normal Shape into a Table

Existing shapes can be converted into tables by the **Convert to Table** command under the Table menu. As with a new table, you select the format from the **Table Dialog**. This inserts the desired table into the shapes currently selected. Any text inside the shapes is placed in the first cell of the table.

Non-rectangular shapes may also contain tables:
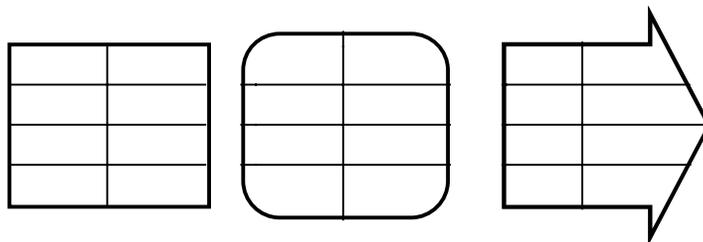
Different shapes containing the same 2x4 table.

Changing a Table into a Normal Shape

You can also change a table into a normal shape with a single text entry area using the **Convert to Text** command under the Table menu. Any text contained in the table cells is joined together as one text block inside the converted shape.

Rows, Columns and Cells

Tables are composed of one or more rows of cells. Usually the cells in each row are lined up underneath each other to form columns, but this need not be the case.

Each cell is an independent rectangular area that may have its own block of text, background color and other attributes. The boundaries of the cells are like the borders of shapes. They may have their own thickness, color and pattern. Cell borders may also be hidden. Some examples of table formats are shown below.

Note that columns may differ in width and rows may differ in height. Column arrangements may differ among rows. Cells may also span more than one row.

Different Table Formats

Formatting Tables

You can change the appearance and cell arrangements of an existing table, by choosing **Format Table** from the Table menu. This shows the Table Dialog (see illustration on page 107).

SmartDraw maintains a list of table formats. These are shown in the scrolling list on the left of the dialog. A preview of the format currently selected in the list appears on the right.

The number of rows and columns in any particular format can be adjusted using the text fields in the *Parameters* section of the dialog.

A checkbox lets you can choose whether to include the text labels associated with the selected format, or not.

A second checkbox gives you the choice of whether to try to resize the table to fit inside your existing shape, or to grow your shape to fit the normal dimensions of the table. Note that it is not always possible to fit the new table format inside your shape, particularly if you add rows, since rows have a minimum height given by the height of the cell's text setting.

Adding Table Formats of Your Own

When you use the **Format Table** command on an existing table, its format is added to the list and shown in the dialog as *[Current Settings]*. You can add the current setting to the permanent list of formats by pressing the *Add to List* button. This presents the following dialog:
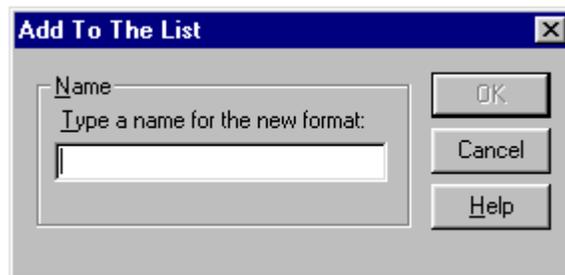
Adding the current table to the list of table formats

Enter a name for the format and press OK to add it to the list.

You can remove formats you added by selecting a format in the list and pressing the *Remove* button. Permanent built-in formats cannot be removed.

Formats you have added are stored in your personal preference file and are not available to other users sharing the same copy of the program on a network.

Adding Text to Tables

By default, tables are opened for text editing with just one click of the mouse in a cell. You can change this using the **Text Entry Properties** command under the Shapes menu as described on page 96. If you created your table by converting an existing shape, then, by default, a double-click is required for text entry. This too can be changed to a single click using the same command.

Text entry in a cell behaves exactly the same way as text entry in a shape.

Preventing Changes to Text

Sometimes you may want to prevent text in a cell from being changed (or to prevent text being entered into a cell at all), particularly in forms where you may want to freeze the field labels while allow editing in the field themselves.

You can allow or prevent text editing on a cell-by-cell basis using the **Do Not Allow Text Editing** command under the Table menu. This shows a check mark if one of the cells selected has the **No Editing** parameter set to true. Using the command toggles the ability to edit text on and off for the selected cells.

Text Resizing and Tables

If you enter enough text, the cell will be forced to grow. To maintain the row and column arrangements of the table, the cell's entire row or column will also grow.

All the cells in a table follow the text resizing rules of the shape that contains the table. (See **Text Entry Properties** on page 94.)

By default, shapes containing tables are set to grow vertically as text is added. This means that text wraps within a cell, and rows get taller as text is added.

Shapes containing tables can also be set to grow horizontally or proportionately as text is added. Horizontal growth requires that columns (and tables) get wider as text is entered.

More text than will fit	

Change Vertically

More text than will fit	

Change Horizontally

Text Sizing in Tables

Moving Around the Table

When you are entering text into a cell, typing the **Tab key** moves the text insertion point to the next cell to the right. If the cell is at the end of a row, the insertion points wraps around to the first cell on the row below. **Shift-Tab** does the reverse.

The **Up** and **Down** arrow keys also move the insertion point up and down rows within a column.

The **Right** and **Left** arrow keys move the insertion point left and right within the text of the current cell, but to the left and right cell respectively if the cell contains no text.

Note that cells with the No Editing attribute are skipped when moving the insertion point.

Selecting Cells

Clicking and dragging the mouse within a table selects a range of cells, highlighting their centers with black, just as in Excel® and other spreadsheets. Rows and columns can also be selected by clicking at the leftmost or topmost edge of the table. When a click would select a row or column, the cursor is displayed as a wide arrow (shown at left).

Selecting the shape that contains the table implicitly selects all the cells and dividers in the table. The shape itself is selected by clicking on the border of the table. The cursor appears as the normal selection tool (shown at left) when a click would result in the selection of the entire shape, rather than the cells it contains.

Clicking anywhere in the table in *Multiple Select* mode always selects the shape containing the table, rather than individual cells.

Holding the **Ctrl key** down while clicking on a cell allows you to select a discontinuous group of cells, one cell at a time. Ctrl-clicking on a selected cell de-selects it.

Holding the **Shift key** down while clicking on a cell extends the selection rectangle from the *Anchor* cell to the clicked cell. The anchor cell is the cell in the table that was initially selected.

Once a cell is selected, the selection can be moved using the arrow keys. Holding the **Shift key** down while typing an arrow key extends the selection in that direction, just like shift-clicking does. Tabbing also moves the cell selection.

Applying Changes to Selected Cells

Once selected (either for text editing, or with a black center by "highlighting"), cells may have their attributes changed with many of the menu commands.

The **Cell Background Color** and **Cell Background Shading** submenus under the Table menu can be used to change these properties for selected cells. The equivalent

commands under the Shapes menu also work in the same way.

The **Grid Line Style** and **Grid Line Color** submenus, under the Table menu, can be used to change the borders of the selected cells. (Note that the equivalent commands under the Shapes menu change these attributes for the border of the *shape,* which contains the table.).

Most of the Text menu commands may also be applied to cell contents: **Font**, **Text Color**, **Alignment**, **Bullets** etc.

Selecting Cell Dividers

You can also select the lines or dividers between cells with the mouse. When a mouse click would result in the selection of a divider, the cursor becomes two parallel lines, as shown in the margin to the left.

Selected dividers are shown as green dotted lines. Once a divider has been selected, the selection range may be extended by shift clicking on lines parallel to it. Ctrl-clicking adds just the line clicked-on to the selection range.

You can change the attributes of the selected dividers with the menu commands in the **Grid Line Style** and **Grid Line Color** submenus. The equivalent commands under the Lines menu also make the same changes.

Partially Selecting Row and Column Dividers

Normally, when a cell divider is clicked with the mouse, the whole divider for the row or column is selected. If the **Alt key** is held down while clicking, however, only the segment of the row or column divider for the local cell is selected. Alt clicking on other divider segments adds them to the selection. Holding down both the **Alt** and **Ctrl** keys toggles the Selection State of a divider segment.

This feature allows the application of attributes to parts of a row or column divider, and more importantly, allows parts of them to be moved!

Moving Cell Dividers

Clicking on a row or column divider not only selects it, but also allows you to move it. You can increase or decrease the width of columns and the heights of rows by dragging the dividers with the mouse.

When whole column dividers are moved, only the width of the column to the left of the divider is affected. The columns to the right remain the same size. Hence the table grows wider or narrower to accommodate the change in width of the divider's column. The same principal also applies to row dividers.

Using the **Alt key** to select a segment of a column divider allows the small selected segment to be moved, changing the width of the immediately adjoining cells. This is one way to create tables with cell arrangements that are more complicated than regular rows and columns.
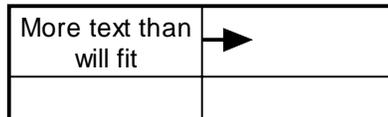
Alt-Drag just the top row column divider
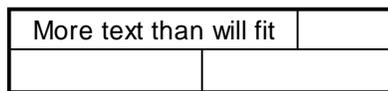
Moving Partial Column Dividers

When column dividers are moved while holding down the **Alt key**, the column to the right of the divider becomes narrower as the one to the left becomes wider (and vice versa). The width of the table remains unaffected, unless forced to grow to maintain a minimum width for a column.

Changing the Width and Height of Cells.

There are several ways to adjust the height and width of cells, and hence rows and columns, within a table.

Dragging Cell Dividers

We have already described how row and column dividers can be dragged to change the width of columns and the height of rows, using the mouse.

The invisible *Snap-to* grid affects the position of cell dividers. When the *Snaps* are active, row heights snap to whole line heights, as determined by the height of the first line in the table. Column dividers fall only on the lines of the grid. This makes it easy to re-align column dividers that have been separated by dividing cells or by dragging partial dividers.

The far right and bottom edges of the table behave like dividers and can be dragged with the mouse. The divider cursor appears just inside these edges. Dragging on this "phantom" divider changes the width of the last column, or height of the bottom row.

Spacing Rows and Columns Evenly

These commands, under the Table menu, make all the rows or columns in the table the same height or width, while changing the size of the table as little as possible.

Resizing the Table Object

Resizing the object that contains the table scales the table as a whole to fit the new dimensions of the object.

The combined table and object cannot be reduced in height to less than the minimum height of all the rows. You can quickly minimize a table's height by shrinking the object vertically as far as it will go.

Holding the **Shift key** down while resizing the object with a corner selection-handle will scale the object, and the table, proportionately.

Joining and Splitting Cells.

The **Join Cells** and **Split Cells** commands, under the Table menu, allow you to create complex table structures.

The **Join Cells** command joins selected cells into one cell, combining any text in the cells into a single block of text. When cells from multiple rows are selected, cells adjacent to each other in the same row are joined first. Cells adjacent to each other in the same column are joined only if they have no selected neighbors in the same row.

Joining cells in the same row simply removes the cell divider(s) between them.

Join Cells in a Row
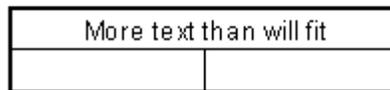
Joining Cells Horizontally

Joining cells in the same column creates a single cell that spans the rows containing the selected cells. Cells that span more than one row always span a whole number of rows. It is not possible to create a cell that lies partially in a row.

Join Cells in a Column
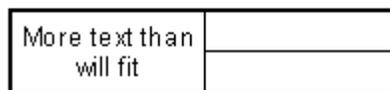
Joining Cells Vertically

The **Split Cells** command does the reverse of **Join Cells**. If a cell spans more than one row, splitting creates a cell for each row spanned. Any text in the split cell is placed in the top, or left, cell.

If no selected cell spans more than one row, all selected cells are split into two cells within the same row and occupying the same space as the original cell: A vertical cell divider is added to the center of the cell.

Inserting Rows, Columns and Cells

You can insert columns and cells anywhere in the table using the **Insert** command under the Table menu.

When whole rows are selected, the **Insert** command shows **Insert Row.** It adds the same number of rows as are selected, inserting them above the uppermost selected row.

Insert

Insert Row

When whole columns are selected, The **Insert** command becomes **Insert Column.** It inserts the same number of columns as are selected, inserting them to the left of the leftmost selected column.

Insert

Insert Columns

When a rectangular block of cells is selected that is not a whole row or a column, the **Insert** command says **Insert Cells** and presents a dialog with four options for inserting:
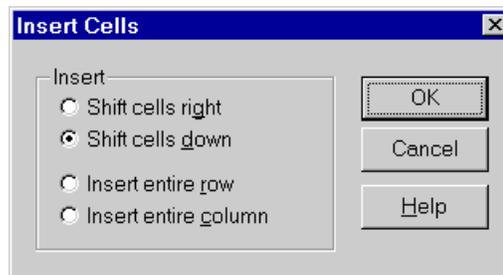
Insert Cells Dialog

In addition to inserting whole row and columns, cells may be inserted in just the selected rows or columns. This provides an easy way to shuffle a whole column down (or a row right), to insert a missing value, for example.

1	A
2	B
3	C
4	D

Shift Cells Down

	A
	B
1	C
2	D
3	
4	

Inserting cells within a column

Shift Cells Right

	1	A
	2	B
3	C	
4	D	

The same table inserting within a row

Appending Rows and Columns

The **Format Table** command (Table menu) provides an easy way to append rows and columns to a table. This command presents the **Table Dialog.** The format of the currently selected table appears as *[Current Settings]*. You can append rows or columns by increasing the values for the number of rows or columns shown in the dialog and pressing OK.

You can also completely change the arrangement of cells in the table by selecting one of the other formats from the scrolling list shown in the dialog.

Deleting Rows, Columns and Cells

You can remove selected cells from the table with the **Delete Cells** command. This works in essentially the reverse way of the **Insert Cells** command described above. When whole rows and columns are selected, the Delete command shows **Delete Rows** and **Delete Columns**, respectively.

When you delete partial rows and columns with the **Delete Cells** command, values are moved up or left, but the total number of rows and columns remains fixed. To remove spare rows or columns, if desired, simply make a second Delete operation.

You can use the **Format Table** command to remove rows and columns from the bottom and right edge of the table. Just reduce the number of rows and columns shown in the Table dialog and press OK.

Deleting, Copying and Pasting Text

With a single keystroke you can delete the text contents of a cell, without removing the cell itself. Typing the **Backspace** or **Delete** key erases the text in all selected cells.

The content of selected cells can be copied to the clipboard using the **Copy** or **Cut** commands under the Edit menu. Pasting the content back into a SmartDraw table preserves its row and column arrangement along with fonts, alignment and other text attributes. You can even paste the table data from SmartDraw into another application, such as an Excel spreadsheet or Word table, and it will retain its tabular format.

The reverse also works**. Pasting** tabular data from another program into a SmartDraw table preserves the row and column arrangements of the data, placing each field in its appropriate cell. This allows data from spreadsheets and other applications that generate tabular data to be formatted as a table in SmartDraw.

Changing the Appearance of a Table Object

As we discussed above, the color, pattern, borders and text properties of cells may be changed by first selecting the cells and then using the appropriate menu commands under the Table and Text menus. Selecting the entire object containing a table implicitly selects all the cells and dividers in the table, and any changes to the attributes then apply to the entire table.

AutoFill

The row and column headers in a table are frequently a series of numbers, months or days. SmartDraw can create these series for you, with the **AutoFill** command under the Table menu. This presents the AutoFill dialog.
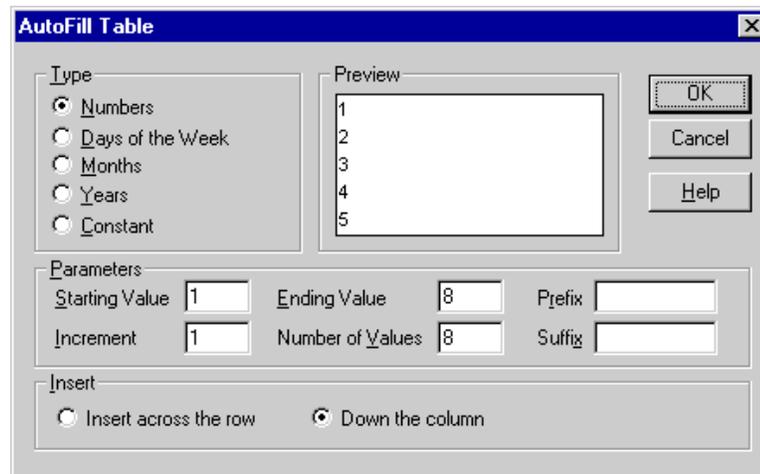
The AutoFill Dialog

SmartDraw will automatically type the selected series across a range of rows or columns, beginning with the currently selected cell.

There are five choices for the type of series: Numbers, days-of-the-week, months, years, and a constant value.

For days-of-the-week and months, the sequence can begin at any value, and it repeats until the *Number of Values* is reached. A checkbox lets you choose between full and

abbreviated names for the days or months. A preview appears showing the current selections.

For years and other series of numbers, a prefix and a suffix can be specified to create a string. For example, the parameters:

Result in the strings Q1, 1998, Q2, 1998, Q3,1998 and so on.

The radio buttons at the bottom of the dialog indicate whether to insert the series across the row containing the currently selected cell or down its column.

Using Tables
The ability to divide shapes into multiple text areas opens up a whole new world of flexibility in diagramming:

Timelines
Timelines are diagrams that consist of one large table.

Timeline

SmartDraw's table features make it very easy to maintain and manipulate complex tables.

Software Diagramming
Many of the symbols used in software diagramming require independent text entry areas:

```
       ┌──────────────┐
       │      ID      │
       ├──────────────┤
       │   Bottom     │
       │              │
       ├──────────────┤
       │   Location   │
       └──────────────┘
```
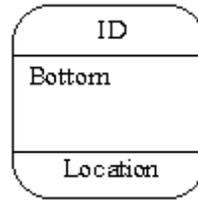
Multi-Text Entry Symbol

Organizational Charts

Multiple text entry areas in a single shape allow you to
store complex information in organizational charts or
family trees.

```
            ┌──────────────────┐
            │   Mary Johnson   │
            │       CEO        │
            │ x239        Rm24 │
            └────────┬─────────┘
         ┌───────────┼───────────┐
┌──────────────┐ ┌──────────────┐ ┌──────────────┐
│  Jim Chang   │ │ Arthur Lewis │ │  Jean Dubios │
│  VP Finance  │ │   VO Eng.    │ │   VP. Sales  │
│ x241   Rm23  │ │ x282   Rm19  │ │ x200   Rm18  │
└──────────────┘ └──────────────┘ └──────────────┘
```
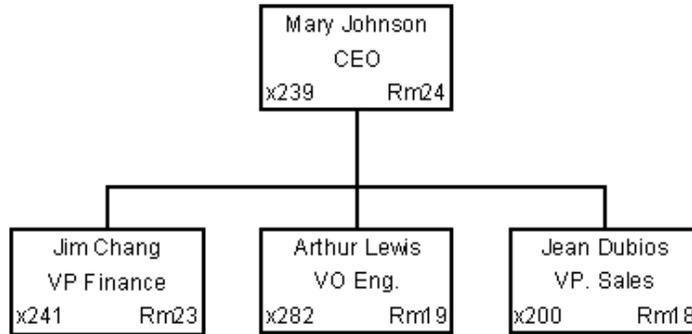
Organizational chart with multiple fields per position

In the example above, each position has four cells: Name,
title, extension and room. The last two share the same row.
The cell dividers are white.

Forms

SmartDraw's sophisticated table functions make it an
excellent form designer:

Name	Walter Smith				
Street	46 Main Street				
City	Westchester	State	CA	Zip	92171
Country	USA				

Designing Forms with SmartDraw

View the templates in the Forms drawing-type for more
examples.

Arranging Objects

Arranging Objects

SmartDraw includes several features that make it easy to align shapes and lines, and to control their front-to-back order. These commands are grouped under the **Arrange** menu.

Using Snaps

The **Snaps** are a grid of imaginary lines that extend from the minor ticks on the rulers. When snaps are turned on, the centers (or sometimes the edges) of shapes and lines automatically align themselves with the tick marks on the rulers as they are created, moved, or resized with the mouse. This makes aligning the centers of very easy: You simply drag them with the mouse. The grid used by the snaps is the same one that is displayed by the **Show Grid** command under the View menu.

You can choose whether the **Top-Left** or **Center** of your objects will snap to the grid. You set this property for the entire drawing in the **Define Rulers and Grid dialog.** (Page **167**).

The default setting of **Center** is best when lines are used to link shapes together, as in flowcharting. **The Top-Left** setting is best when the edges of shapes must line up, as in form design or when drawing floor plans.

When you move or resize objects using other methods, such as with the arrow keys, they do not align with the snaps. This makes it easy to make fine adjustments in position without turning the snaps off.

The **Use Snaps** command, under the Arrange menu, toggles the snap mechanism on and off. When Snaps are on, the menu item shows a check mark.

Aligning Objects

The edges of several objects can be aligned with each other using the **Align** command under the Arrange menu.

The **Align** command aligns the edges of selected objects with the *target* selected object. The target selected object is the one that shows solid handles, rather than hollow handles. It is the most recently selected.

The **Align Left** and **Right** commands align the left or right edges of the selected objects with the left or right edge of the target object, respectively.
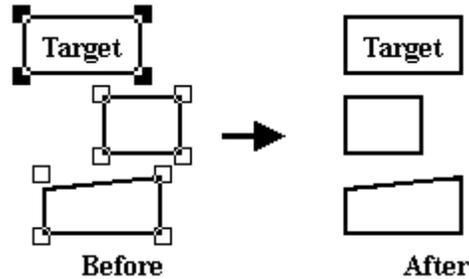
Align Left Command

Aligning the **Top** and **Bottom** works similarly.

The **Center Vertically** command aligns the midpoints between the left and right edges of the objects. **Center Horizontally** works similarly, aligning the midpoints between the objects' top and bottom.

Making Objects the Same Size

You can make several shapes the same size in height, width or both using the **Make Same Size** command under the Arrange menu.

Like the **Align** command described above, **Make Same Size** uses the target selected object as the template for changes to all the other selected objects. The **Make Same Size Width** command makes all non-target selected objects the same width as the target. **Height** and **Both** work similarly.

Before   After
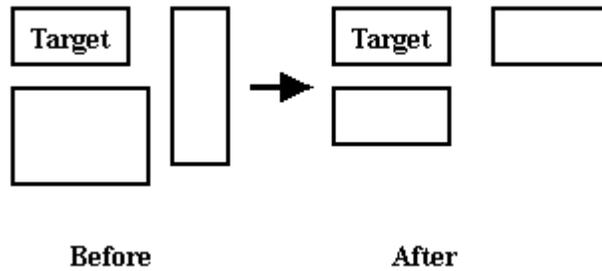
Make Same Size Command

Objects that can only shrink or grow proportionally maintain their proportions under this command.

