CLARIS®

FOR MACINTOSH



ClarisWorks™

USER'S GUIDE

FOR MACINTOSH



ClarisWorks

USER'S GUIDE

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Welcome to ClarisWorks

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Welcome to ClarisWorks

Welcome to the ClarisWorks™ application from Claris Corporation. ClarisWorks is an integrated software package designed to give you everything you need to be productive: a natural computing environment and the right tools for the job.

ClarisWorks documents share functions and features with other Claris® products. If you've used the MacWrite®, FileMaker®, or MacDraw® applications, you'll find many similarities.

If you use another Claris product later, such as the FileMaker Pro, MacDraw Pro, or Claris Resolve™ applications, you can draw on what you learn with ClarisWorks documents to move quickly into those products.

Using This Book

This book provides step-by-step instructions and reference information. You need not read the whole book, but only those sections or chapters you need for information on specific tasks.

The *ClarisWorks User's Guide* presents information in the following ways:

Boldfaced words in the text are defined in the glossary.

- **Note** messages look like this paragraph, and give extra information about a procedure.
- **Tip** messages look like this paragraph, and provide helpful information or describe a different way to do something.
- **Important** messages look like this paragraph, and warn you when you cannot undo an action, or when an action may cause you to lose data.

Onscreen Materials

In addition to this book, ClarisWorks comes with several sources of onscreen information. ClarisWorks Help and Apple Balloon Help provide quick access to information about ClarisWorks. Sample documents can serve as examples of ClarisWorks features and as templates you can use to get started working in documents quickly.

About ClarisWorks Help

ClarisWorks Help gives you onscreen instructions and reference information you can use while you're working with ClarisWorks documents. **Onscreen** help means that you have direct access to the help system on the computer screen, as you work. Because the system is computer-based, you can easily search for topics and move quickly from one topic to another. The help system covers numerous selected topics, including spreadsheet functions.

Using the ClarisWorks Help System

If you're like many new computer users, you may be cautious about using onscreen help because you feel more familiar with printed books. ClarisWorks Help is simple to use. The more you explore it, the more comfortable you'll feel about using it.

Opening ClarisWorks Help

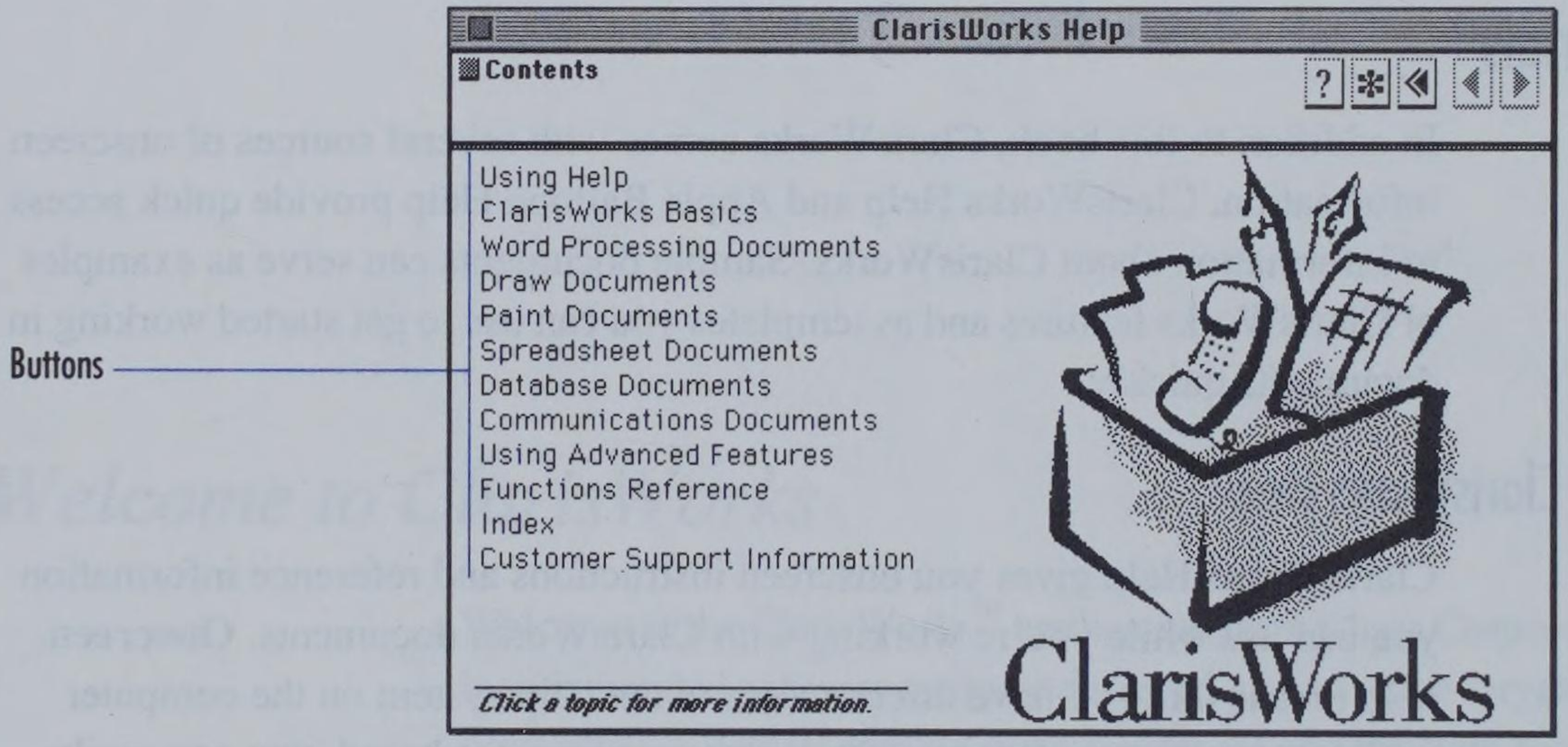
You can leave a ClarisWorks document open as you look up topics in the help system. You can then switch back and forth between a ClarisWorks document and a help screen when you need more information.

To open ClarisWorks Help:

1. **Choose Help from the Apple menu (or press Command-? or, on an extended keyboard, press Help).**

   In System 7, choose ClarisWorks Help from the Help menu (the question mark in the upper-right corner of the screen).

   You see the help window at the first card, an interactive table of contents for the system. The topics you see are actually **buttons**—screen elements you click to move to the topic.



2. **If you need instructions on how to use the system, click Using Help.**

   The Using Help series shows you how the system is organized, how to move about in the system, and how to find the information you want.

3. **After you review the instructions, click Contents and then click any topic.**

   You