Spacing Objects Evenly

Using the **Space Evenly** commands, you can arrange three or more shapes so that there is the same amount of space between them. This is useful for creating an equally spaced array of lines or shapes. The **Space Evenly** menu item has three choices on its sub-menu: **Horizontally** equalizes the space between objects in the horizontal direction only. **Vertically** does the same in the vertical direction, and **Both** does the same in both directions at the same time.

Centering the Drawing on the Page

The **Center Drawing on Page** command under the Arrange menu can be used to move all the objects in the drawing so that they are centered in the minimum number of pages needed to print them. The drawing is also moved to the top-left of the 50x50 inch drawing area. This command applies to **all** objects, not just selected objects.

If your drawing does not fit on one page, you can still print it on a single page by checking the **Print on One Page** check box in the Print dialog.

Changing the Front-to-Back Order

Objects may lie on top of other objects. You can change the front-to-back order of the objects in your drawing using the **Bring to Front** or **Send To Back** commands under the Arrange menu.
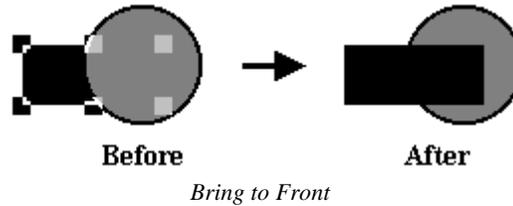
Bring to Front

Bring to Front moves any selected objects in front of the non-selected objects. **Send to Back** does the reverse. These commands have no noticeable effect unless objects overlap one another.

Send to Back
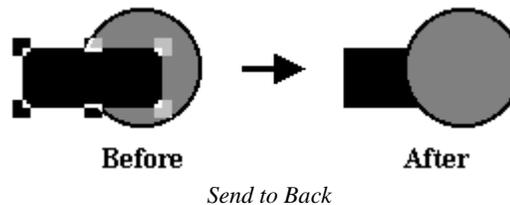
Locking Objects

You may lock or unlock selected objects using the **Lock Object** command. Locked objects show selection with gray handles instead of black and cannot be moved until they are unlocked. This is useful if you want to place an object behind others and don't want to accidentally move it while clicking on the objects in front of it. Locked objects cannot be opened for text editing. However, their properties (color etc.) can be changed using the menu commands.

Connecting Lines and Shapes

Linking Objects to Each Other

SmartDraw lets you link objects together so that they **stay connected when you move or re-size them**. This is particularly useful for flowcharts.

The most common case is a line linked to two shapes. Moving one of the shapes changes the size and shape of the line as shown below.
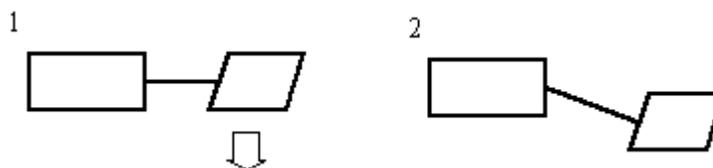
A Line Linked to Two Shapes

Linking a Line to a Shape

When line linking is enabled, you can link a line to a shape by moving one end over the border of the shape, either by resizing or moving the line with the mouse.

When the end of the line approaches the shape's border, a series of round solid circles appear on the shape, indicating the points on the border where the line may link. These are called **connection points**. This is shown below for fixed connection points. (Connection points can also be infinite, see page 129).

Connection Points

The end of the line then snaps to the closest connection point and the mouse cursor becomes an "anchor". Releasing the mouse while in this state establishes a link between the line and the shape.

You can even link one line between two shapes in a single drawing operation. Just click on one of the line tools on the

toolbar (but not the automatic connector) and release. (Your cursor now looks like a pencil). Touch the pencil to the border of one shape and click down with the mouse. Drag the pencil to the edge of the second shape and release. The two shapes are now linked to the line, and they will stay connected even if one or both of the shapes are moved or resized.

Line Linking and Flowcharts

Linking lines to the edges of shapes is a key feature when creating flowcharts. By linking lines in this way, you can move the shapes and the lines remain attached.

Normally in flow diagrams of all types, you link a line to the center of the side of a shape. If the centers of shapes joined by a line do not align exactly with each other, the line will be kinked. Because of this, the centers (rather than the top-lefts) of shapes are set to snap to the grid when drawing flowcharts. This is one of the parameters set when you choose a Flowchart type from the **New Drawing** dialog.

If you choose a floor plan, or a drawing where exact placement of edges is important, then shapes are set to snap their top-left corners to the grid.

The way shapes snap to the grid in the current drawing is set in the **Rulers and Grid Dialog** (page 167).

Breaking a Link

Links may be broken using the reverse of the link creation process. First, click on the line, so that it shows round handled where it connects to the shape. Then grab the handle and pull it away from the shape to break the link. When only one end of a line is linked to shape you can also break the link by moving the line away from the shape. Deleting either object also breaks the link.

Infinite and Fixed Connection Points

Shapes can have either **Fixed** or **Infinite** connection points.

With fixed points, shapes have 16 fixed connection points, four at the corners of the shape, four in the center of the sides, and one between each these points. Fixed connection points make it easy to connect a line exactly in the center of a side and are the best choice for simple flow charts.

With infinite connection points, lines can connect to any point on the perimeter of the shape. Infinite connection points allow you to connect many lines to the same side of a shape. Certain library symbols can only have fixed connection points, but you can adjust the position of the fixed points using the Edit Symbol dialog (page 146).

You can choose the kind of connection points a shape has using the **Connection Points** command under the shape menu. This presents a dialog, which explains each choice and allows you to change it.

Linked Targets and Linked Objects
In any linking relationship, the object that displays the connection points is the **Linked Target**, and the object linked to it is called the **Linked Object**. The target object usually controls the positioning of the linked object. If the target is moved, the linked object either moves, or re-sizes to maintain the link.

Lines are allowed to have one or two targets. With one target, lines move when their target moves. With two, they change shape and/or re-size when one of their targets moves.

When a line that is linked to one target is moved, the link is broken. When a line that is linked to two objects is moved, all three are moved as a group.

Turning Linking On and Off
You can turn linking on and off. This is very useful when you want to draw a finely detailed picture, and you don't want lines and shapes that you draw close to others to automatically link to them.

The **Allow Lines to Link** command toggles the ability of lines to link to other objects. New drawings of the type that

make use of line linking, like flowcharts, usually have this turned on automatically.

The **Allow Shapes to Link** command toggles the ability of shapes to link to each other. In most drawing-types this is turned off.

Linking Shapes to Lines

When **Allow Shapes to Link to Lines** under the Arrange menu shows a check mark, shapes can link to lines. This is the opposite of the behavior of lines linking to shapes described above.

Shapes link to lines via one attachment point, usually in the center of the shape. You link a shape to a line by dragging it over the line so that its center (or attachment point) is close to the line. As the shape's attachment point comes into contact with the line, the cursor changes to the anchor shape and the connect-point becomes highlighted as a black dot.

Linking a Shape to a Line

Releasing the mouse leaves the shape linked to the line. If the line is moved the shape follows.

Dragging the shape away from the line breaks the link. However the shape can be dragged along the line and the link moved to a new position, like sliding a bead on a string.

Linking shapes to lines is a very useful technique for drawing circuit diagrams and other engineering diagrams: The circuit components can be dropped directly onto a line, with multiple components linked to the same line.
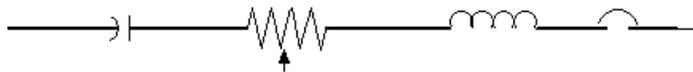
*Circuit Diagram Using Shapes Linked to Lines*

When the Line Shows Through the Shape

Sometimes when a shape links to a line, the line appears to show through the shape. This is often because the line lies in front of the shape in the front-to-back order. Selecting the shape and using the **Bring To Front** command under the Arrange menu corrects this.
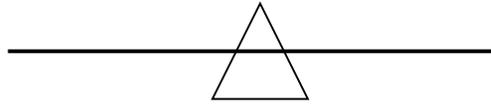
Line in Front of Shape

Bring to Front:
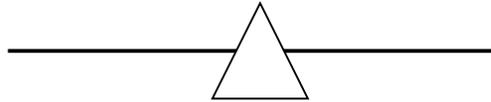
Shape in Front of Line

Align Shapes and Text on a Line

The **Align Shapes and Text on a Line** command under the Lines menu controls the way shapes lie along the line they are linked to. There are two settings: **Along the Direction of the Line** and **Horizontally**. Select the line, (not the shape) and choose one of these options from the Lines menu.

When the line is set to **Align along the Direction of the Line,** a shape rotates to follow the direction of the line.
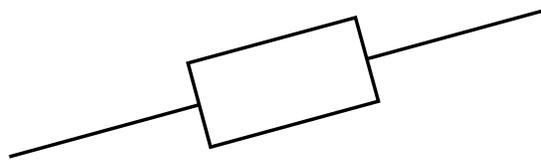
Align along the direction of the line

When the alignment is set to **Horizontally,** a shape maintains its own angle of rotation and can be rotated independently of the direction of the line.
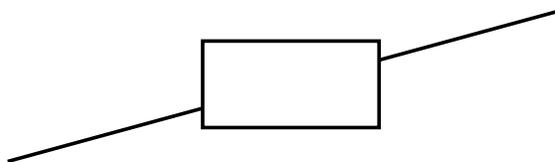
Horizontally

Shape Attachment Points

By default, shapes link to lines using their centers as the point of attachment. The attachment point for library symbols can be adjusted to any other point within the shape's boundaries using the **Edit Symbol Dialog**.

Linking Shapes to Each Other

When **Allow Shapes to Link** under the Arrange menu shows a check mark, one shape can be linked to another. However, shapes can never link to lines where a line is the target. Instead the line must be linked to the shape.

When shapes link to each other, any of the connection points on the linked shape can snap to any of the connection points on the target shape. Shapes can only link to one target at a time.

This feature is useful if you want to attach a background text object to a shape so that it follows the shape around when the shape is moved or re-sized.

Linking Lines to Each Other

Lines can link to other lines. This is useful for creating branched networks of lines that remain attached when their target objects (whether shapes or lines) change size or move.

Formatting with Automatic Connectors

Using Automatic Connectors

One of the most powerful features of SmartDraw is the use of **Automatic Connectors** to create regular arrangements of shapes. Examples include organization charts, fishbone diagrams, network diagrams and even flow charts.

Organization Chart

Network Diagram   Fishbone Diagram
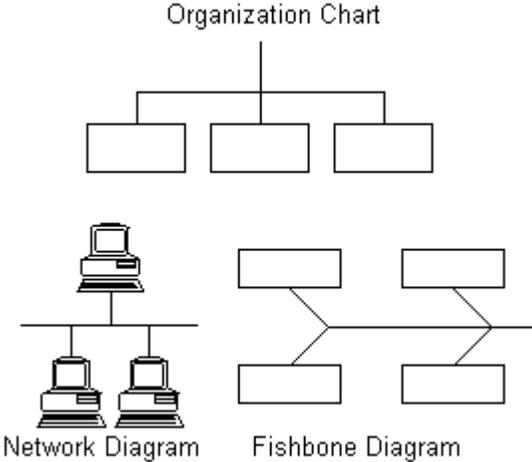
Using Connectors

Automatic Connectors are special line objects that both shapes and other lines may link to. A connector is **programmed** to arrange the objects linked to it in a particular pattern. As shapes are linked to a connector, the other shapes already linked to it adjust to accommodate the new shape and maintain the arrangement. In the example below, a new shape is added to a connector that maintains a horizontal organization chart arrangement.

—Drop Shape→
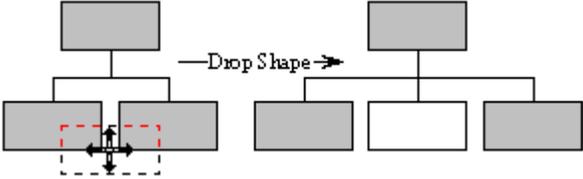
Adding a new shape to a Connector

The new shape (white) is dropped between the two existing shapes and is automatically inserted between them.

Adding Connectors to a Drawing

You add automatic connectors to a drawing in the same way you add any other object: using drag and drop or the pencil drawing method.

SmartDraw offers an **Automatic Connector** tool on the **Program Toolbar**. Dragging an object from this tool creates a horizontal connector with a linear arrangement. Holding the **Shift key** down while you drag creates a vertical connector.

Many of the diagram templates also offer ready-made connectors in other arrangements in their document toolbar. For example, the organization chart template offers a selection of connectors suitable for drawing organization charts.

Changing a Connector's Shape

Once you have added an automatic connector to a drawing, you may change the arrangement it maintains (or its **shape**) using the **Change Connector Shape** command on the Lines Menu. (This replaces the **Change Line Shape** command when a connector is selected).
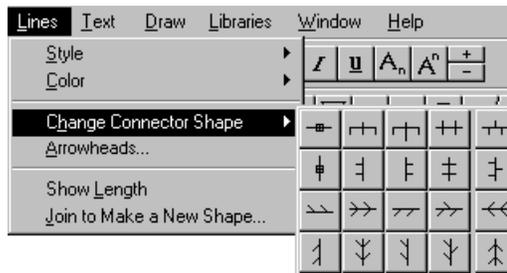
Change Connector Shape

The **Flip** command (see page 68) can also be used to create additional variations.

When no shapes are linked to a connector, it appears as either a vertical or horizontal line. Its arrangement does not

become apparent until two or more shapes have been linked to it.

Adding Shapes to a Connector

When you move a shape or line close to an automatic connector, connection points appear, and the outline of the moving object jumps to the closest one, showing the position the object would take if linked.

Releasing the mouse links the object to the automatic connector, inserting the object at the link point.
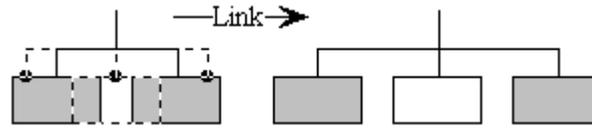
Linking to an Automatic Connector

Moving a shape away from the automatic connector disconnects it, and the shapes still linked to the automatic connector move together to fill the space.
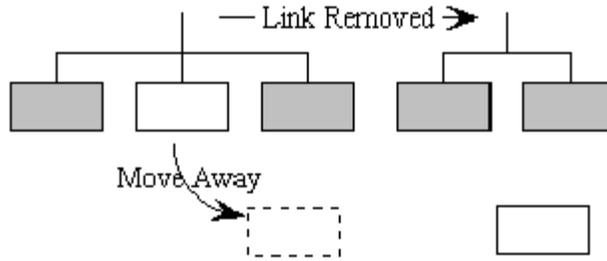
Breaking a Link to an Automatic Connector

Dragging a shape from one connection point to another changes the order of the shapes.
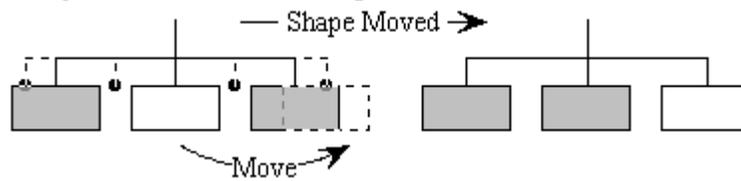
Re-arranging a Link to an Automatic Connector

Linking Automatic Connectors to Each Other

Automatic connectors can be linked to each other to create more elaborate diagrams.
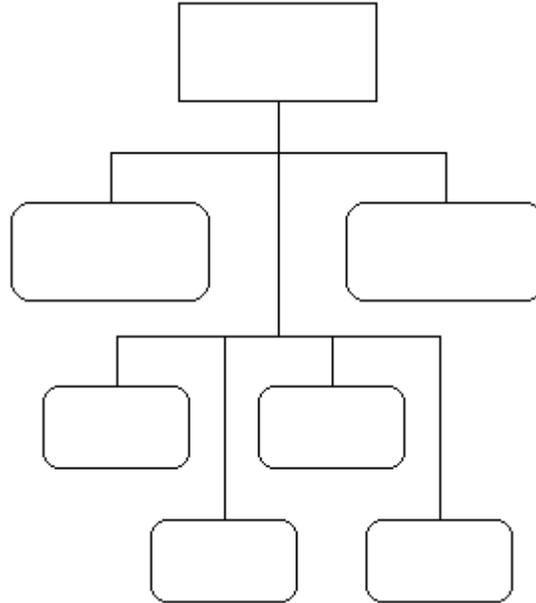
Organization Chart with Two Connectors

In the example above, the connector used to arrange the four smaller shapes is linked to the one used for the two larger shapes. This in turn is linked, like a line, to the top shape.

Adjusting the Connector Spacing

There is normally an equal amount of space between the edges of shapes linked to an automatic connector. This regular spacing [C] is controlled using the grow handles at each end of the main connector line.

In addition to this regular spacing adjustment, you can also add to the space between each shape attached to connector individually, by clicking and dragging on the adjustment handles [D]

The length of the lines connecting the main line to each shape is controlled by grow handles at the end of the first

and last of these lines (where they connect to the shapes) [B].

The length of the line connecting the connector to another object [A] is controlled by the grow handle at the end of this line.

These relationships are shown in the figure below.
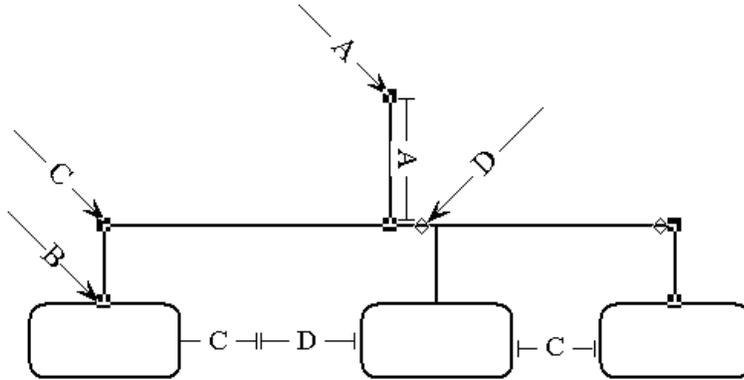
Grow Handles and their Parameters

Some connector arrangements have two lines that may connect to other shapes at each end of the main connector line [A]. Only one of these can be linked to another object at a given time.
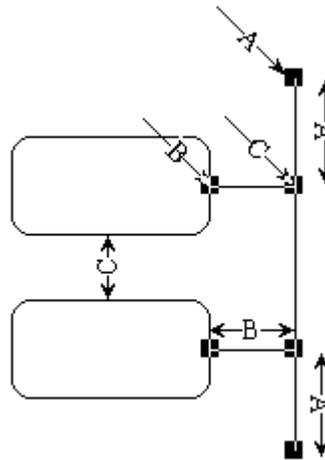
Side Arm Connectors and their Parameters

The side arm lines of an automatic connector can be set to zero length by tucking the grow handles "under" the line.. This gives a clean end to the main connector line, where desired:
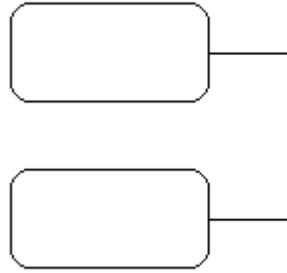
Automatic Connector with a Side Arm Length of Zero

Changing an Automatic Connector's Appearance

An automatic connector has the same attributes as a line, and the Lines Menu commands can be used to set its thickness, color and style.

Automatic connectors also can show arrowheads. These appear on the lines connecting objects to the main connector line. **Right facing arrowheads always point to the linked objects**, regardless of their direction relative to the main connector line. Left facing arrowheads point towards the main connector line.

Automatic connectors cannot have text associated with them (see Attaching Text to Lines on page 97) and cannot be rotated.

Using Automatic Connectors in Flow Charts

Linear automatic connectors can be useful as components in a flow chart. A linear connector connects shapes in either a perfectly horizontal or vertical line, as shown below:
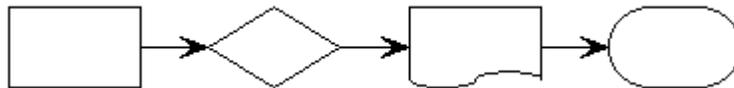
Horizontal Automatic Connector with Arrowheads

To branch, other automatic connectors can be linked to the shapes attached to the first automatic connector. This is shown below:
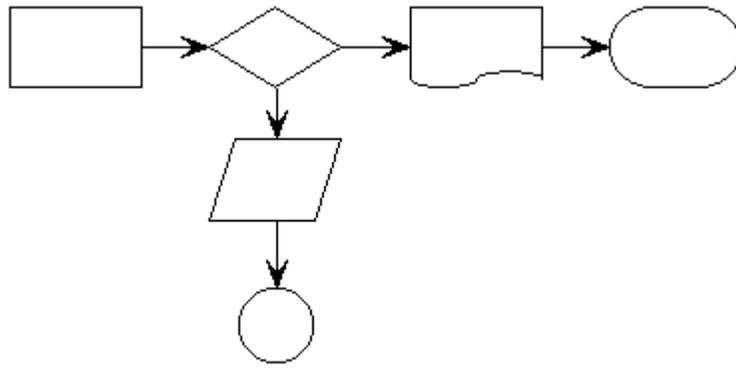
Horizontal and Vertical Automatic Connectors with Arrowheads

Next, normal segmented lines can be used to create additional connections:
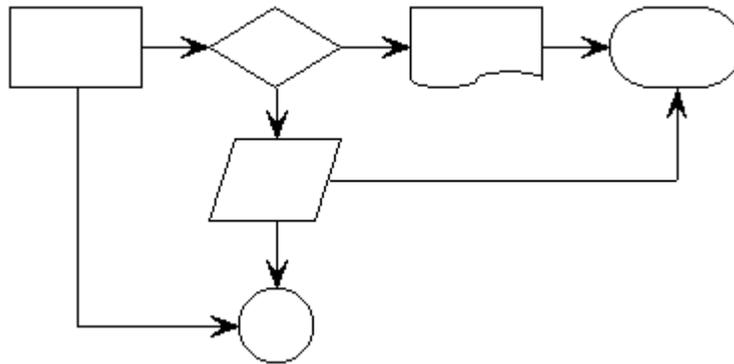
Flow Chart with Segmented Lines and Automatic Connectors

Now, adding another step to the main horizontal or vertical automatic connector is as easy as drag and drop! The chart below was derived from the one above by simply dropping the delay symbol on the horizontal automatic connector.
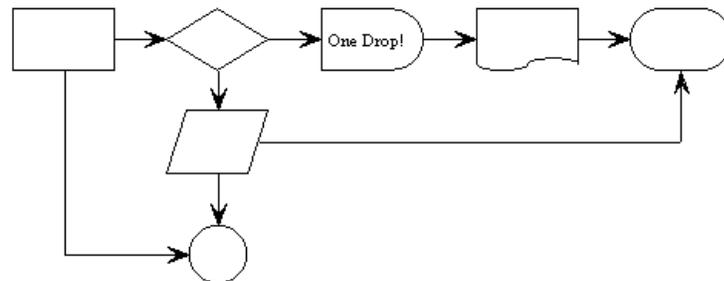
Chart is Automatically Reformatted

Beginning Users

While automatic connectors are a powerful addition to flowchart design, most beginning users will be better off using normal "straight" lines and links as described in *Connecting Lines and Shapes* on page 128.

Symbol Libraries

Libraries

In addition to the built-in shapes shown on the toolbar, SmartDraw provides thousands more in *Symbol Libraries*.

Collections of symbols are divided into many separate libraries. These are files on your hard disk.

Libraries are usually groups of symbols that are used by a particular type of diagram. SmartDraw has hundreds of libraries with symbols for flow charts, computer networks, space planning, clip art, engineering, and many other kinds of diagrams.

Library Windows

The symbols in a library are displayed in a *Library Window* that "floats" above the program window. Up to 16 library windows can be open at the same time, each showing the contents of a different library.
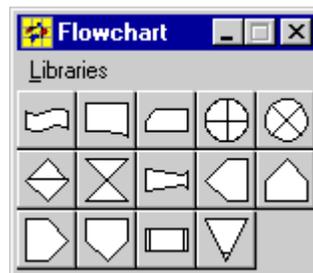
A Library Window

A library window shows rows of buttons, each displaying a different symbol. The name of its library is shown in the window title bar.

A library window has its own menu. This is used to change the library displayed in the window, create new libraries and edit the contents of the current library. It is the same as the **Libraries** menu on the main menu bar.

When you click the minimize button at the top right of the window, it shrinks the library to a minimized window at the

bottom of your screen. This is useful if you want to temporarily move a library window out of the way.

Changing the Size of the Buttons

The **Small**, **Medium** and **Large** commands on the Libraries menu control the size of the buttons in a library window. You may select the size that best suits both your display resolution and your eyes. Complex clip art drawings generally look better with larger buttons. These commands have no effect on toolbars, which have buttons the same size as those on the **Program Toolbar**.

Symbol Names

You can use the **Names** command under the Libraries menu to show the name of each drawing on its button instead of its picture. This is the same name that shows in a ToolTip when the mouse is moved over the symbol button.

Showing Names and Symbols

You can also choose to see large buttons with the symbol names underneath by selecting the **Large Button with Names** command under the Libraries menu.

Showing Relative Sizes

Choosing the **Show Relative Sizes** command under the Libraries menu controls the relative size of the images shown on each button.

When the menu item is checked, the largest image fills the space on its own button and the rest of the images are scaled to be the correct size, relative to the largest. When the menu item is unchecked, each image fills the space available on its own button, and all images appear to be the same approximate size.

Symbol Types

There are two types of library symbols: **Automatic** and **Metafile**. Automatic symbols are native SmartDraw objects, either alone or in groups. Metafile symbols are images in Windows Metafile format (WMF).

Both types have similar properties when added to a
SmartDraw document: They can be rotated, flipped,
colored, typed-into and manipulated in many of the same
ways. Only automatic symbols have all the special
properties of the native SmartDraw shapes, however.

Adding Symbols to a Drawing

Clicking on a button in a library window is the same as
clicking on a shape button in the Toolbar.

Clicking and dragging on a library button drags and drops a
copy of the symbol shown on the button into the drawing.
Clicking and releasing the button changes the cursor to a
pencil. Drawing with the pencil (by holding down the
mouse and dragging) draws a new copy of the symbol.
When an automatic symbol, made up of more than one
native object or group, is dragged onto the page, each of its
components is drawn as a separate object at its original
size.

Automatic Scaling of Symbols

Some symbols are set to size themselves based on the
current ruler settings automatically as they are added to a
drawing. For example, if a drawing has rulers set so that
one screen inch is equivalent to 48 inches, then a 36-inch
desk symbol will be sized automatically to be 0.75 inches
long in the drawing. This is useful for drawing floor plans
and other scaled drawings.

Removing a Symbol from a Library

Remove a symbol from a library by clicking on its button
in the library window, and then selecting the **Remove
Symbol** command in the Libraries menu.

To change the image of a symbol, you must remove it
completely and then add a new image.

Document Toolbars

You can change a library window into a **Document
Toolbar** by dragging it to the top of a document window.

As the library window approaches the toolbar area, its gray outline changes to toolbar shape. Releasing the mouse changes it to a document toolbar. This is called **docking** the window.

You can do the reverse by dragging the toolbar away from the top of the document window, so that the library window once again *floats* over your drawing.

Each document can have only one toolbar at a given time. Attempting to dock a second toolbar will fail. However, you can dock a different toolbar to each open document.

When a document is maximized to fill the entire program window, the document toolbar appears as a third row of buttons below the program toolbar.

Document Toolbar below the Program Toolbar.

Bringing a new document to the front, with a different document toolbar, changes the third row.

A document toolbar behaves just like a library window: You can add symbols to it using drag and drop, you can transfer symbols to and from other libraries, and so on.

When a document is saved, its relationship to its toolbar is saved too, and the next time it is opened, the toolbar remains in place. Many of the SmartDraw templates use this feature to automatically open their own toolbars.

The most recently docked library becomes the default toolbar for all new documents that don't already have their own toolbars. You can use this feature to create your own "permanent" third row to the program toolbar: Simply dock your favorite library, and all new documents will automatically have this toolbar.

Opening a Symbol Library

Symbol libraries are normally opened using the using the SmartDraw Explorer described on page 70.

Any library window that was left open when the last drawing was closed is always re-opened automatically (in the same location) whenever a drawing is opened again.

Like SmartDraw documents, you can also open a library file by dragging it from the Windows Explorer, and dropping it anywhere in the program window.

The **Open** command under the File menu also allows you to open libraries.

Searching for Symbols

You can search for a symbol by name using the **Search Bar** in the **SmartDraw Explorer** (See page 72).

Changing the Settings for a Symbol

SmartDraw symbols have special properties used by SmartDraw to control they way they change size or color and the way they display text.

You can change the properties (but not the image) of an existing symbol. To do this, either double-click on the drawing's button in the library window, or select the button and then select the **Edit Symbol** command in the Libraries menu. This presents the **Edit Symbol Dialog**.

You can use this to change both existing symbols and new symbols that you are adding to a library.
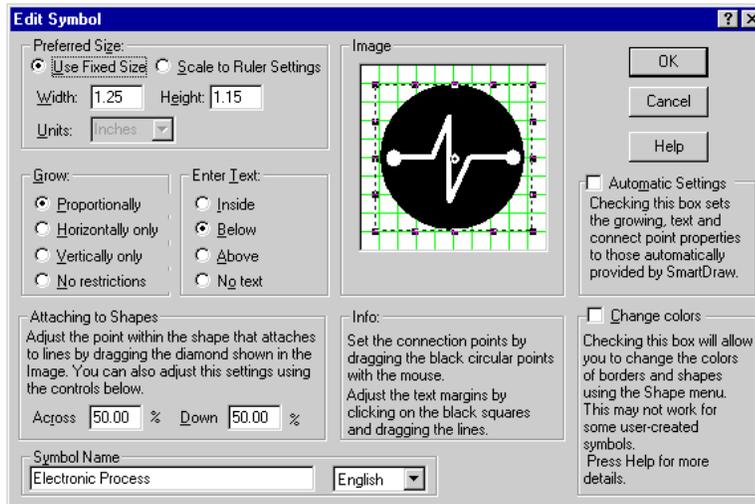
The Edit Symbol Dialog

Automatic Settings
If this box has a check mark (**Automatic** format), the symbol was originally created with SmartDraw and it will behave as a native SmartDraw object when added to a drawing. It automatically has the properties of a native SmartDraw object and you cannot override these using this dialog. .

If the box is unchecked, the symbol behaves like an imported image. You can set its properties (width, height, resizing behavior and text entry) using this dialog. (**Metafile** format).

Symbols created in SmartDraw itself can have either format.

Symbols created outside SmartDraw cannot have automatic settings so for these symbols the Automatic checkbox is unchecked and disabled.

Preferred Size
The width and height fields control the size of the symbol when it is created using Drag and Drop. If the **Grow** setting is set to **Proportional**, changing one value changes the other, so as to maintain the same proportions.

This setting is grayed out for automatic symbols composed of more than one native object, since their original size is maintained.

There are two ways to set the preferred size for a symbol: **Use Fixed Size** and **Scale to Ruler Settings**.

If **Use Fixed Size** is selected, the shape is sized to exactly the width and the height specified *on the screen*, regardless of the rulers' settings for the drawing. Your control panel sets the units of this measurement. If your system is set to use metric units the dimensions are in cm, otherwise they are in inches.

If **Scale to Ruler Settings** is selected, the symbol will scale to the size dictated by the ruler settings of the drawing. For example, if you set the preferred size for the symbol to be 1.0 meters, and you add the symbol to a drawing with a ruler scale of 1.0 meter to the inch, the symbol will be drawing exactly 1.0 inches long on the screen. However, if you add the symbol to another drawing with a scale of 0.1 meters to the inch, the shape will be drawn 10 inches long.

Scale to Ruler Settings is very useful for drawing scaled drawings like floor plans.

Grow

The four radio buttons control the way the symbols can be resized. These settings are grayed out for automatic symbols.

Proportional drawings have only four grow handles (one at each corner) and maintain their proportions when re-sized.

Horizontal Only drawings have only two grow handles and can be re-sized only in the horizontal direction. This is good for drawings that represent horizontal lines.

Vertical Only drawings have only two grow handles and can be re-sized only in the vertical direction. This is good for drawings that represent vertical lines.

No restrictions allows drawings to grow in all directions without maintaining proportions. These drawings have the usual 8 grow handles.

These values can be changed for symbols already added to a drawing using the **Shape Sizing** command (page 63).

Enter Text

You can enter text into symbols. This text can be **Inside the drawing** like the standard 24 shapes, or **Above** or **Below** it. The fourth choice, **No text**, means that the drawing will not respond to the normal text entry commands.

If **Inside the drawing** is selected, four margin lines appear inside the Image window. These should be adjusted so that the text area within the four lines does not overlap the boundaries of the symbols.

These settings are also grayed out for automatic symbols. The native objects in these symbols retain their own text sizing properties.

Attaching to Lines

You can adjust the attachment point used to link the symbol to a line by defining its position as a percentage (with up to two decimal places) from the top-left of the shape. You can also adjust it manually in the image window. The attachment point is show as a hollow diamond in the image window. You can drag it around using the mouse.

Only symbols that are non-automatic (metafiles), or that have just one shape, can be linked to lines and hence show attachment points.

Image Window

The image window shows the symbol image against a grid of green lines. A dotted border shows the edges of the rectangle that encloses the symbol.

A non-automatic symbol has 16 **Connection Points** shown as solid black circles. These are the points at which lines and other shapes will link to this drawing. Automatic symbols use the connection points of their native objects.

Shapes that can be linked to lines also show a hollow black diamond representing the attachment point.

Clicking on the circles and dragging with the mouse button held down moves them. The connection points should be arranged on the borders of the symbol. To be active, connection points must lie outside the margin lines (whether text is entered **Inside the Drawing** or not).

You can finely adjust the position of connection points using the **F5**, **F6**, **F7** and **F8** keys. The point you last clicked on, moves left, right, up or down by 1 pixel when these keys are typed.

When the text setting is **Inside the Drawing**, four margin lines appear. Clicking on the square handles at each end and dragging can move these. By default, these are set to create the smallest text entry area possible between all four lines. This should be expanded to allow the largest area that still forces all text to lie within the borders of the shape. When text is entered Above or **Below** the drawing, the margin lines are ignored.

Colors

Checking this box allows SmartDraw to change the color of the fills, lines, border and text that show in non-automatic symbols. The style and thickness of borders and lines can also be changed. These settings are controlled by the Shape menu, not the Line or Text menu.

The color of the text, lines and borders follows the **Border Color** setting. The fills follow the **Fill Color**. Transparent fills are not affected by the fill color.

If this box is not checked, the drawing behaves like an imported image. Applying a border style places a border around the symbol but does not change the content of the symbol itself.

The substitution of colors for lines, fills etc. may not work for all symbols. If the image contains bit mapped images these may be unaffected by checking the color box. The rules are: All pens used follow the border style and color. Black fills follow the border color. Text color follows the border color. Non-black fills follow the Fill color. Transparent fills used by the drawing are left alone.

If you check this box you should experiment with a copy of the symbol to see the effects of color changes. If these are not satisfactory, return to the dialog and un-check the box again.

The colors and other properties of automatic symbols can always be changed. Remember that checking this box causes a copy of the symbol to adopt the current default color scheme when added to a drawing.

Symbol Name

You can assign each symbol in a library an optional name using the **Symbol Name** field. This is the name that shows in the ToolTip when the cursor is moved over the symbol in the library window.

It is also the name that is displayed on the button if you choose the **Names** command from the Libraries menu.

The naming feature is useful when more detail is required than an image might show. For example, an IBM PS/2 computer may appear to be similar to another PC when looking at the thumbnail image shown on the symbol buttons. Their names are quite different however, and showing the names in a ToolTip makes them easily distinguishable.

Names are also used when searching for a symbol by word (page 146). Additional keywords to be matched in searches may be entered following the name. Just put a semicolon after the name, then list your keywords, each separated by a space. Words after the semicolon are not displayed in the ToolTip, or when names are shown on the buttons.

You can add names in different languages. By default the names searched and shown as ToolTips match the language of your SmartDraw Installation. If a native name is not present, English is used.

Adding New Symbols to a Library

Adding Symbols from SmartDraw

Adding a new symbol to a library is a simple **Drag and Drop** operation. Any object, or collection of objects

dragged from a SmartDraw document window and dropped onto a library window, may be added as a new symbol.

This operation is an extension of a standard object move operation. If, while moving one or more objects using the mouse, you position the cursor over an open library window, the cursor changes to the **Library Drop Cursor**, shown at the left. If you release the mouse at this point, the **Edit Symbol** dialog (page 146) appears. The new symbol, composed of the objects that you were moving, shows in the Image window. Pressing OK adds the objects to the library as a new symbol.

You can use the Edit Symbol dialog to set the appropriate properties for your new symbol, before adding it. You can also use it later to modify the properties, if necessary.

Note that because collections of native objects can be stored and retrieved in libraries unchanged, you can use symbol libraries as a **Scrapbook** for pieces of diagrams you might want to reuse.

Adding a Symbol from Another Program

You can use almost any Windows drawing program to create a new symbol. All that is required is to be able to load an image to the Windows clipboard in standard Windows *metafile* format.

Metafiles are placed on the clipboard when you use the Copy command under the Edit menu in most graphics programs.

To add a symbol to a currently open library, first copy it to the clipboard and then select the **Add New Symbol** command under the Libraries menu. The **Edit Symbol** dialog is presented just as if you had dropped an image onto the library.

Images from other programs cannot have **automatic** settings.

Transferring Drawings between Libraries

Copying a symbol from one library to another is also a simple drag-and-drop procedure. Click on the drawing that you want to copy, then drag with the mouse, just as if you were going to drag a copy into the drawing. However, instead of releasing the mouse button over the drawing window (which adds a copy to the drawing), release it over the library window, or document toolbar, that you want to copy the symbol to.

When releasing the mouse would result in copying the symbol to another library, the cursor will change to the shape shown at the left.

This is a useful feature if you want to collect the symbols you use most often into one or two libraries. You can also use it to sort the order of the drawings in the library by dragging them in the order you want to a new library.

Creating a New Library

You can create your own symbol libraries using the **Create New Library** command in the Libraries menu. This displays the **Create a New Symbol Library Dialog**.
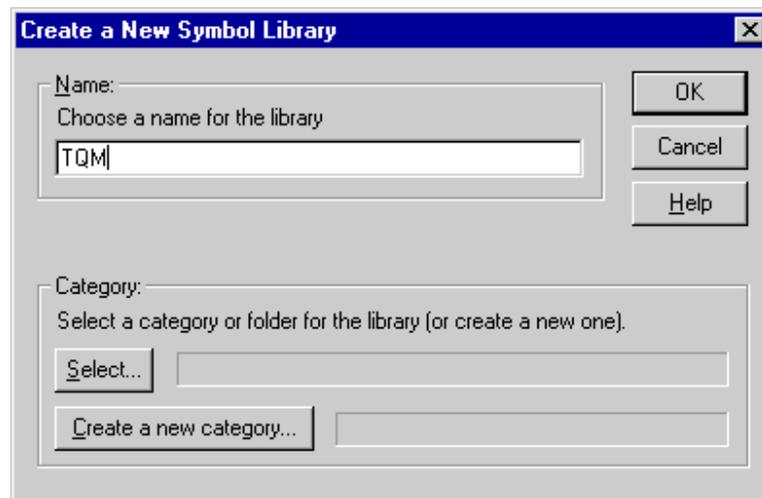

The Create a New Symbol Dialog

To use this dialog to create a new library, enter a name for into the **Name** field.

Select a category for the library using the **Select** button. This displays the **Browse for Folder** dialog, displaying the current tree of library categories. Simply select the one you want.
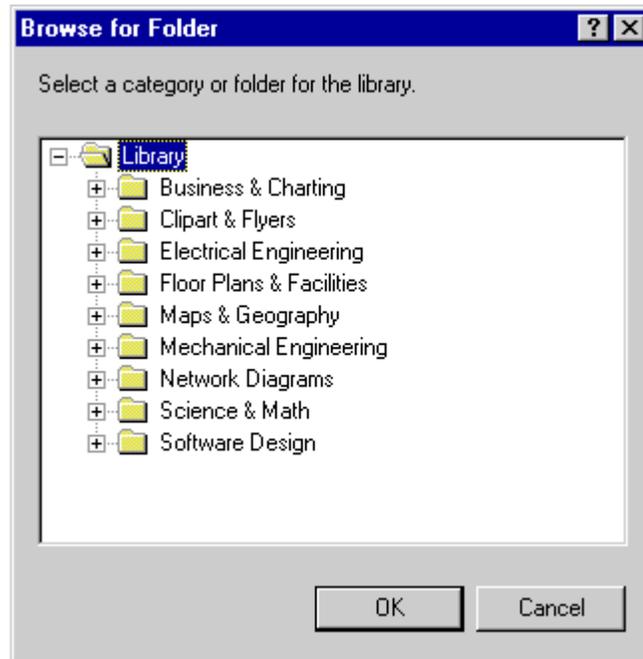
The Browse for Folder Dialog

You can also add your own categories by pressing the **Create a New Category** button. This displays the **Create a New Category Dialog**
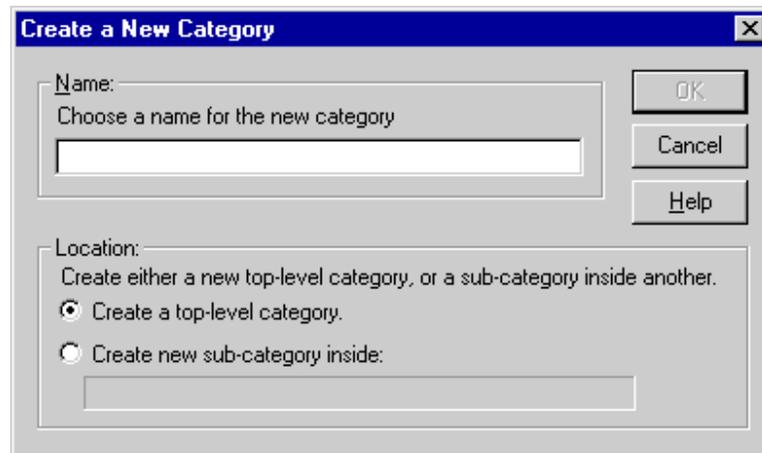
The Create a New Category Dialog

You can create a sub-category inside the category you already have selected, or create a new top level category that is not inside any other by selecting the appropriate radio button.

You must enter a name for the new category before you can press the OK button.

Once you have selected a category and a library name, pressing **OK** from the *Create* dialog creates the new library, and if necessary the new category. This is reflected immediately in the **SmartDraw Explorer** panel and the library is opened.

Your new library window, because it is empty, will show no buttons. You can add drawings to the new library by dragging them from SmartDraw drawings, other libraries, or by using the **Add New Symbol** command as described above.

The Library Builder Wizard

The **Library Builder Wizard** converts graphics files, in many popular formats, into SmartDraw libraries. It can convert an entire folder of graphics files into one or more libraries, or it can convert a tree of many folders into many libraries organized into categories.

The **Library Builder Wizard** is ideal for converting your clipart files into SmartDraw symbols. It can convert thousands of images in just a few minutes.

Open the **Library Builder Wizard** by selecting the command of the same name from the Libraries menu.
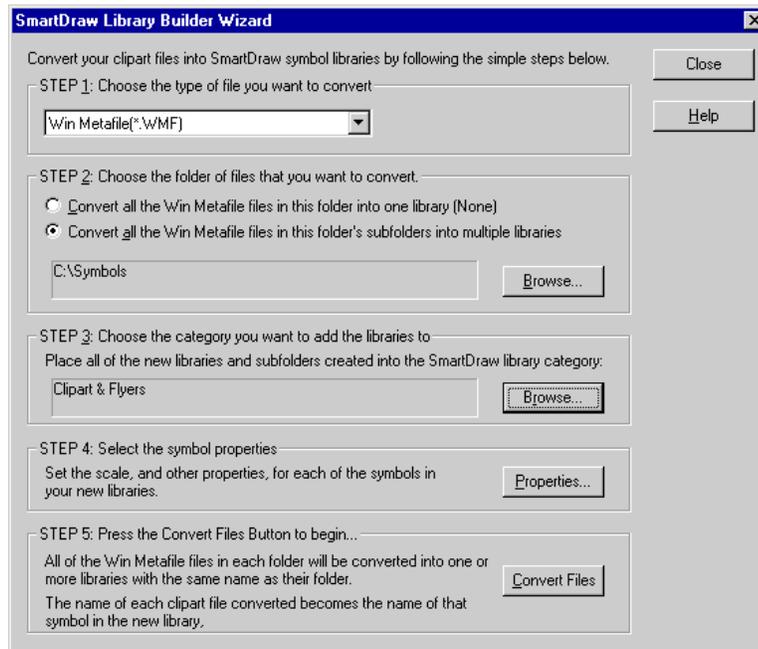
The Library Builder Wizard

Converting your files requires just five steps:

STEP 1: Choose the File Format
Select the file format of the graphics files that you want to import. The choices are the same as those offered by the Import command. Files in scaleable formats like Windows Metafiles (WMF), Postscript and AutoCAD format make better SmartDraw symbols than non-scaleable bitmapped files like BMP, JPG and GIF.

STEP 2: Select the Files to Convert
Use the **Browse** button to select the folder that contains the graphics files you want to convert.

The radio button controls how the files in the selected folder are converted into libraries.

Selecting **Convert all of the files in this folder into one library,** will convert any files of the type selected under STEP 1 that are stored in this folder into a library with that folder name. For example, if you are converting 20 WMF files from a folder called *Garden Tools*, these will be converted into one library called *Garden Tools*.

If there are more than 40 files in the folder selected, then two or more libraries will be created. Their names include a number: *Garden Tools-1, Garden Tools-2* and so on.

Selecting **Convert all of the files in this folder's subfolders into multiple libraries** will convert any files of the type selected under STEP 1 that are stored in each of the selected folder's *subfolders* into separate libraries, each with the same name as their subfolder.

For example, if the *Tools* folder is selected, and it contains three subfolders called *Garden Tools*, *Garage Tools* and *Woodshop Tools*, three libraries called *Garden Tools*, *Garage Tools* and *Woodshop Tools* will be created.

If the subfolders like *Garden Tools*, themselves contain subfolders, then files in these subfolders will also be converted into libraries with their subfolder name and so on: The whole folder tree starting with the folder selected will be converted into a tree of libraries.

STEP 3: Select the Category for the New Libraries

Use the **Browse** button to select the library category that will contain your newly created library.

For example, if you choose **Clipart & Flyers/Tools** as the category, using our earlier example, the new library *Garden Tools* will be created in this category and will appear there as an icon in the **SmartDraw Explorer**.

If you choose to generate a tree of libraries, by selecting **Convert all of the files in this folder's subfolders into multiple libraries** in STEP 2, the whole tree will be added to the category you choose.

STEP 4: Select the Symbol Properties

You can also specify the properties of each symbol in the new library by clicking on the **Properties** button in STEP 4. This displays the **Set Symbol Properties Dialog**.
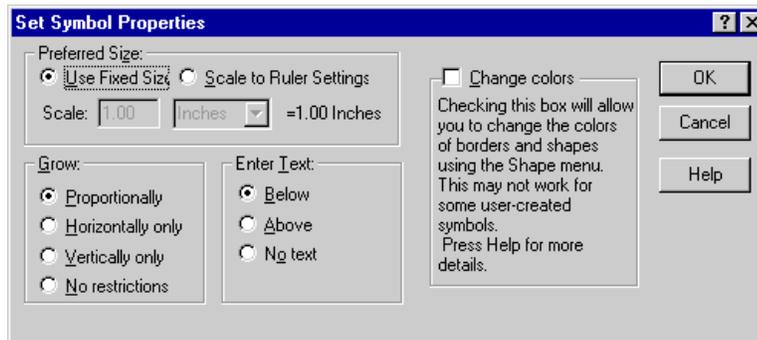
Set Symbol Properties Dialog

You can choose how each symbol will grow, where text will be attached to it, and whether it will respond to color changes. These settings are explained in more detail in Changing the Settings for a Symbol.

The settings for **Preferred Size** allow you to set the scale for each symbol.

If you check the **Use Fixed Size** radio button, symbols maintain their actual size. For example, if a picture of a desk is actually one inch wide, the preferred size of the symbol in the completed library will be 1.00 inches.

Checking **Scale to Ruler Settings** allows you to scale each symbol. If you are converting a collection of symbols that are drawn to scale, say 48 inches to the inch, you can set this scale by entering 48 into the **Scale** field. Then each of the symbols imported will be created with **Preferred Size** set to **Scale to Ruler Settings**, and a size equal to 48x their actual size. A one-inch desk will be set to a preferred size of 48 inches, and will scale to the ruler settings when it is added to a drawing.

STEP 5: Convert the Files

The final step is to press the **Convert Files** button to begin the conversion process. You can watch the libraries being built, symbol-by-symbol. Once completed, the **SmartDraw Explorer** updates itself and expands to show the new libraries.

Adding Credits to a Library

You can add supplemental (or credit) information to any library that you create. If a library has credits, a button appears at the bottom of the library window. You can define the text on that button and the message that appears when a user clicks on the button. Do this by selecting the **Credits** command from the Library menu. The **Define Library Credits Dialog** is displayed.

The Define Library Credits Dialog

The text you enter in the **Credit Button Label** field will show in a new button that appears at the bottom of the library window.
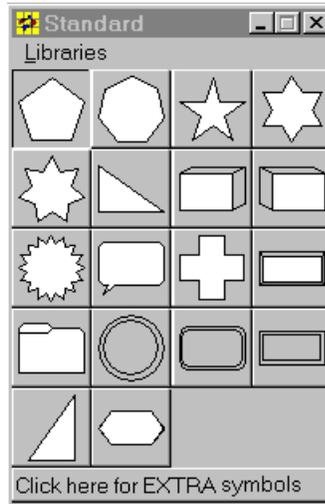
Clicking on this button, or selecting the **Credits** command on the Library menu again, displays the **Show Credits Dialog**.

Show Credits Dialog

The text you entered in the Dialog Text field appears in the body of this dialog. If you enter a web address in the Web Site Button field, the **Go To Web Page** button will appear in the Show Credits dialog. Pressing it will launch the browser and load that web address.

Entering an advisor name (see page 220) into the **Advisor File** field will cause that advisor to open automatically when the library is opened (except as a document toolbar) and will cause the **Show Advisor** button to appear in **the Show Credits Dialog**. Pressing this button shows the advisor manually.

The **Credit** button appears as a copyright symbol when the library is docked as a toolbar.

To edit existing credit settings for a library, hold the **Ctrl Key** down as you select the **Credits** command from the Libraries Menu. This will cause the **Define Library Credits Dialog** to display.

Using the Language list control you can enter different **Credits** information for each language supported by SmartDraw. You can also apply the **Credits** information defined in the dialog to all libraries in the same category folder by checking the box at the bottom of the dialog before you click on the OK button. Note that the credits are applied for all languages, not just the one showing in the **Language** list.

Sharing Libraries on a Network

Libraries can be shared by multiple users on a network, or by multiple document toolbars used by the same user.

When a library is opened more than once, the second and later clients open the library as read-only. Only the first client to open the library has write permission. Read-only libraries cannot be edited, and symbols cannot be added or removed.

Creating Your Own Shapes

Joining Lines to Make a New Shape

You can create a new shape by joining together any collection of lines and curves that form a closed loop. Use the **Join to Make a New Shape** command, under the Line menu.
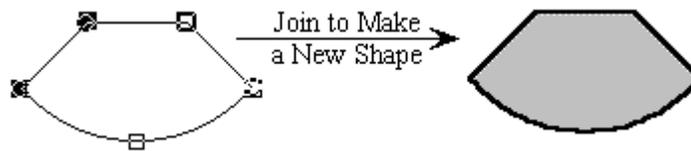
Joining Lines to Make a New Shape

The newly created shape is like any other: It can be filled. It can be rotated and you can type text into it. You can also drop it on a **library window** or **document toolbar** to create a new library symbol.

Shapes created this way are called **Polygon Shapes**. They have infinite connect points, and their text editing areas that are assigned automatically.

If the lines do not quite touch each other to form a closed loop, the Join command will fail. If this happens use a view of 200% or more to clearly see the ends of the lines you are trying to join, and adjust them until they meet.

Changing Existing Shapes

Any of the 24 built-in SmartDraw shapes, and **Polygon Shapes** made by joining lines, can be split apart into their component lines and curves using the **Edit Shape Outline** command under the Shapes menu. This is the reverse of the **Join** command described above.
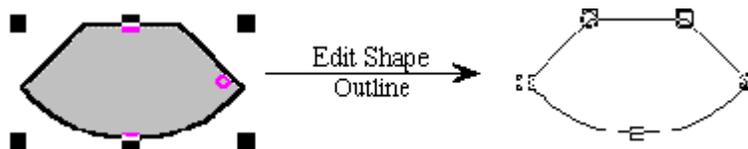
Once separated into lines and curves, the outline of the shape can be adjusted and then re-combined into a re-designed shape.

Re-designing a Shape
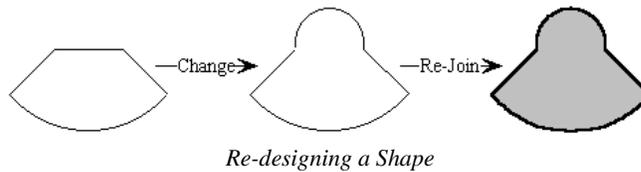
Grouping and Ungrouping

Two or more objects may be combined into a **Grouped Object** using the **Group** command under the Arrange menu. The **Ungroup** command reverses this. Ungrouping can also separate imported images into native SmartDraw shapes (page 180).

Properties of Grouped Objects

Object groups behave as a single object in some respects, and as individual objects in others. The following operations treat a group as a single object:

- *Clicking on any member of the group selects the group.*

- *Changing properties (color, thickness, font etc.) affects all members of the group.*

- *Moving the group moves all members of the group.*

- *Sizing the group sizes all members of the group.*

- *Rotation rotates the group as if it were a single object.*

- *Flipping reflects the group as if it were a single object.*

- *Duplicating, copying and pasting applies to the group as a whole.*

The following operations treat a group as individual objects:

- *Lines link to individual objects within a group.*

- *Shapes attach to automatic connectors and other shapes as individual objects.*

- *Text is edited and entered independently for each object in the group.*

- *Other files remain hyperlinked to individual group members after they are grouped.*

Grouping objects that are already in a group with other objects simply combines them all into a single group. There is no hierarchy of groups.

Ungrouping Imported Images

You can also ungroup most imported images into native SmartDraw objects. This is described in *Ungrouping Imported Images*.

Adding Groups to Symbol Libraries

A grouped object may be added to a library as a new symbol by simply dragging it onto a library window. Groups retain their properties as library symbols, and are drawn as a grouped object when introduced into a drawing.

Note that grouping a grouped object with other objects and then ungrouping it again will break it apart into its constituents.

Viewing and Printing

The SmartDraw Drawing Area

SmartDraw has a drawing area with a fixed size of 50x50 inches, and it is one of the few drawing programs that will let you draw a diagram this large.

Very few printers support paper sizes that are this large, so the drawing area is divided up into page-sized rectangles (or *tiles*) shown with dotted lines.
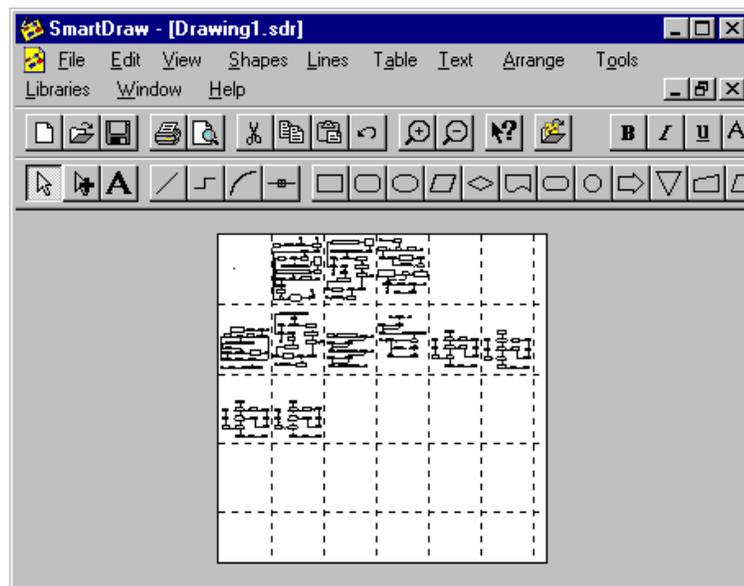
Fit to Window View Showing Page-sized Tiles

Since the dotted lines represent the dimensions of the page currently selected for this document, they change position when you change page orientation from **Portrait** to **Landscape**, or change the paper size using the Page Setup command under the File menu.

If the currently selected printer supports large format paper sizes (like E-sized) you can select this as the current paper size and the dotted page boundaries will reflect this, allowing you to print a large drawing on a single sheet.

Changing the View

While all SmartDraw drawings can occupy an area of up to 50x50 inches, unless your drawing is very large, you normally work only with a small part of this potential area, up in the top left corner.

The View menu items **200%**, **150%**, **100%**, **75%**, **50%, Fit to Page**, **Fit to Window** and **Custom…** control the scale used to display a drawing in its drawing window. 100% is the scale used by most Windows programs to show objects at their natural size. The other scales make objects look smaller or bigger than they really are.

These scale factors have no effect on the size of shapes and lines when they are printed out, only as viewed on the screen.

As you change the view, SmartDraw attempts to keep all of your objects in the visible part of your window. If this is not possible, it tries to keep all *selected* objects in view. If this is not possible, it tries to keep the center of the selected set of objects centered in the window.

You can cycle up and down through the views using the Scale Up and Scale Down toolbar buttons.

Choosing the **Custom…** command under the View menu presents the **Set Window Scale Dialog**. You can use this to set the scale to any values between 5% and 400%.
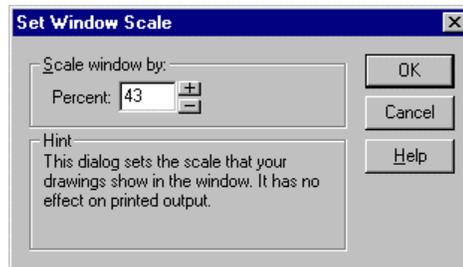
Set Window Scale Dialog

The **Fit to Page** selection scales the window to show at least one complete page.

The **Fit to Window** selection shows the whole 50 inches of the drawing in the document window.

Setting the Ruler Scale

Two rulers normally appear at the top and left of the document window. You can set their divisions, units, and origin using the **Set Rulers and Grids Dialog**, which is accessed via the **Define Rulers and Grid** command under the View Menu.
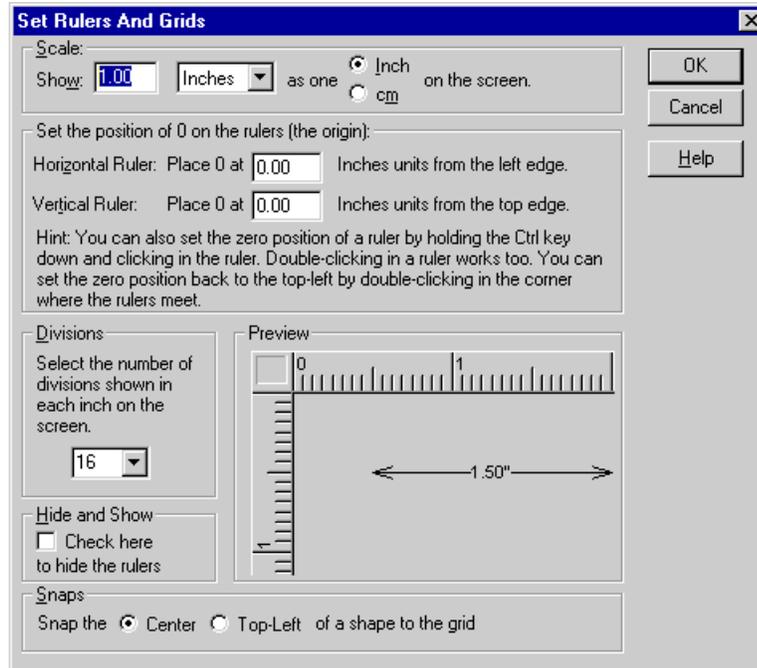
Set Rulers and Grid Dialog

Entering a value for **Show** sets the number of units for each major division on the ruler. Major divisions fall either every inch or every centimeter on the screen. This is set using the **Inch** or **cm** radio buttons.

The actual units chosen using the drop down list do not change the appearance of the rulers, but do affect the units shown for lines with **automatic dimensioning**. This is described in more detail on page 98. They also affect the automatic sizing of shapes added from libraries (page 144).

The number of subdivisions per major division can also be set using the drop down list.

The rulers can be hidden by checking or un-checking **the Hide and Show** checkbox in the dialog.

Setting the Ruler Origin

You can set the position where you want the origin (the zero point) of the rulers, by typing in a distance from the left or top edge.

An easier way to do this is to hold down the **Ctrl-key** and click the ruler with the mouse at the point that you want to be zero. Double-clicking the ruler accomplishes the same thing.

Double clicking in the area in the top-left of the drawing, where the rulers intersect, sets the origin back to the top-left.

Snaps

The Snaps setting, at the bottom of this dialog, controls the way shapes align to the snap-to grid. The default setting snaps the centers of shapes to the grid. This is important if line linking (see page 129) is used to connect shapes (as in flowcharting) because it ensures that the lines connecting the centers of shapes remain perfectly horizontal or vertical. On the other hand, if you were drawing a floor plan, you would want the top left corner of your objects to snap to the grid.

Printing

For drawings that fit on one page, printing is very straightforward. Pressing the **Print** button on the toolbar prints a single copy to your default printer.

Using the Print command under the File menu presents the Print dialog, which gives you many more options, including the number of copies and the range of pages to print. The range is only relevant when a drawing extends across multiple pages. The shape and size of these pages are determined by the **Page Setup** selections, described on page 170.

Printing Multiple Page Drawings

SmartDraw does not normally print the entire 50x50 inch drawing area. It prints only the rectangular array of pages that the drawing actually touches. If your drawing lies

completely within one page, only that page is printed. If your drawing extends across a page boundary, it is printed on two or more pages.
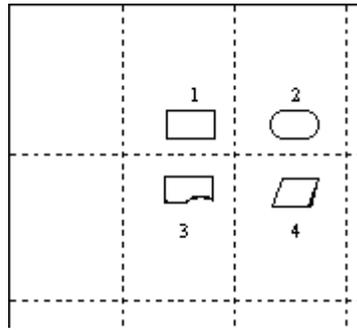
Multiple Page Drawing

In the example above, four pages are printed, marked 1,2,3, and 4. The top-left page of the array of pages that contain the drawing is printed as page 1. The remaining pages are then printed, starting with the page to the right of page 1, and proceeding from top left to bottom right across each row.

When a page range is specified in the Print dialog, the page numbering follows this scheme. For example, to print the bottom right page only, in the example above, you would specify a range of page 4 through 4.

If your drawing occupies more than one page, an ideal printer would print to the edge of each sheet of paper so that the drawing could be pieced together afterwards to form one continuous sheet. However, almost all printers have a gap, between ¼ inch and ½ inch, at the edge of each page, into which they cannot print. SmartDraw takes this minimum margin into account and shows the *printable* area of each page with dotted lines on your screen.

Printing on One Page
Even if your drawing takes up more than one page on the screen, you can still print it on one sheet of paper by checking the **Print on One Page** box in Print dialog. You won't see this dialog if you print by clicking on the Print button in the toolbar, so use the Print command on the File menu instead.

For best results, choose a page orientation (Portrait or Landscape) that matches the shape of your drawing (tall or wide). Of course, if your drawing is very large it may not be readable when printed on one page.

Page Setup

The **Page Setup** command, under the File menu, is used to set the following parameters:

- Page orientation
- Paper size
- Printer
- Printer properties

This information is stored with each drawing. If you change a printer property using this command it will affect only the drawing in the front-most window. Changes will have no effect on any other program, any other drawing, or on the global printer settings.

The **Page Setup** command presents the **Page Setup Dialog**.
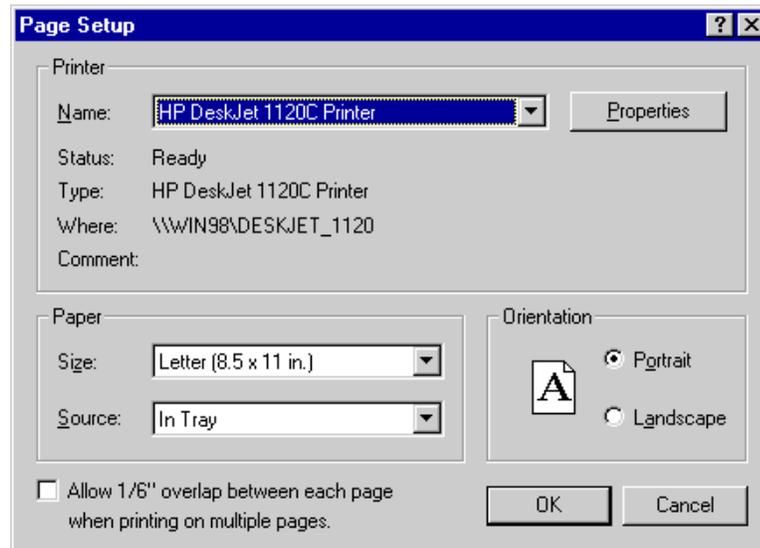
The Page Setup Dialog

The printer assigned to a particular drawing may be either the **Default** or a **Specific** printer.

The **Default** printer is the one currently specified in the Windows **Control Panel**. If the printer assigned to a drawing is set to the default, its assigned printer changes to the new default each time you change the default printer, either by using the Control Panel or by moving the drawing to a different computer. New drawings are set to the default printer when they are created.

If you choose a printer other than the default, you assign a **Specific** printer to that drawing The next time you print it, it will automatically select the same printer, no matter what the default printer setting is. If this printer is no longer available, you are prompted to select another when the drawing is re-opened.

The remaining controls in the Page Setup dialog let you choose a paper size and orientation. If you have more than one drawing open, these choices apply only to the current front-most drawing.

Overlap

Checking the checkbox marked **Allow 1/6" Overlap...** causes a small strip of each page to be printed again on the pages that surround it (on multiple page drawings). This makes it easier to paste together the pages of large drawings.

Print Preview

The **Print Preview** command puts SmartDraw into Print Preview mode. The Print Preview button on toolbar (shown at left) can also be used as a shortcut for this command.
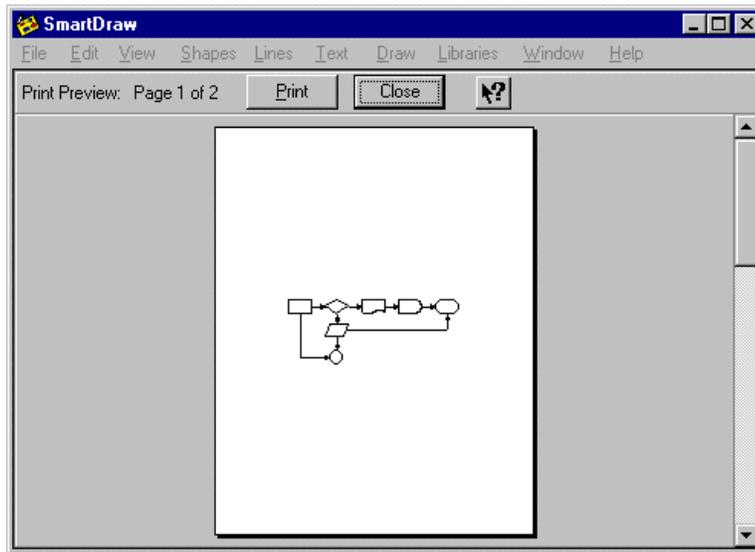
Print Preview Mode

In print preview mode, the program window shows a representation of a printed page. For drawings that require more than one page to print, the scrollbar on the right controls which page is previewed. The current page number is shown at the top left of the toolbar.

The toolbar has three buttons: **Close**, which ends the preview mode, **Print**, which ends the preview and presents the Print dialog, and a Help button.

The Print Dialog

The **Print** command under the File menu presents the **Print Dialog**. You can use this to control the range of pages printed, the number of copies and several other options.
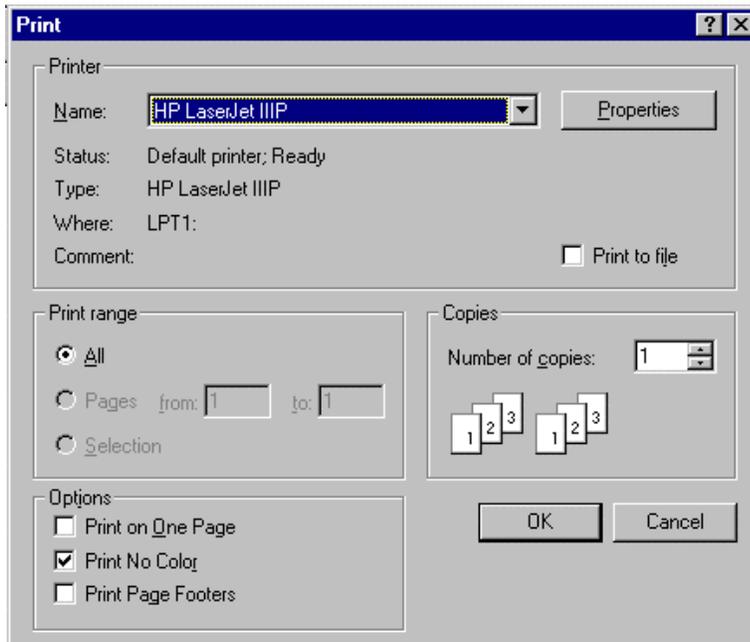
The Print Dialog

Printer

The currently selected printer is shown at the top of the dialog. You can change to a different printer using the drop down list.

Selecting a Range to Print

The Print dialog provides three choices for the range of pages to print.

- **All** causes all the pages that the drawing touches to be printed.

- **Selection** causes all the pages that the *selected* objects in the drawing touch to be printed.

- **Pages**, allows a *range* of the pages touched by the whole drawing to be selected for printing.

Printing Multiple Copies

You can print more than one copy of your selected range of pages, by entering the number of copies you want in the **Copies** field.

The **Collate Copies** checkbox determines the order in which the copies of the pages of a drawing will be printed.

If the range selected requires only one page to print, this setting has no effect.

If the range selected involves more than one page, then checking the box will cause multiple copies to be printed so that the pages are in collated order: page 1, 2, 3... followed by page 1, 2, 3.... and so on.

Un-checking the box will cause all copies of page 1 to be printed, followed by all copies of page 2 and so on. Non-collated printing (where available) is often faster than collated printing.

For printers that do not have enough memory to store a whole page (like dot matrix printers) the Collate Copies box is often checked and made inactive.

Print on One Page
Checking this box causes the entire drawing to be scaled down and printed on a single page. This may result in reduced legibility. This affects only the *printed* drawing, and will not change the view of the drawing on your screen.

Print No Color
Checking this box causes the drawing to be printed in black and white only. All borders, lines and text are made black, and the background and shape fills are made white. This often gives sharper results with non-color printers, and requires much less printer memory than printing in color.

Print Page Footers
Checking this box causes a footer showing the name of the drawing, the number of the page, and the current date and time to be printed at the bottom of each page.

Define Footer
This button becomes visible when the **Print Page Footer** box is checked. Pressing it brings the **Define Footer Dialog** into view.
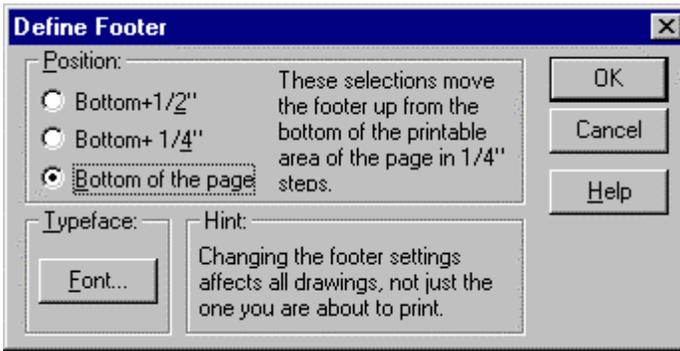
The Define Footer Dialog

Changing the setting of the **Position** buttons changes the position of the footer. The footer can be placed at the very bottom of the printable area of the page, or 1/4 inch or 1/2 inch above the bottom.

Pressing the **Font** button displays the Windows **Font Dialog**. This lets you choose the font, size and style for the footer text. A point size of 10 or less is recommended.

Print To File

Checking this box causes the printed image to be stored in a file on disk instead of being printed to the printer.

Keyboard Navigation

Selecting with the Tab Key

If no objects in your drawing are selected, typing the **Tab key** selects the first one. If one or more objects are already selected, typing the **Tab key** moves the selection from the current *Target* object (page 125) to the next object in the drawing.
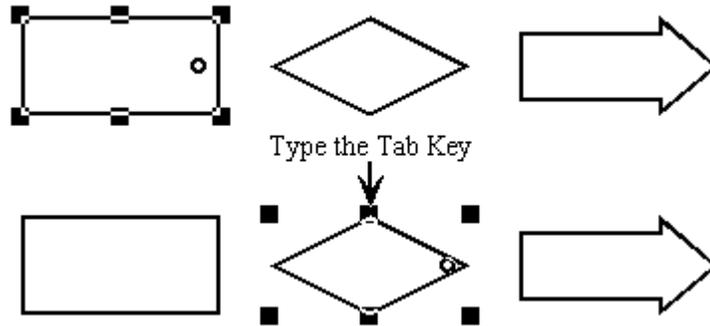
Selecting the next object with the Tab key

By typing the **Tab key** in this way, you can select each object in the drawing one-by-one.

Typing a **Shift-Tab** reverses direction and selects the previous object in the drawing.

The Tab Order

The order in which objects become selected as you type the **Tab key** is called the **Tab Order**. It is the same as the front-to-back order described on page 127.

It is also the order in which objects were created, unless you use the **Bring to Front** or **Send to Back** commands to change this order.

Text Entry and the Tab Key

If you are entering text into a shape, typing the **Tab key** selects the next shape in the tab order and opens it for text editing. **Shift-Tab** does the same in the reverse order.

You can use this feature to enter text in your shapes the way you would fill in a form: Double-click on the first shape and enter text. Then tab to the next shape, enter text, tab again and so on.

If you are entering text into a table (page 106) the **Tab key** moves you to the next text entry field in the table. Once you reach the last table field, a tab takes you to the next shape. The keyboard navigation in tables is smoothly integrated into navigation between shapes.

You can enter a *tab character* into a shape by typing **Ctrl-alt-tab**.

SmartDraw and Forms

The combination of SmartDraw's table objects and the ability to tab from shape to shape make it an ideal solution for designing interactive forms that you can fill out on the screen.

Another key to designing interactive forms is the ability to prevent certain objects and fields within tables from being edited. You don't want the labels and other fixed text in a form to be edited by someone filling it out. You also want to avoid having these fixed objects selected for text editing as you tab from field to field.

In tables you can eliminate cells from the tab order by *freezing* them using the **Do Not Allow Text Editing** command under the Table menu.

You can also freeze the text in shapes using the **Text Entry Properties** command described on page 94.

Using SmartDraw with Other Programs

Copying and Pasting

You can exchange information between SmartDraw and other programs using the *clipboard* and the standard Edit commands, **Cut**, **Copy** and **Paste.**

The clipboard is a place that Windows temporarily stores text, pictures and other data that have been *Copied* so that they can be transferred to another document or program with a *Paste* command.

When you are editing text, **Copy**, **Cut** and **Paste** act on the text in the standard Windows way. When you are not editing text entire images are transferred to and from the clipboard.

Each of these commands has a button on the toolbar you can use instead of the Edit menu.

Cut and Copy

The **Copy** command transfers all or part of the drawing to the clipboard. Its behavior depends on what is selected.

When nothing is selected, a representation of the whole drawing is copied to the clipboard (as a metafile). This drawing can then be pasted into word processors and other applications.

SmartDraw is an OLE Server. If another application supports **Object Linking and Embedding (OLE)** as a client, pasting the drawing also pastes a copy of the SmartDraw file itself into the application, so that double-clicking on the pasted drawing will open it up in SmartDraw again. This is explained in more detail in *Using SmartDraw with Microsoft Office* on page 193.

When one or more shapes or lines are selected, the **Copy** command copies just those shape and lines to the clipboard. They can be pasted back into a SmartDraw drawing, or pasted (as a picture) into another program.

Cut is a combination of **Clear** and **Copy**. It first copies any selected objects to the clipboard, and then deletes them.

Paste

If the clipboard contains shapes or lines copied from SmartDraw, using **Paste** adds these to the current drawing. If the clipboard contains an image from another program it is pasted into the drawing as an *Image Object*.

Image Objects

When images from other programs are imported or pasted into SmartDraw they become **Image Objects**. These can be thought of as rectangular shapes, initially with no border, with the image inside.

An image object can be moved and arranged like any other shape. Normally when you resize them they maintain their proportions. However, if the **Shift Key** is held down while the object is resized, you can resize it to any proportion. Like other shapes, you can change an image object's sizing behavior using the **Shape Sizing** command (see page 63), under the Shapes Menu.

When you try to type into image object, the text goes beneath the object (as a linked background text object), instead of inside.

Applying color and border changes to image objects either adds a border, or changes the colors in the image, depending on the **Change Colors** setting in the **Shape Sizing** dialog. (See page 146.)

You can also ungroup most imported images into native SmartDraw objects using the **Ungroup** command under the Arrange menu. (See page 180).

Importing Images From Other Programs

You can import images from other programs into SmartDraw using the **Import** command under the File menu. This shows the **Import Dialog**. This is the same as the **Open Dialog** and is used to select the file to be imported.

Before you can import a file you must select the correct type using the **Files of Type** control.

SmartDraw Standard supports import of files in Windows Metafile format, and several bitmapped formats, including, BMP, PC PaintBrush (PCX), GIF, JPG and TIFF.

Professional

SmartDraw Professional imports a much wider variety of formats including:

- Encapsulated Postscript (EPS)
- AutoCAD(DXF)
- CGM
- HPGL
- PDF
- Adobe Illustrator
- CorelDraw
- MicroGrafx Draw
- Visio

Once imported, images become **Image Objects**.

Ungrouping Imported Images

With the exception of the bitmapped formats (BMP, PCX, GIF, JPG and TIFF), all image objects, whether imported or pasted into SmartDraw, are stored in WMF (Windows Metafile) format. You can ungroup these images into native SmartDraw objects using the **Ungroup** command under the Arrange menu.

When you use the **Ungroup** command on an image object the **Separate Drawing** dialog is presented.

If, when you select a imported image, the **Ungroup** command is gray and not available then your image is most likely a bitmap and cannot be ungrouped.
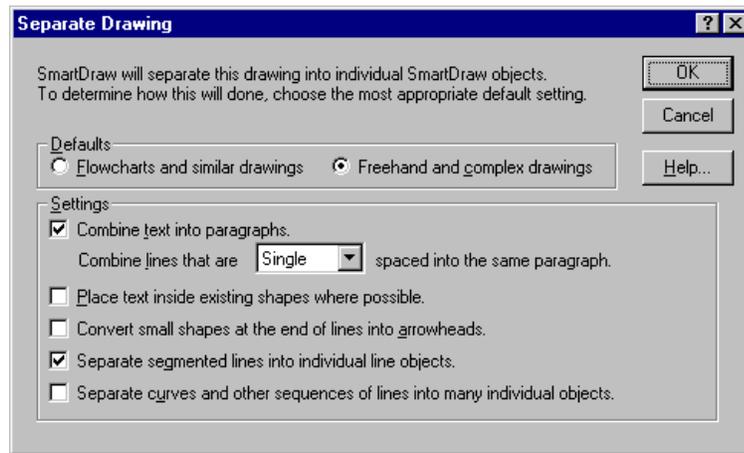
Separate Drawing Dialog

This dialog presents several options that control the way the image will be separated into SmartDraw objects.

SmartDraw performs many advanced techniques to convert crude metafile images into useful formats for flowcharting, including joining shapes to the end of lines as arrowheads, combining lines of text into paragraphs, placing text inside shapes, and joining line segments together into one segmented line. These techniques are based on empirical rules and are not always perfect. If you have imported images that do not convert well to flowcharts contact us **support@smartdraw.com**. We are always working to improve this process.

Defaults
Selecting the **Flowcharts** choice automatically selects the optimal combination of the separation settings for decomposing images of flowcharts. The **Freehand** choice does the same for freehand drawings.

Combine text into paragraphs
Text in imported images is separated into single line strings, where each string has one typeface. If this box is checked SmartDraw will attempt to combine these strings into one paragraph. The setting for single or double space indicates how much space SmartDraw should allow between lines before it terminates one text block and creates another.

Place text inside existing shapes

When this box is checked, the text blocks detected by SmartDraw's conversion process are placed inside any shapes detected if they lie on top of each other. SmartDraw will even detect the appropriate alignment of the text inside the shape.

Convert small shapes at the end of lines into arrowheads

With this box checked SmartDraw attempts to recognize arrowheads at the end of lines.

Separate segmented lines into individual line objects

With this box checked, SmartDraw will treat perpendicular lines that could be represented as a single segmented line as separate lines.

Separate curves and other sequences of lines into individual objects.

Freehand drawings often have many complex curves. These can be decomposed into hundreds (and sometimes thousands) of SmartDraw lines, or left combined as a single curved image. Checking this box forces their decomposition into many short straight lines. This is usually best left unchecked.

Opening Files Created with Other Flowchart Programs

SmartDraw uses its ability to decompose metafiles into useable flowcharts to convert files created with other programs into SmartDraw format.

To convert a file from Visio into SmartDraw format, just open the Visio file using the **Open** command under the file menu. *[Note! Your Visio file must be saved with a Detailed Preview. Check this using the Properties command under the Visio File menu.]* Choose **Visio** for the file type in the **Open Dialog**. The file opens and the **Separate Drawing** dialog appears (page 180). The settings for conversion of

flowcharts are already selected, but this gives you an opportunity to adjust them if your drawing does not convert well with the default settings. Press OK and the drawing is converted to native SmartDraw shapes and lines.

With other programs likes Flowcharter, Flow Charting PDQ, and others, your must first save your flowchart to Windows Metafile format (WMF) using the program's own export or save command. Then you can open the WMF file with SmartDraw.

Opening native Visio files requires SmartDraw Professional. WMF files from Visio, and other flowchart programs, can be opened with SmartDraw Standard.

SmartDraw File Conversion Wizard

The SmartDraw File Conversion Wizard is designed to make it easy for you to join the thousands of users who have switched from another competing product to SmartDraw.

It can be used to convert whole folders of files created with Visio, ABC Flowcharter and other programs into SmartDraw format.

To convert files Using the Wizard, the program you are converting *from* must be installed on your system, because the wizard uses that program as part of the conversion process.

If you do not have a copy of Visio, you can still convert Visio files to SmartDraw format using the **Open** command (File menu), but the conversion may be limited. To use the **Open** command, the files must have been saved from Visio with a *detailed preview*. The **Open** method is also limited in that it converts only one page of a multi-page Visio file. The **File Conversion Wizard**, however, uses the installed Visio program to convert all of the pages, and does so without regard to the type of preview.

You open the **File Conversion Wizard** from the SmartDraw File menu.
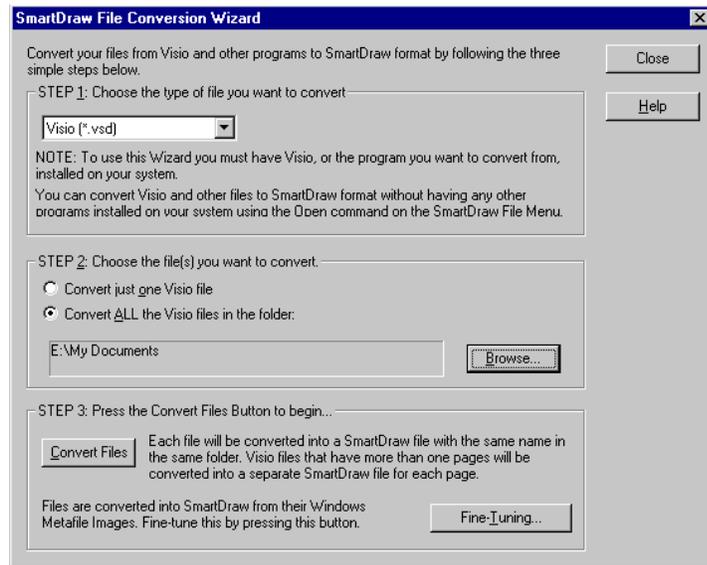
File Conversion Wizard

Converting your files requires just three steps.

STEP 1

First use the list control to select the type of file you want to convert. Several popular formats are listed, but you can choose **Other** to convert a format not listed. For any format you choose, the source program must be present on your computer, and this program must be an OLE server. The Wizard will warn you if you choose a format that does not meet these criteria.

STEP 2

Next choose the file or files that you want to convert. You can choose to convert all of the files of the type you have selected that reside in particular file folder, or just one file. Before you choose to convert all the files in a folder you might want to convert one of them as a test.

STEP 3

Start the conversion process. As the Wizard converts your files you may see activity from the application that created the files and SmartDraw itself. It typically takes between 10 and 60 seconds to convert each file. The converted files are

stored in the same folder as the original files with the same name, but different file type. For example, if you have a Visio file:

C:\MyDrawings\flowchart.vsd

The Wizard will create a corresponding SmartDraw file:

C:\MyDrawings\flowchart.sdr

If the Visio file has multiple pages the Wizard will create a SmartDraw file for each page:

C:\MyDrawings\flowchart-Page1.sdr

C:\MyDrawings\flowchart-Page2.sdr

……

Fine Tuning

The Wizard extracts a Windows metafile from each file to be converted. Then it decomposes the metafile into native SmartDraw objects. By default, the settings for this decomposition are optimized for converting flowcharts, organization charts and similar diagrams. You can adjust these settings by pressing the **Fine Tuning** button in the Wizard dialog to display the **Separate Drawings** dialog described on page 180.

Exporting Drawings

Professional

You can export SmartDraw drawings in several standard Windows file formats using the **Export** command under the File menu. This presents the **Export Dialog,** which is used to specify the name of the exported file and its format. This is similar to the **Save Dialog**.

Use the **Files of Type** control to change the format of the exported file.

SmartDraw Standard supports export of files in Windows Metafile, and several bitmapped formats, including, BMP, PC PaintBrush (PCX), GIF, JPG, TIFF and HTML.

SmartDraw Professional exports a much wider variety of formats including:

- Encapsulated Postscript (EPS)
- AutoCAD(DXF)
- CGM
- HPGL
- PDF
- Adobe Illustrator
- MicroGrafx Draw

Exporting to Bitmapped Files

SmartDraw exports to several bitmapped file formats including BMP, TIFF, GIF, JPG and PCX. All of these formats represent an image as a pattern of colored dots, called a bitmap.

Bitmaps are commonly used as image formats on web pages, but otherwise are not the best format for transferring SmartDraw drawings to other programs. The Windows Metafile format is almost universally shared among Windows programs and is a much better choice. Metafiles are scaleable. They retain their *sharpness* when they are scaled or printed. Bitmaps are very large and memory intensive. They also do not scale well.

The number of dots used to represent each inch of an image is called its *resolution*. The number of different colors that each dot can represent is called its *color depth*. The higher the resolution and color depth of a bitmap, the better it looks, but the more memory and disk space it occupies.

When creating a bitmap, there is always a trade-off between resolution and color depth, and memory requirements. SmartDraw lets you control this trade-off when you export to a bitmapped file format by displaying the **Export Bitmap Dialog**.
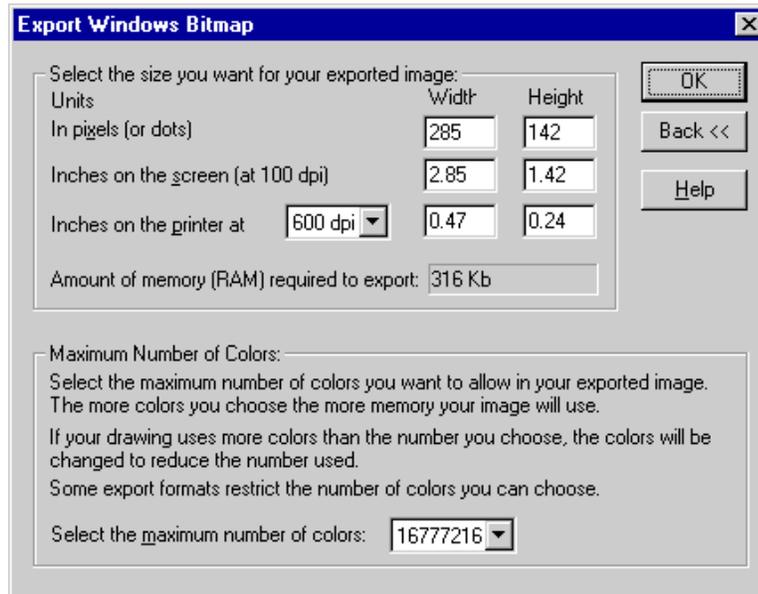
Export Bitmap Dialog

The **Export Bitmap Dialog** lets you specify the width and height of the bitmap you are about to export, in dots, screen inches and printer inches. It also lets you specify the number of colors that each dot can represent (the color depth).

Your entire SmartDraw drawing is always scaled to fit the size of the bitmap you choose. The size you choose should always be the size you want it to be in the application that will use it, so that you don't have to scale the bitmap after it is exported. (Bitmaps scale poorly.)

For example, if you are exporting your drawing to a GIF to use as part of a web page, and you want the resulting image to be 400 dots (or pixels) across, then enter 400 in the first row of the **Width** Column. The other width and height values will all change to reflect this width. The height changes because the proportions of your drawing are always maintained.

Selecting the **Maximum Colors** drop-down list selects the color depth for your exported bitmap. Some bitmapped formats do not allow all color depths. For example, GIF's always have a color depth of 256.

The memory required for your export is also shown in the dialog, If this number exceeds 32,000 most systems will

not be able to export the bitmap. If you have trouble exporting large bitmaps, try shutting down other programs to free up additional memory.

Exporting Images to Web Pages

SmartDraw exports directly to HTML format. Do this by selecting HTML from the list of formats in the Export Dialog.

SmartDraw then displays the **Export HTML Dialog**.
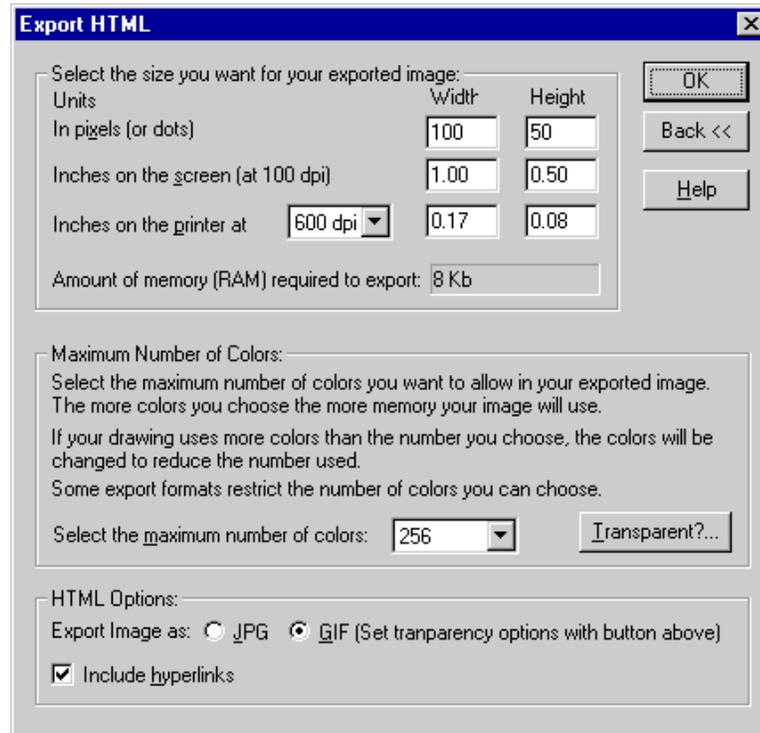
The HTML Export Dialog

This is similar to the **Bitmap Export Dialog**, described on page 186, but with an extra panel for HTML options. Controls in the panel allow you to choose either a GIF or JPG as the image file format.

When SmartDraw exports to an HTML file it also includes a GIF or a JPG file with the same name followed by *_img*. For example, if you export to **Flowchart.htm**, a bitmapped file called **Flowchart_img.gif** (or jpg) is also created. You

must upload both files to your web server in order to view the exported image in a web browser.

When exporting to a GIF you can specify a background color that will become transparent when viewed with most web browsers. You can also choose whether the exported file should be in interlaced or non-interlaced format. Interlaced images display more quickly than non-interlaced, but take longer to come into focus.

These options are specified in the **GIF Format Options Dialog**. This is displayed when GIF format is selected and you press the **Transparent** button in the HTML export dialog.
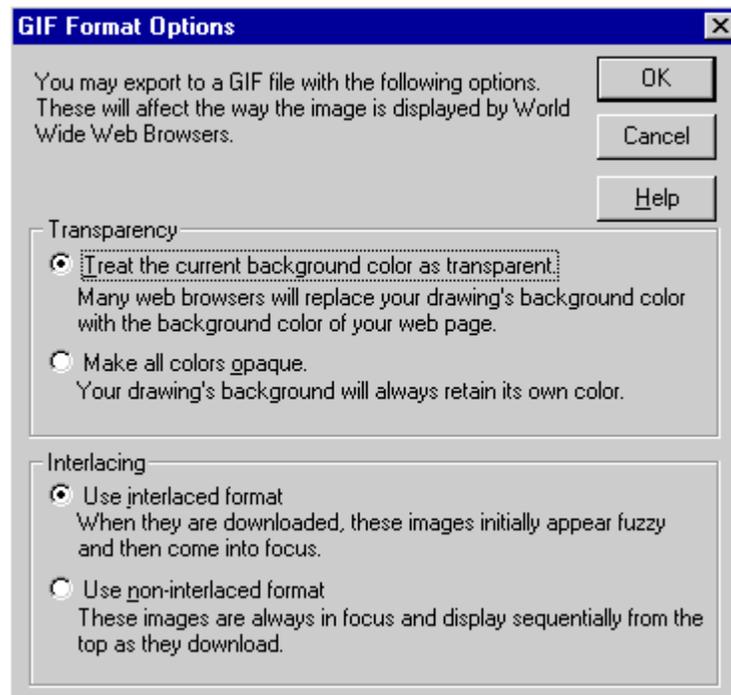
GIF Format Options Dialog

Including Hyperlinks

SmartDraw allows you to attach hyperlinks to any shape in your drawing. This is explained in more detail in Hyperlinking to Files and Web Pages.

If your drawing contains these hyperlinks, you can check the **Include Hyperlinks** checkbox when you export to HTML and preserve them in the web page generated. If

you select this option, clicking on the shapes with hyperlinks in the web page will have the same effect as clicking on the shapes in SmartDraw.

Using this feature of SmartDraw's HTML export makes generating HTML click-maps a breeze.

Hyperlinking to Files and Web Pages

One of the more powerful features of SmartDraw is its ability to hyperlink any shape to another SmartDraw drawing file, a web address (URL), another application's document, or even a program command line, using the **Hyperlink** commands under the Tools menu.

To create a hyperlink, you first select an object in the drawing, and then select the **Create a Link** command under the **Hyperlink** submenu. This shows the **Create a hyperlink** dialog.
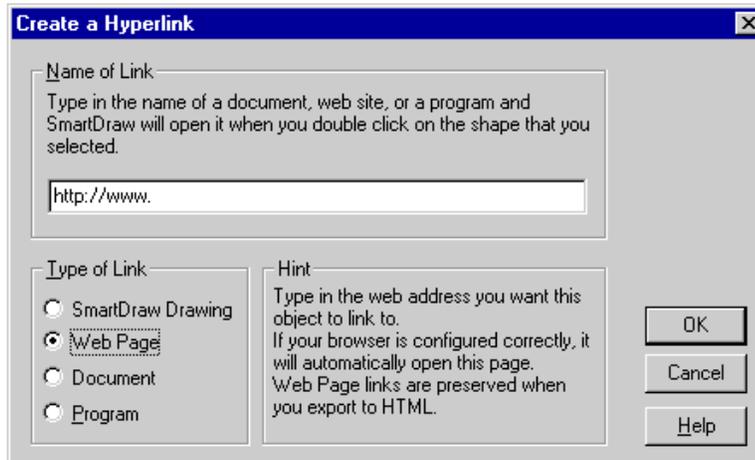
Hyperlink Dialog

Here you can choose to link another SmartDraw drawing, a web address, a document, or a program to the currently selected object.

You enter the file name, the web URL, or the program command line of the file that you want to link to. You can also use the **Browse** button to search for a particular file. This presents the standard Open dialog.

Once you select a file, or address, it is hyperlinked to the currently selected object.

From this point on, if you select this object and use the **Open Link** command (type the **F11 Key** as a short cut), the linked file, or web address, will be opened. You can break this link by selecting the object and using the **Clear Link** command.

You can only use the **Open Link** and **Create a Link** commands when a single object is selected. You can use the **Clear Link** command when more than one object is selected. The hyperlinks will be cleared from all selected objects.

Shapes and lines that have hyperlinks are shown with a special symbol that consists of a plus sign inside a small box.
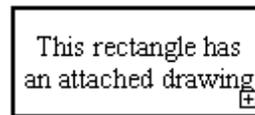
The Hyperlink Symbol

Double clicking on this symbol opens the linked file or URL.

Using Hyperlinks

Nested Drawings

You can use hyperlinking to create hierarchical or "nested" drawings that let you *drill down* to more detail.

For example, suppose you are creating a flowchart for a process that includes one very complex step. On your summary (or high-level) flowchart, you can represent the complex step by a single shape and then hyperlink the shape to a detailed flowchart illustrating the complex process. Later, if you double-click on the hyperlinked symbol in the summary chart, the detailed chart represented by the shape opens up.

Web Site Mapping

The ability to hyperlink a shape to a web page URL makes SmartDraw a very useful tool for a drawing a flowchart that documents a web site. Each page may be represented by a symbol that is actually hyperlinked to the page itself. When you export to HTML, you can preserve these links.

Notes and Background Information

You can attach a page or more of notes to any shape in a drawing by hyperlinking it to a word-processing document. You can also attach a help file or a web address. For example, in a network diagram you can attach the web address of the manufacturer of the piece of hardware represented by a symbol.

Using SmartDraw with Microsoft Office

While SmartDraw can exchange drawings with most Windows programs, it is designed to work especially closely with Microsoft Office.

Transferring Drawings from SmartDraw to Office.

Copy and Paste

The easiest way to transfer drawings you create in SmartDraw to **Microsoft Word** (and the other Office programs) is to simply **copy** all or part of the drawing in SmartDraw and then **paste** it into **Word**.

OLE (Object Linking and Embedding)

Because Word is an OLE Client and SmartDraw is an OLE Server, Word stores *all* of the SmartDraw drawing information in its document when you paste, not just the picture you see. This is called **Embedding**. A copy of your SmartDraw drawing is *embedded* in the Word document.

If you double-click on the SmartDraw drawing in Word it will re-open in SmartDraw and you can to edit it.

Another way of transferring a SmartDraw drawing to Word is to paste an *OLE Link* using Word's **Paste Special** command (page 197). If you choose to paste a link, using this dialog, the picture you see is transferred to Word along with the name of the SmartDraw file it came from.

If you double-click on the *linked* SmartDraw drawing in Word it opens the original SmartDraw file allowing you to edit it, just as with an embedded drawing. OLE Linking is useful if you want just *one* copy of your drawing to be shared between several documents. When you *embed* a drawing, changing the embedded copy does not change any other copy. When you paste an OLE *link*, changing the one

linked drawing changes all the linked copies of that same drawing.

Drag and Drop

You can also drag selected parts of a drawing from SmartDraw into Word and other office programs. Unless you hold down the **Ctrl key** while you do this, the selection will be deleted from the drawing after it is transferred to Word. This conforms to the standard Windows interface for drag and drop between applications.

Inserting a SmartDraw Object into Word

Professional

You need not actually run SmartDraw at all in order to insert a SmartDraw drawing into a Word document. Word has an **Object** command on its **Insert** menu. You can use this command to insert a SmartDraw drawing directly into your document. You can insert a new drawing or an existing one. The details of this are described on page 197 and in Word's own documentation.

When you insert a new document, the last type you picked from the **New Drawing** dialog is created by default.

Transferring Objects from Office to SmartDraw

In addition to being an OLE server, the Professional edition of SmartDraw is also an **OLE Client**, like Word, PowerPoint and Excel.

This means that when you paste images from other programs that are OLE servers into SmartDraw, they become embedded or linked OLE objects that can be re-opened and edited by their parent programs.

For example, if you paste a graph from Excel into a SmartDraw drawing, both the image of the graph and the underlying Excel file structure are stored in the embedded drawings. Double clicking on the graph in SmartDraw opens it again in Excel, for editing.

The images you paste from Office behave just like library symbols in SmartDraw. You can link lines to them, flip them, rotate them, and resize them. They also have the very special property that you can open them in Office, simply by double clicking on them in SmartDraw, and modify them.

Perhaps most important of all, you can add OLE objects to libraries, and they retain their OLE object nature. SmartDraw Professional supports libraries not only of symbols, but also of *live objects* that can be opened in other applications! This is the basis for the **Office Companion**.

Microsoft Office Companion

With SmartDraw Professional and Microsoft Office you can add real graphs, bitmaps, equations, spreadsheets and all of the Office clipart to your SmartDraw drawings with just one click.

If Microsoft Office is installed on your computer, SmartDraw Professional shows a special set of toolbar buttons on the right end of the top toolbar.
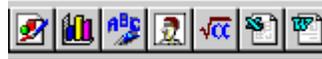
Office Companion Toolbar

If you click on one of these buttons you can add any of the following objects your drawing.

- Bitmap (Paint)
- Graph   (MS Graph)
- WordArt (MS WordArt)
- Clipart (Clipart Gallery)
- Equation (MS Equation)
- Spreadsheet (Excel)
- Word processing document (Word)

If any of these applications are not installed on your system, their buttons do not appear.

When you click on the **Bitmap** button the **Windows Paint** application is launched. The image your draw will appear in your drawing when you close Paint. A similar thing

occurs when you press the **Equation**, **Spreadsheet** and **Word Processor** button.

Pressing the **Clipart** button shows the **Office Clipart Gallery**. By using this button the thousands of images that are included with Office become SmartDraw symbols too.

Pressing the **Graph** or **WordArt** buttons shows the **Gallery Dialog**. Here you can choose from a collection of symbol libraries containing pre-formatted Graphs or WordArt examples.
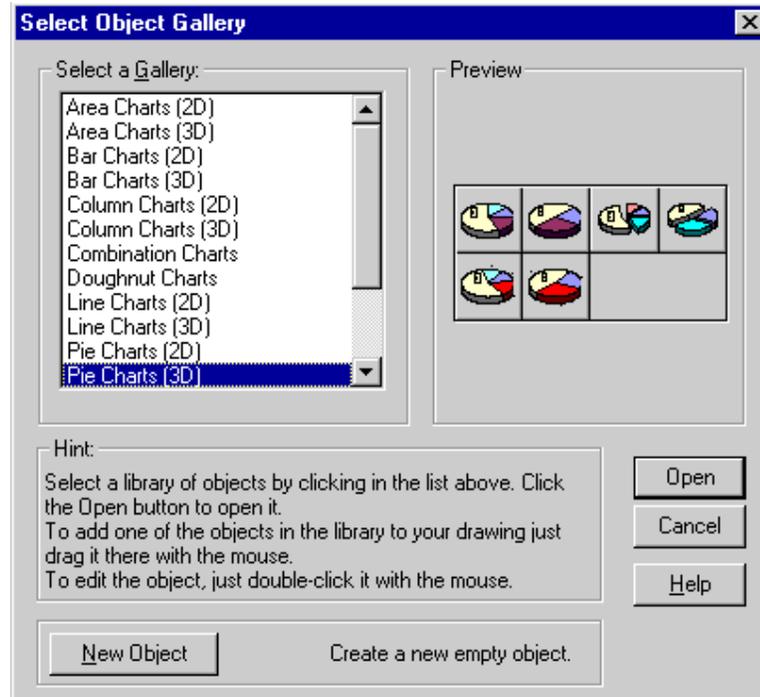
Object Gallery Dialog

Selecting a library from the list displays its preview on the right. If you open one of these libraries, you can drag one of the sample objects into your drawing and then open it by double clicking or using the object menu commands (page 198).

Adding Objects with Paste and Paste Special

In addition to using the Office Companion toolbar buttons, you can also **Paste** an object from Office, or other OLE

Server applications, into the Professional Edition of SmartDraw. When you do this, SmartDraw makes its own copy of the application file and stores it in the drawing. This is called *embedding*.

When you paste using the **Paste Special** command you can choose between several different ways of pasting. The command shows the **Paste Special Dialog**.
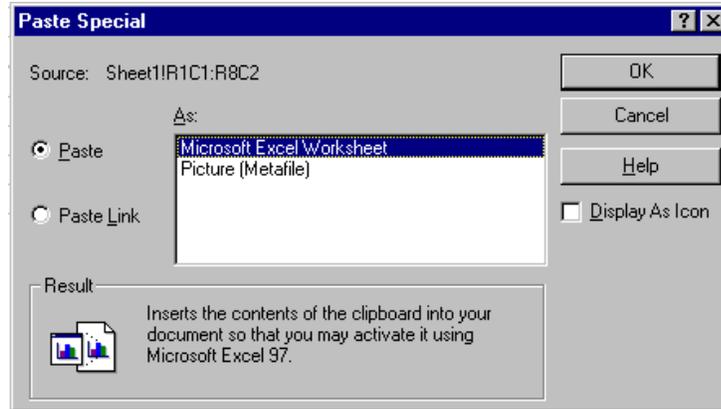
Paste Special Dialog

The dialog shows a list of formats. When you select the first format at the top of the list, depending on the program you copied from, you may be offered the choice of **Paste** or **Paste Link**. Pasting a **Link** pastes the picture plus the name of the file it came from. Then, whenever you change the contents of this linked file, SmartDraw will update the picture to the newest version.

Choosing the second item in the list (Picture) does not give you the choice of **Paste Link** and normal pasting just transfers an image into SmartDraw without the underlying data. If you paste just an image and then change the original file you copied from, you'll need to paste it into SmartDraw again to get the revised image.

Inserting Objects

You can also add OLE objects to SmartDraw with **the Insert Object** command under the Edit menu. This shows **the Insert Object Dialog**.
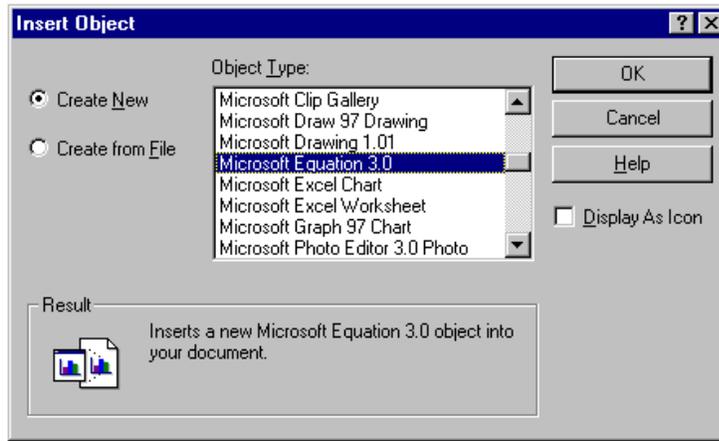
Insert Object Dialog (Create New)

When the **Create New** radio button is selected, the list shows all of the object types installed on your system. To create a new object just select one of the items in the list and press OK.

When the **Create from File** button is selected the dialog changes to the form shown below
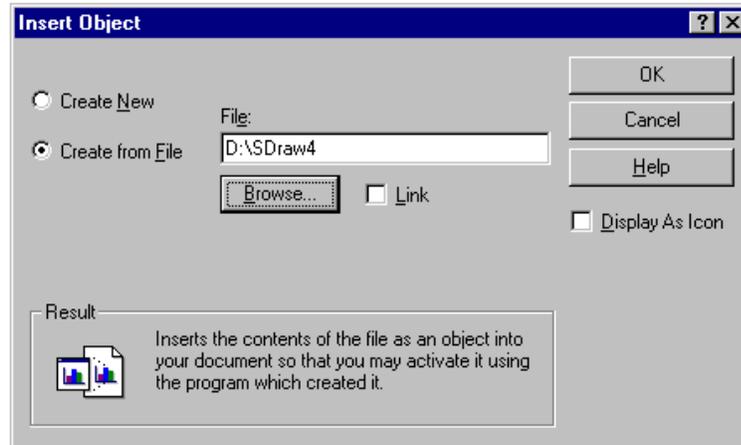
Insert Object Dialog (Create from File)

This allows you to pick an existing file and create an embedded or linked object from it.

Editing OLE Objects

When an OLE object is selected, the bottom item of the SmartDraw Edit menu changes to a submenu showing the name of the object.

You can use the commands on this menu to Open the object for editing. You can also double-click on the object itself to open it for editing.

Managing Links

When an OLE Linked object is selected, the **Links** command under the Edit menu presents the **Links Dialog**. You can use this to manage links in your document.
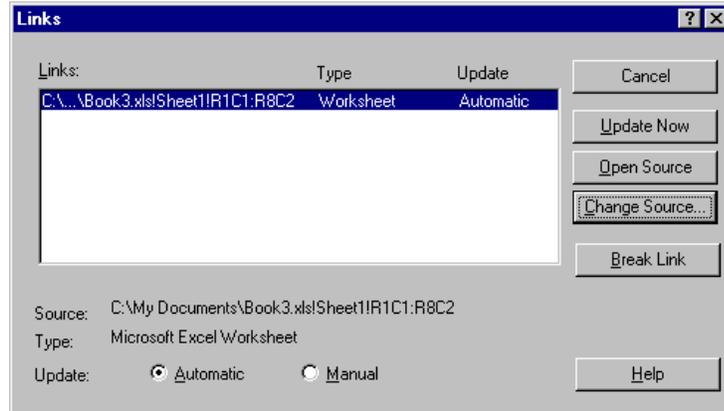
The Links Dialog

The list shows all of the linked OLE objects in your drawing. You can change the parameters of the selected object in the list using the buttons on the right.

Open Source opens the file associated with the link. **Change Source** lets your fix a link that has been broken because the file moved.

Update Now causes SmartDraw to get the current image from the linked file. **Break Link** breaks the OLE link, making the object a simple image object that no longer updates.

Text Tools

Spelling Correction

Professional

The Professional version of SmartDraw can check the spelling of the text you enter while you are typing. If you misspell a word, it is underlined with a wavy red line.
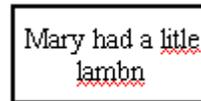
Misspelled words are underlined with red wavy lines.

Right clicking (clicking with the right mouse button) on the misspelled word shows a menu with alternative spellings and other commands.
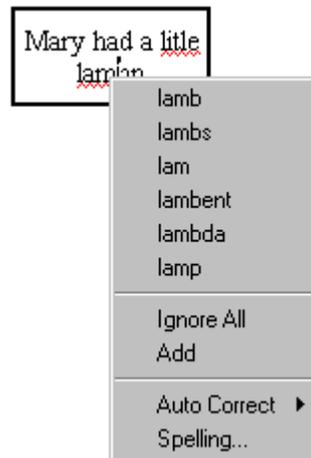
Right-clicking on a misspelled word.

If you select one of the alternative spellings, the word is replaced with this selection. The other commands:

- **Ignore All**. Ignores the word for this session.

- **Add**. Adds the word to your user dictionary, so that it is considered correct in all future sessions.

- **Auto Correct**. Adds the word to your user dictionary along with the misspelling, so that if you

use that misspelling again, SmartDraw will correct it for you automatically.

- **Spelling**. This shows the **Check Spelling** dialog.

To prevent SmartDraw from checking your spelling as you type, turn off the **Check Spelling While You Type** command under the Tools menu. You can use the same command to turn it back on again. On slower computers, turning off spelling correction while you type will speed up text editing.

The Check-Spelling Dialog

You can check the spelling of an entire document (or just the selected text or shapes) interactively using the **Check-Spelling Dialog**.

When you use this command to check spelling interactively, either the selected range of text, or the selected object(s), are checked first. You are then given the opportunity to continue correct spelling in the rest of the document.
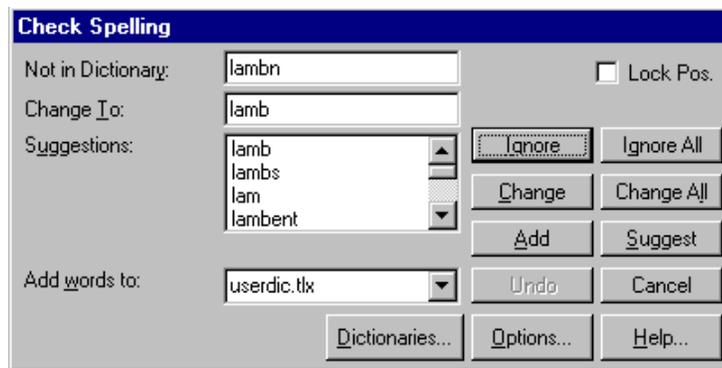
The Check-Spelling Dialog

The Check Spelling Dialog has the following controls

Add

This causes the reported word to be added to the dictionary currently selected in the **Add Words To** list. Use the **Add** button if a correctly spelled word you use often is reported as a misspelling (e.g., your family name). If the word is not

used frequently, you may want to select the **Ignore** or **Ignore All** buttons instead.

Add Words To
This indicates which user dictionary words will be added to when you select the **Add** button. The **Add Words To** list shows all user dictionaries currently open. You can open or close other dictionaries via the **Dictionaries** dialog, which is accessible by selecting the **Dictionaries** button.

Cancel
Stops the current spell-checking operation.

Change
Causes the reported word to be replaced with the word in the **Change To** box. Only this occurrence of the reported word is replaced. If you want this and all following occurrences of the word replaced, select the **Change All** button. If the **Change To** box is empty, such as when a repeated word is reported, the **Change** button changes to **Delete**.

Change All
Causes this and all following occurrences of the reported word to be replaced with the word in the **Change To** box. If you want only this occurrence of the word to be replaced, use the **Change** button. If the reported word is one you frequently misspell, you might consider adding it to a user dictionary via the **Dictionaries** dialog. You can display the **Dictionaries** dialog by selecting the **Dictionaries** button.

Change To
Contains a word that will replace a misspelled word when you select the **Change** or **Change All** buttons. You can enter a word in the **Change To** box by typing, or you can select one of the suggested replacements from the **Suggestions** list.

Consider Changing

Contains a word that may be misspelled or otherwise incorrect, and is presented with a candidate replacement word. You can change the word by selecting the **Change** button, or skip it by selecting the **Ignore** button. Note that the label of this box changes to "**Not in dictionary**" when a misspelled word is detected.

Dictionaries

Causes the **Dictionaries** dialog to be displayed. You can use the Dictionaries dialog to open or close user dictionaries, and to edit the contents of user dictionaries.

Ignore

Causes this occurrence of a misspelled word to be skipped. If the same misspelled word appears later, it will be reported.

Ignore All

Causes this and all further occurrences of this misspelled word to be skipped. You might use this button if the word reported as a misspelling is actually spelled correctly. If the word is one you use frequently, you may wish add it to your dictionary by selecting the **Add** button.

Lock Pos

Locks the position of the Check-Spelling dialog in place. Normally the Check-Spelling dialog attempts to position itself to avoid the window containing the text being checked. When the **Lock** check-box is checked, the Check-Spelling dialog will always appear at the last place you positioned it.

Not in dictionary

Indicates that a misspelled word was detected. The word is considered misspelled because it could not be located in any open dictionaries. Note that the label of this box changes to "**Consider changing**" when a word and a suggested replacement are displayed.

Options

Causes the **Options** dialog to be displayed. You can use the Options dialog to set spelling-checker options.

Suggest

Search more thoroughly for suggested replacements for the current misspelled word. Each time you press the **Suggest** button, a "deeper" search is made. The **Suggest** button is disabled once all possible suggestions have been located.

Suggestions

Contains a list of suggested replacements for the misspelled word reported as misspelled. This list is filled in automatically when a misspelled word is detected. Subsequent presses of the **Suggest** button may yield more suggestions. A word selected in this list will be automatically copied to the **Change To** box, where it can be substituted for the misspelled word by pressing the **Change** button.

Undo button

Removes the last change made.

Selecting a Spelling Language

The **Spelling Language** submenu, under the Tools menu, lets you switch languages with a single menu command. Each language supported is shown on the submenu. The currently selected one is shown with a check mark. The language selection applies to SmartDraw as a whole, not just the document that you are working on. SmartDraw supports the following languages.

- American English
- British English
- Brazilian Portuguese
- Danish
- Dutch
- Finnish
- French
- German

- Norwegian
- Italian
- Spanish
- Swedish

These dictionaries are available on the SmartDraw CD, or via download from http://www.smartdraw.com/dictionaries.htm.

Dictionary Organization

The language dictionaries are stored in the **Spelling** folder inside the SmartDraw program folder. Each language has its own folder inside the Spelling folder. All users on a network share these dictionaries.

The custom dictionaries that users edit are stored in a folder inside their **Windows** folder called **SmartDraw**. Each user on a network has his or her own custom dictionaries.

The Dictionary Dialog

Pressing the **Dictionaries** button in the **Check-Spelling** dialog, or using the **Spelling Dictionaries** command under the Tools menu, opens the **Dictionary Dialog**. This allows you to manage your own custom dictionaries, where your own private words (like your name, special acronyms, etc.) are stored.

The **Dictionaries Dialog** allows you to open and close user dictionaries, and to edit the contents of an open user dictionary. The contents of dictionaries are saved in disk files. You can open some or all of your user dictionary files at any time. Only open dictionaries are consulted during a spell-checking operation.
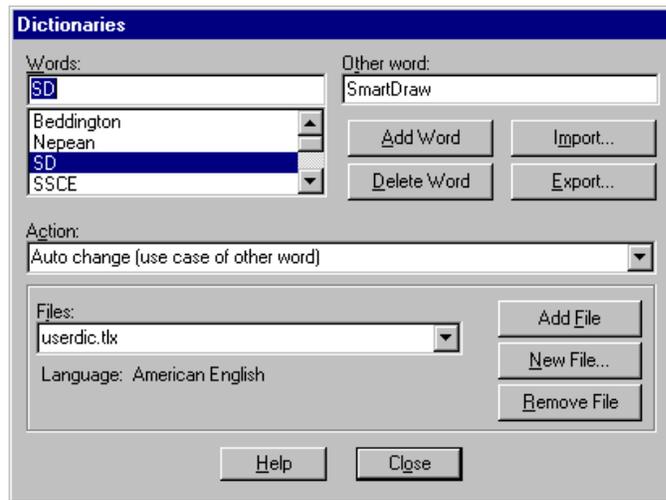
The Dictionaries Dialog

The Dictionary Dialog has the following controls:

Words

This contains the list of words in the currently selected user dictionary, as well as the currently selected word.

Other Word

This contains an alternate word associated with the currently selected word. The other word is used in the **Auto change** and **Conditionally change** actions to supply a replacement word. You can enter more than one word in the **Other Word** box, but the total length should be limited to 63 characters.

Action

The action tells the spelling checker what to do when it finds a word in the dictionary. The following actions can be selected:

Auto change (use case of checked word)

This action allows you to automatically replace one word with another. For example, if you often type *recieve* instead of **receive**, you might enter the word *recieve* with **receive** as the other word and **Auto change (use case of checked word)** as the action. The spelling checker will then automatically correct *recieve* wherever it appears. If *recieve* were capitalized (*Recieve*) the spelling checker would

automatically replace it with **Receive**. Note that the replacement is made automatically only if the **Auto Change** option is enabled (see the **Spelling Options Dialog** for information on the **Auto Change** option).

Auto change (use case of other word)
This action allows you to automatically replace one word with another, without considering the case of the replaced word. This action is useful for automatically expanding abbreviations. For example, you could enter the word *TBD* with **to be determined** as the other word and **Auto change (use case of other word)** as the action. The spelling checker will automatically replace **TBD** with **to be determined** wherever it appears.

Conditionally change (use case of checked word)
This action is the same as **Auto change (use case of checked word)** above, except that the replacement is only suggested by the **Check-Spelling** dialog. It does not happen automatically.

Conditionally change (use case of other word)
This too is like **Auto change (use case of other word)** but is only suggested by the **Check-Spelling** dialog.

Exclude (treat as misspelled)
This action tells the spelling checker that the word is misspelled, even if it is listed in another dictionary. Words marked with this action will never be offered as suggestions for misspelled words, and they will be reported as misspellings when they are encountered by the spelling checker. Note that the spelling checker looks up words in user dictionaries in the order in which the dictionary files appear in the Files list. If you want to exclude a word, make sure it doesn't appear in a previous user dictionary.

Ignore (skip)
This action tells the spelling checker that the word is spelled correctly, and can be skipped over. This is the most common action.

Add Word
This causes the word entered in the edit area of the **Words** list to be added to the currently selected dictionary. The currently selected action and other word are associated with

the word. You can use the **Add Word** button to change the action or other word associated with a word. Note that the **Add Word** button is enabled only when a new word is typed in the edit area of the **Words** list. The words you add may contain virtually any character, but only words which contain embedded periods should have trailing periods (e.g., U.S.A. is OK, but USA. is not).

Delete Word

This causes the word appearing in the edit area of the **Words** list to be removed from the currently selected dictionary. The associated *action* and other word are also removed.

Files

This contains the list of open dictionary files. When you select a dictionary file from the list, its contents are displayed in the **Words** list.

Add File

This opens a user dictionary file. When you select the **Add File** button, a dialog appears which you can use to select the dictionary file to open. The set of open dictionary files is remembered, so once you add a dictionary file you don't need to add it again. If you need to create a new user dictionary, use the **New** button. You can open other applications' user dictionary files, including those of Microsoft Office.

Your Office user dictionary is usually called **custom.dic**. Search for this file and add it to the file list and you can share a common list of your personal words with SmartDraw.

Remove File

This closes the currently selected dictionary file. Closed dictionaries are not checked during a spelling check. Although the file is closed, it is not deleted. Closed dictionary files can be later reopened using the **Add File** button.

New

This creates a new user dictionary file. When you select the **New** button, a dialog appears which you can use to specify attributes of the new dictionary.

Export

This saves the contents of the currently selected dictionary to a text file. When you select the **Export** button, a dialog appears which you can use to select the name of the text file to which words in the dictionary will be exported. The words are written to the file one per line.

Import

This adds the words contained within a text file to the currently selected dictionary. When you select the Import button, a dialog appears which you can use to select the text file to be imported. Each word in the selected file is loaded into the dictionary.

Language

This displays the language (e.g., English, or French, etc.) of the words in the currently selected dictionary.

Spelling Options

The **Spelling Options** command opens **the Spelling Options Dialog**. This lets you specify several options that affect the way the spelling checker operates.
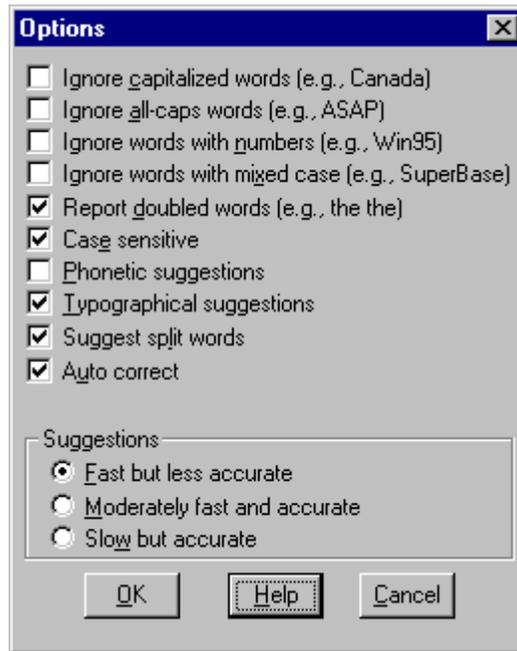
Spelling Options Dialog

Ignore Capitalized Words
When enabled, any words beginning with a capital letter
are ignored (i.e., are skipped over without being checked).
You might enable this option if the text being checked
contains many proper names.

Ignore All-Caps Words
When enabled, any words consisting entirely of capital
letters are ignored. You might enable this option if the text
being checked contains many acronyms.

Ignore Words with Numbers
When enabled, any words containing embedded digits are
ignored. Examples of such words include **Win95** and **Q4**.

Ignore Words with Mixed Case
When enabled, any words containing an unusual mixture of
upper- and lower-case letters are ignored. Examples of such
words include **SmartDraw** and **CapsLock**.

Report Doubled Words

When enabled, any word appearing twice in a row is reported via the **Check Spelling Dialog**.

Case Sensitive

When enabled, a distinction is made between capitalized and non-capitalized words. For example, **canada** is considered different from **Canada**, so **canada** would be reported as a misspelling. When the option is disabled, **canada** and **Canada** are considered identical. Note that the performance of the spelling checker will be reduced if this option is disabled.

Phonetic Suggestions

When enabled, suggestions are made on the basis of phonetic (sounds-like) similarity to the misspelled word. This option tends to improve suggestions for badly misspelled words. Enabling this option will increase the time required to locate suggestions. Note that either this option or the **Typographical Suggestions** option must be enabled or no suggestions will be offered.

Typographical Suggestions

When enabled, suggestions are made on the basis of typographical (looks-like) similarity to the misspelled word. This option is appropriate for people who are generally good spellers. Note that either this option or the **Phonetic Suggestions** option must be enabled or no suggestions will be offered.

Suggest Split Word

When enabled, two separate words will be suggested as a replacement for a misspelling containing two joined words. For example, **is the** would be suggested as a replacement for **isthe**.

Auto Correct

When enabled, words marked with **Auto Change** actions will automatically be changed to their specified

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replacements. When disabled, you will be prompted before the words are changed.

Suggestions

Determines the speed and accuracy of the initial search for suggested replacements for misspelled words. When a misspelled word is detected, a search is automatically made for suggestions. This option controls the speed and accuracy of this automatic search. Pressing the **Suggest** button in the **Check-Spelling** dialog causes an increasingly more accurate (but slower) search for suggestions, with each successive click.

Find and Replace

Professional

Using the Professional version of SmartDraw, you can find and replace any word in your drawing.

The **Find** command, under the Edit menu, shows the **Find and Replace Dialog.**
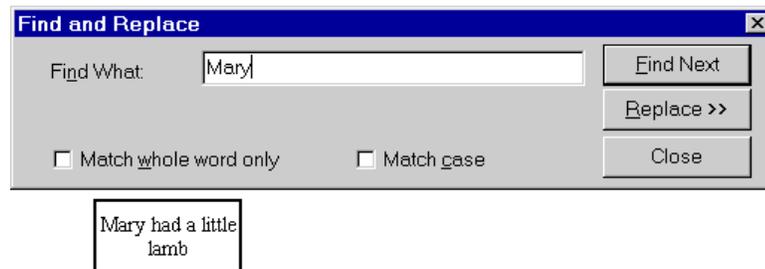
Find and Replace Dialog

You can enter any *target string* into this dialog. If you press the **Find Next** button, SmartDraw will search for a match. Once a match is found, it is highlighted and scrolled into view. Pressing **Find Next** again, finds the next occurrence.

Initially only the selected range is searched. This is either the selected range of text within a shape, or the selected shape(s) or table. Once all selected instances of the target word have been examined, you are then given an opportunity to search the remainder of the drawing.

Normally SmartDraw searches for the target string without regard to upper or lower case, and it will report matches that are not whole words. For example, if you search for

mary it will find **Maryanne**. You can change this behavior by checking the checkboxes in the dialog.

Match case causes SmartDraw to find matches only when the case of the characters in the drawing also match the target.

Match whole word only causes SmartDraw to ignore matches when the target appears as part of another word.

Replacing Words

If you click on the **Replace** button in the Find and Replace Dialog, or select the Replace command under the Edit Menu, the dialog opens out to its expanded form.
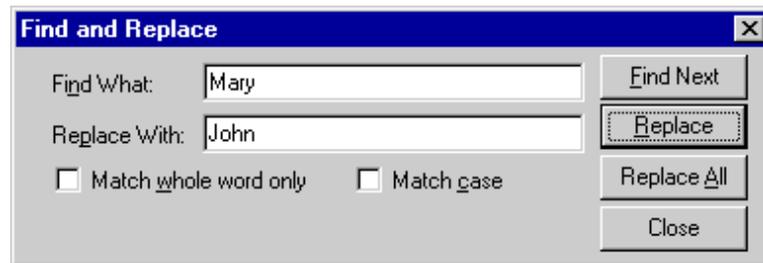
Expanded Find and Replace Dialog

If the target string is highlighted in a shape, pressing the **Replace** button will replace the target with the *replacement string* and then go on to find the next match. Pressing **Replace** again replaces the next match and so on.

You can replace all instances (initially in your selected range and then in the entire document) automatically by pressing the **Replace All** button.

"Find Next" Menu Command

After you close the dialog, your target and replacement strings (and checkbox settings) are remembered (even between sessions). You can find the next instance of the current target string at any time without showing the **Find and Replace Dialog**, by using the **Find Next** command under the Edit Menu.

The shortcut to the **Find Next** command is the **F3 key**. Holding the **Shift key** down and typing **F3** finds the previous match. The search order is the same as the tabbing order in the drawing (See page 176).

Customizing SmartDraw

New Drawing Buttons

The buttons shown on the **New Drawing Dialog** (page 18) are actually read from the SmartDraw program folder at run time. This means that you can add your own drawing types and templates, and create your own custom buttons for them.

Each drawing type that shows as a button in the **New Drawing Dialog** represents a folder inside the **Templates** folder, which is inside the SmartDraw program folder. For example, the **Flowcharts** drawing type has a folder **Templates/Business & Charting/Flowcharts**.

A drawing type folder must contain the following files to show up as a button on the **New Drawing** dialog:

- An **icon.bmp** file
- At least one template file

The **icon.bmp** file is a 60x60 bitmapped image in **BMP** format that will show up as the picture on the button for the new category. If you don't put this file into your folder, it will not show up as a button.

If you want part of your icon to be the color of the button, use the gray (0x0c0c0c) as a transparent color.

The position of a button in the dialog is controlled by the presence of a file whose name has the format **nnn.ord**, where nnn is a weighting (or ranking) number. For example, **500.ord** will give your new drawing type a weight of 500 when SmartDraw sorts the buttons in the dialog from the top left. Changing the number in front of the **ord** extension lets you choose the position of the button in the dialog. This applies to existing drawing types too!

There must be at least one SmartDraw template in the folder. If your template is called **EMPTY.SDT** it will be opened when you press **Create Blank Drawing** at the **New**

Drawing dialog. It is the "default" template for this drawing type.

If you have no other templates in the folder, then the **View Templates** button in the dialog will be gray and unavailable. If you have other templates but no **EMPTY.SDT** then the **Create Blank Drawing** button will be unavailable and you will be forced to select a template.

Creating SmartDraw Templates

Creating your own **SmartDraw Template** files is very straightforward. A template file is exactly the same as a regular SmartDraw drawing, but it has been saved using the **Save As Template** command in the File menu .

Using this command displays the **Save As Template Dialog**.
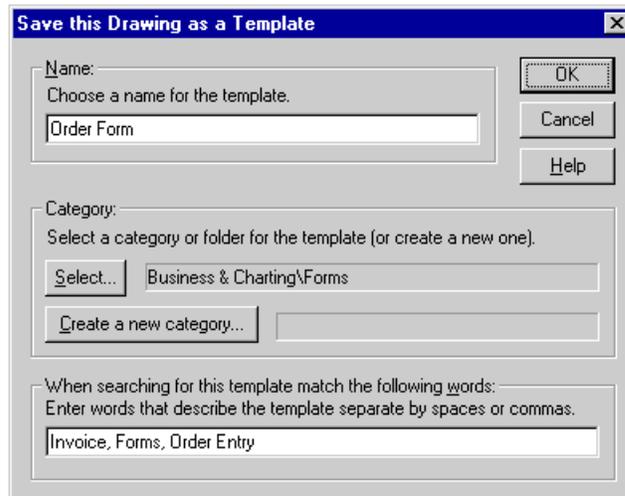
The Save As Template Dialog

Enter a name for the template in the **Name** field.

Select a category for the template using the **Select** button. This displays the **Browse for Folder** dialog, displaying the current tree of template categories. Simply select the one you want.
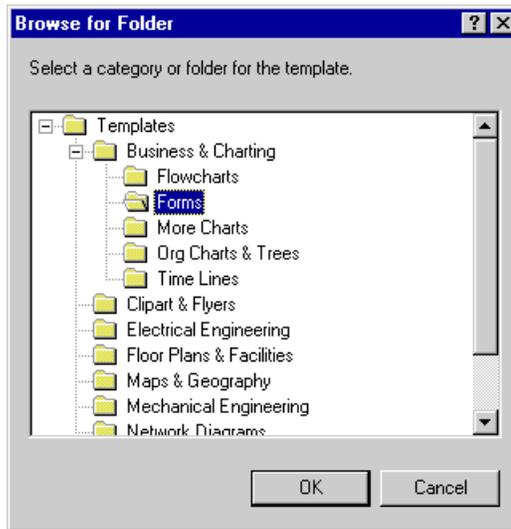
The Browse for Folder Dialog

You can also add your own categories by pressing the **Create a New Category** button. This displays the **Create a New Category Dialog**
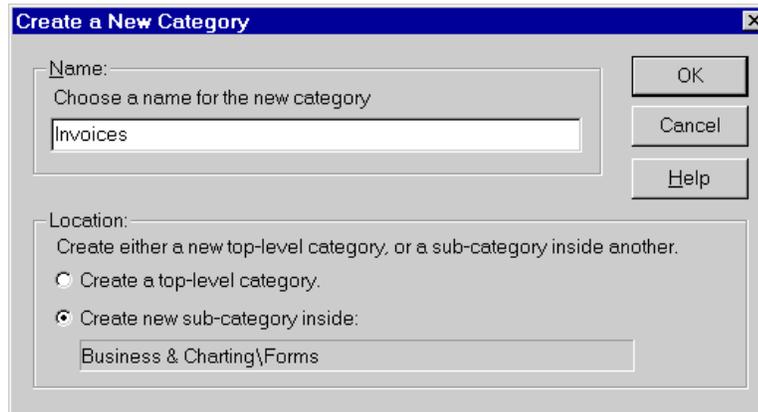
The Create a New Category Dialog

You can create a sub-category inside the category you already have selected, or create a new top level category that is not inside any other by selecting the appropriate button.

You must enter a name for the new category before you can press the OK button.

The Save as Template Dialog also allows you to enter words that you want to associate with the template when

searching by keyword using the **Search Bar**. Enter as many as you like separated by commas.

Once you have selected a category and a name, pressing **OK** from the *Create* dialog saves your drawing as a new template, and, if appropriate, creates the new category. This is reflected immediately in the **SmartDraw Explorer** panel.

Designing Templates

Templates are used both to store a desired set of default settings for new documents and to store a sample drawing.

These are some of the defaults that are saved with a template:

- Snap-to-grid alignment
- Line and Shape linking settings
- Document toolbar
- Colors and shadows
- Line and border thickness
- Font
- Rulers and their scale
- Page orientation and size
- Zoom level

The first two of these are perhaps the most important because they have a large impact and have very different settings for different kinds of drawing.

Snap to Center vs. Snap to Top-Left

Shapes can either snap to the grid so that their centers align with the grid lines, or so that their top and left edges snap to the grid lines..

If your template is to be used to create drawings that make use of the linking of lines to shapes, such as flowcharts, organization charts, circuit diagrams, network diagrams and engineering diagrams, then you should choose **Snap to Center**. This parameter is set in the **Define Rulers and Grid Dialog** (page 167).

If, on the other hand, your template will be used to make drawings where shapes are placed at exact locations so that their edges line up, you should choose **Snap to Top-Left**. Examples of diagrams of this kind include floor plans, forms, timelines etc.

Line and Shape Linking
Also stored with the Template are the settings of **Allow Lines to Link, Allow Lines to Link to Shapes,** and **Allow Shapes to Link** under the Arrange Menu.

For diagrams in which lines are typically linked to shapes (like flowcharts) line linking should be turned on and shape linking turned off.

For diagrams that require alignment of shapes, like floor plans, both should be off.

For diagrams that rely on the linking of shapes to lines, like circuit diagrams, **Allow Lines to Link to Shapes** should be turned on.

There are some drawing types that make use of shape linking. These include "block flow" diagrams and chemical formulae. Both of these types use shape linking to align and connect library symbols.

Document Toolbar
If a **Document Toolbar** is attached to your drawing when you save it as a template, it is stored as part of the template definition. It will reopen as part of the new drawing created with that template. You can use this to automatically open the most useful symbol library for your drawing type as a document toolbar.

Fonts and other Settings
The choices for default fonts, colors etc., are mainly a matter of taste.

You set these defaults by applying them to a shape and a line in the drawing you are using to design your template. The changes you make to the shape and line also set the default settings for new objects. Before you save the template, you can delete the sample shape and line you

used to set the defaults and the defaults will still remain in force.

As an example, to change the default font for a template first add a shape and type "hello" inside it. Select the shape so that it shows selection handles. Use the Font command under the Text menu to change the font, size and style of the text in the shape.

Now delete the shape by typing the backspace key (while it is still selected). This drawing, saved as a template, will re-open with the default font, size and style set to the values you selected in the Font dialog.

Settings for Empty Drawings
If you want to change the default font or color scheme for the new drawings you create using **Create New Document** dialog, simply replace the **EMPTY.SDT** template in the drawing type folder (page 215) with one that has your desired defaults already set.

IMPORTANT: *Make sure that the template you replace EMPTY.SDT with was created from the same drawing-type.*

Adding an Advisor
You can also add your own advisor to a template (or library, see page 159). An advisor is just an image exported from SmartDraw. You can export any drawing you create to an advisor file using the Export command (page 185). Just select SmartDraw Advisor (SDV) from the list of formats. Make sure that you export the SDV file into the ADVISOR folder within the SmartDraw Program folder, otherwise you will not be able to assign it to a document.

You can mix text and graphics in your advisor image, but for best results give the advisor a colored or opaque white background and make three inches or less wide.

Once you have exported your advisor file, you can assign it to a document by selecting the **Show Advisor** command under the Help menu. If no advisor is currently assigned to the document, you are asked if you want to assign one. Clicking yes displays the **Assign Advisor Dialog**.

Assign Advisor Dialog

You can also change the advisor assignment for a document by holding the **Ctrl Key** down as you select the **Show Advisor** menu item.

Type the name of the advisor stored in the ADVISOR folder (without its file extension) that you wish to assign to this document and press OK. If you save the document, or save the document as a template, the assignment will be remembered and the advisor will open automatically each time you re-open the document.

If this does not happen, make sure that you uncheck the Advisor box in the Options dialog (page 222).

Skipping the New Drawing Dialog

You can change a setting in the **Options Dialog** to skip showing the **New Drawing** dialog each time you want to create a new drawing, and instead automatically open a copy of the template **SMRTDRAW.SDT.**

To use this feature, create a drawing with defaults that you want for all new drawings. Delete any objects and save it as a template, in the *same directory as the SmartDraw program*, with the name **SMRTDRAW.SDT.**

Next, use the **Options** command under the Tools menu and click on the **Copy the SMRTDRAW.SDT template** radio button.

Now each time you create a new drawing the **New Drawing** dialog will not be shown. Instead a drawing with the characteristics of the **SMRTDRAW.SDT** file that you saved will be opened automatically.

The Options Dialog

The **Options** command under the Tools menu shows the SmartDraw **Options Dialog**.
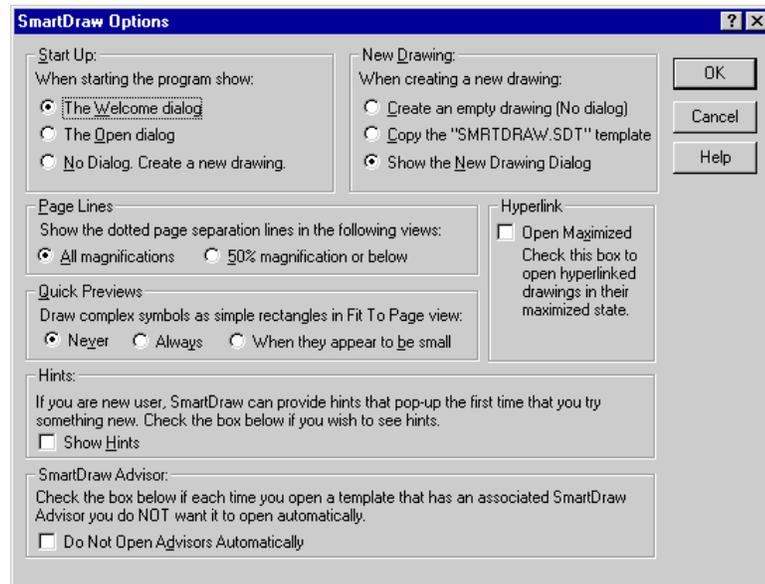
The SmartDraw Options Dialog

This controls the way the program behaves when starting up, when a new drawing is created and other options.

Start Up

When SmartDraw first starts up it can either show the Welcome dialog, create a new empty drawing, or show the Open dialog, depending on which radio button is selected.

New Drawing

When you create a new drawing with the **New** command, (or by simply starting SmartDraw), SmartDraw can either (a) present the **New Drawing** dialog, (b) automatically create a blank drawing with the flowchart defaults, or (c) look for the template file **SMRTDRAW.SDT** and attempt to open it as a new untitled drawing.

You can save your own version of **SMRTDRAW.SDT** to control the default colors, styles and other drawing parameters for your newly created drawings (page 221).

Page Lines

At magnifications of 50% or below, the boundaries of the currently chosen page size are shown as dotted lines. Selecting the **All Magnifications** radio button causes these lines to be displayed in all magnifications.

Quick Previews

For large drawings that have lots of complex symbols previewing in the **Fit to Window** view can sometimes be time consuming. In these cases, you can increase redraw speed by choosing to draw only a rectangular frame instead of the whole image in this view, either always, or only when a symbol is small.

Hints

SmartDraw will display hints for beginning users if this box is checked. These are dialogs that pop-up automatically when you try to use certain features of the program for the first time. They attempt to explain what you are about to do and provide a direct route to more detailed help.

Each hint will only appear once in each SmartDraw session. Hints can be switched off from any Hint dialog. We recommend that you leave the Hints switched on the first few times you use the program.

SmartDraw Advisor

The SmartDraw Advisor window opens automatically when certain templates and libraries are opened. The Advisor is a special help screen with tips for using that particular file.

You can prevent any Advisor window from opening automatically by checking **Do Not Open Advisors Automatically** in the dialog. You can also do this for each individual advisor by closing that particular Advisor window with a mouse click (page 17). Unchecking the box allows all Advisors to open automatically again.

Changing the Program Toolbar

The buttons on the **Toolbar** that show shapes can be changed to show any of the 24 standard shapes. You can do this either by double-clicking on the shape button that you wish to change, or by clicking on it once and then selecting the **Toolbar** command under the Tools menu. Both of these actions present the **Edit Toolbar Location Dialog**.
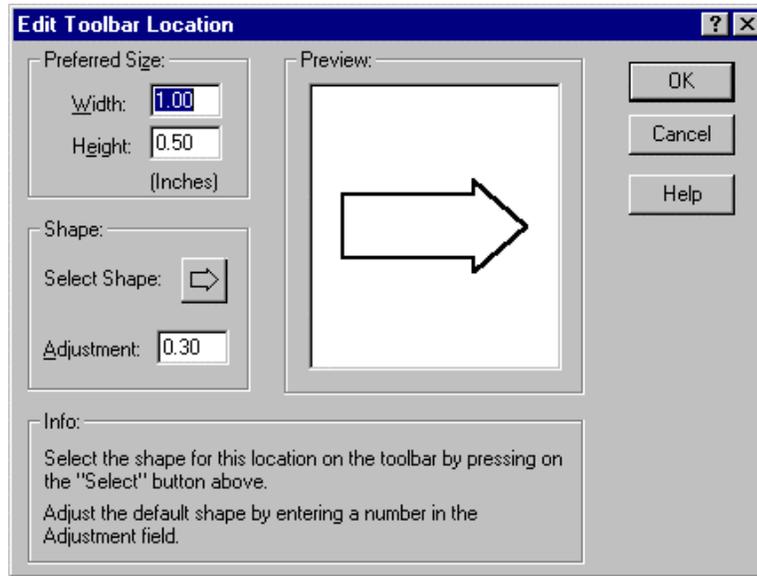
Edit Toolbar Location Dialog

This dialog can also be used to set the default size of the shape when it is added to the drawing using a drag and drop operation, as well as setting the "shape" parameter itself.

Select Shape
A button shows the shape currently selected for this toolbar location. Pressing the button presents a menu of standard shapes. Selecting one changes the assignment of the button to the selected shape.

Preferred Size
The width and height fields control the size of this shape when a copy is added to the drawing using a drag and drop operation. For circles, and other shapes that can only be

sized proportionately, changing one value changes the
other, so as to maintain the same proportions.

Adjustment
The shape adjustment applies only to certain shapes and
adjusts their outline. For example, the degree of roundness
for rounded rectangles, the proportion of angled arrows,
and so on.

The **Adjustment** field is only visible if the shape selected
for the button may be distorted in some way. The parameter
value represents a proportion of the width or height of the
shape and is usually limited to a range of 0.1 to 0.4, or
sometimes less. The effect of the change can be seen in the
preview window if you click on it or click in another field.

Changing these parameters has no effect on any existing
shapes in your drawing. They affect only new shapes that
you add later. The outlines of existing shapes can be
adjusted by clicking on their adjustment handles, as
described in *Adjusting Shape Outlines* on page 81.

Changing the shape assigned to the button will change the
parameter to its default value for that shape.

Defining Your Own Menu Colors
The SmartDraw color menu shows a choice for **More
Colors**. If you choose this, you see the **Color Dialog.** This
lets you pick from any of the 16 million colors Windows
offers.
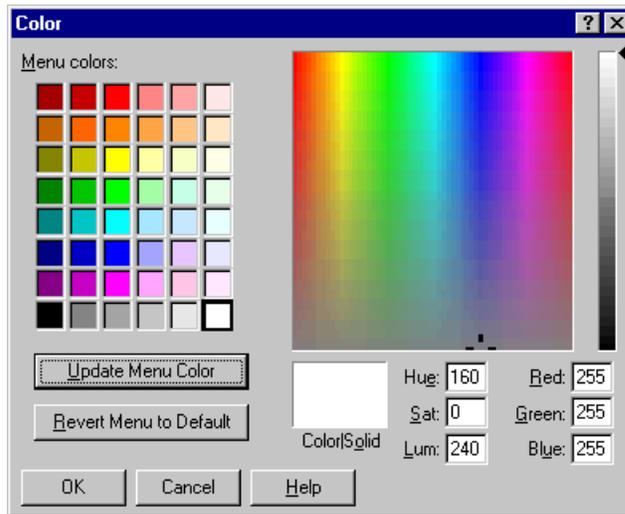
The Color Dialog

To define a custom color, first move the slider control up and down to achieve the amount of black and white you want in the color. Next, click in the color window to choose the hue of the color you want. You choice shows in the **Color/Solid** box.

You can also enter an explicit RGB or HSL value for the color in the fields that show these values.

Once you have chosen the color you want, press OK to apply it to your drawing.

You can also use this dialog to customize the SmartDraw color menu. Once you have chosen the color using the color controls, pressing the **Update Color Menu** button will update the currently selected *square* on the color menu with the color in the color box. This new color will show in this square in all the color menus from now on. You can click on any square in the color menu before you press the Update button, to select the square whose color you want to replace.

Double clicking on a menu square copies its color to the color box.

Pressing the **Revert Menu to Default** button changes all the menus back to their default settings.

SmartDraw Licenses

SmartDraw Licenses

SmartDraw will not run without a license. The license is created when the program is installed with a valid serial number. You can inspect the licenses installed on your system by selecting the **Licenses** command under the Help menu.
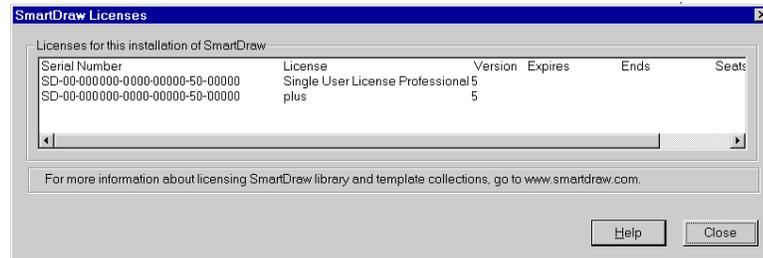
Licenses Dialog

This displays the Licenses dialog. It displays a list of all licenses installed on your system.

Network Licenses

The standard SmartDraw network license allows ten or more computers to access SmartDraw on a network. For example, a 10-Seat license permits 10 different computers, (other than the server itself) to access the program.

SmartDraw keeps track of the identity of each computer that runs the program, and will not permit access to more than is specified by the license.

The list of computers that have used the networked installation is maintained on the server and can be inspected and edited by selecting the **Licenses** command, under the Help menu, to display **the Network Administration Dialog**.
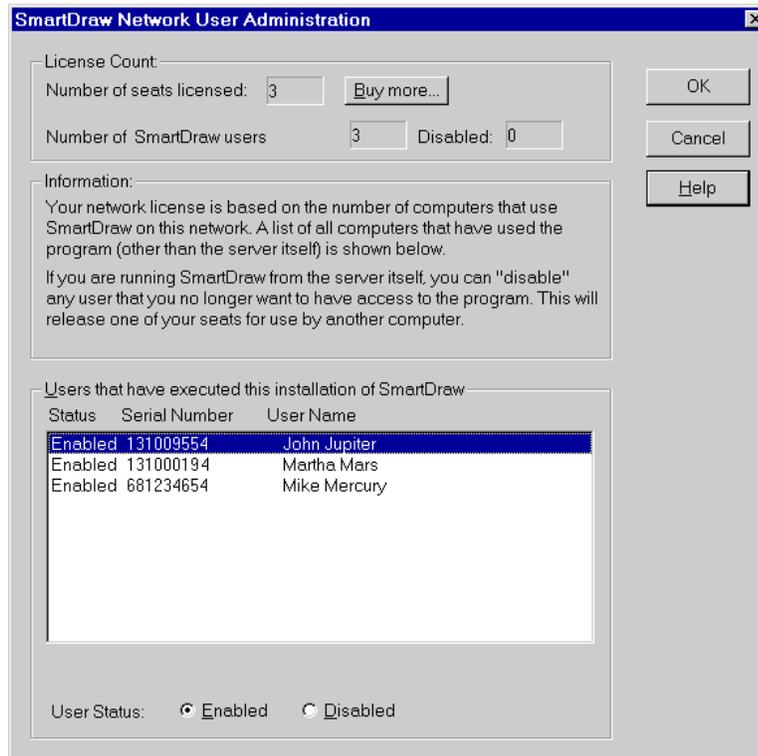
The Network Administration Dialog

The number of seats supported by all network licenses installed is shown at the top of the dialog, along with the number of users (computers) that have run this installation.

The SmartDraw installation tracks the number of computers that have accessed it using the serial number of their hard disk.

If a user has run SmartDraw accidentally or no longer needs access, you can disable their account by clicking on the user and selecting the **Disabled** radio button. This frees a license for use by another computer. The counts of enabled and disabled users are updated immediately to reflect this. You can also use this technique to disable old hard disk serial numbers when computers are replaced or upgraded with new drives.

As a security measure, these changes can only be made if you log-on to the server itself.

Adding Additional Network Licenses

If you find that you want to add licenses to an existing networked installation, you can purchase more and add them to the number available. You can do this online at smartdraw.com, or by contacting SmartDraw sales at 858 549 0314.

When you purchase an additional license, running the installation on the network server adds the new licenses and increases the total available. For example, if you purchase two 10-seat licenses and install each in the same program folder, the single shared copy of SmartDraw will permit 20 seats.

SmartDraw Collections

SmartDraw offers more than 30,000 symbols, templates and examples included in the nine, add-on **SmartDraw Collections**. To use these fully, you must buy a license to each collection, or buy SmartDraw Professional Plus (which includes a license to all of the collections).

Without a license, each symbol appears with an unlicensed *stamp* superimposed upon it.
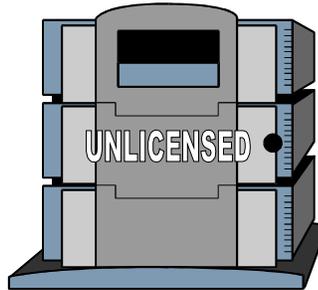
Unlicensed Symbol

Once a valid license is installed, the stamp no longer appears, even in drawings already completed.

The serial number entered during installation controls which licenses are installed on your system.

Appendix A Technical Support

SmartDraw.com provides technical support under the following terms and conditions:

Registered Users

Up to 30 minutes of support is provided at no charge for the first 90 days following purchase. Please have your serial number ready. This is shown clearly on your CD or download page.

After 90 days you may call with a credit card and obtain support at the rate of $7.50 per 5 minutes. There is no charge for time spent on hold and no charge if the problem is identified as a "bug" in SmartDraw. Whether the problem qualifies as a bug is at the sole discretion of SmartDraw.com

If a user reports a bug that prevents proper use of the program during the first 90 days following registration, SmartDraw.com will either fix the bug, or offer a complete refund.

Suggestions

We invite suggestions. There is never any charge for suggestions. Please contact us.

Using the Web

Please visit our Web site at:

http://www.smartdraw.com

Here you will find news of the latest releases, patches, tips and useful information. If your web browser is installed in the right (Microsoft) way, you can connect to our web site by simply selecting the **Browse SmartDraw Web Page** command, under the Help menu.

Downloading the Latest Version

We frequently offer free updates that include bug fixes and new features. To download these simply use the **Get Latest Version** command, under the Help menu. Or visit

http://www.smartdraw.com/techsup.htm

Getting Support

The best way to do this is via electronic mail. There is currently no charge for email support. Our email address is:

support@smartdraw.com

You can also call us at **(858) 549 0314**.

When reporting a problem, please include the following information:

1) Your system configuration (version of Windows, printer, display type etc.)

2) A description of **how to reproduce** the problem.

3) A sample file that exhibits the problem (if possible).

Troubleshooting

To get instant information about the most common user problems, use the **Get Latest Version** command, under the Help menu to connect to our technical support web pages or visit

http://www.smartdraw.com/techsup.htm

Below we address some of the more common problems:

Windows Errors or Crashes

If SmartDraw crashes (stops working) when you attempt to create a new drawing, or open an existing one, the most common cause is the printer setting.

When SmartDraw does either of these things it loads the current printer's driver to determine the size of the printable area of the current page setting.

If your printer's block of default parameters is corrupted or the driver is not correctly installed, this can cause the system to crash.

To test whether this is the cause of your problem, go the Windows control panel and change the default printer setting to some other printer. Now try SmartDraw again. If the problem goes away you know that the original default printer's driver causes it.

To correct the problem, try re-installing the driver using the Windows printer control panel.

If this does not appear to be the problem, please contact us at **support@smartdraw.com** and email us a copy of the file that causes the SmartDraw to crash upon opening.

Crashing when building the SmartDraw Explorer Tree

You refresh **the SmartDraw Explorer** tree control by closing and opening the very top folder, or by right clicking on the top folder and choosing the **Refresh Symbols and Examples** command from the right-click menu.

If this causes your system to crash it is most likely caused by an incorrect version of the Windows system file (DLL) that manages the tree control. You can fix this by installing Internet Explorer 5.0 (or above). This updates these DLL's with a consistent set. You can obtain Internet Explorer from Microsoft's web site at the following URL:

http://www.microsoft.com/windows/ie/

Drawing Problems. The Graphics Acceleration Setting.

Some graphics controller boards use some hardware optimizations in attempt to speed up common graphics operations. Leaving these features turned on can cause graphic-intensive applications like SmartDraw to fail.

Two common symptoms of this problem are small dots that are left behind on the screen when you move and object, and the wrong colors appearing inside shapes when you paste an image into another program.

To correct these and similar problems, turn these optimizations off.

To do this, go the **Windows Control Panel** and open the **System** icon. Go to the **Performance** tab and press the **Graphics** button. Move the slider control all the way to the left, to turn off graphics acceleration. Now press OK and restart your application.

Trial Version Runs Instead of Purchased Version
If, after you have installed your purchased SmartDraw program, it still says **Trial Version**, when you run it then you are in fact still running your old Trial Version (which is still on your computer) instead of the new purchased version that you installed.

You probably have a "shortcut" to the Trial Version, either on your desktop or in your Start Menu. You need to stop using this shortcut (you can also delete it if you like). Instead use the new shortcuts (on your desktop and start menu) that the purchased version of SmartDraw created during its installation. If SmartDraw failed to create these new shortcuts for some reason, you can create your own.

First start Windows Explorer and locate the file named **smartdraw.exe** in the directory where you installed SmartDraw on your hard disk. Right-click on the file with your mouse, and choose "create shortcut" from the menu. A shortcut will be created in that directory. Simply drag the shortcut onto your desktop, and it will become an icon that you can click on to run SmartDraw.

Colors Do Not Print
If your drawing has colored shapes and lines but they do not print in color (even though you have a color printer) make sure that the **Print No Color** box in the Print dialog is **unchecked**. If this is not the problem, check the **Properties** in the print dialog to make sure that your printer is set up to print color.

Index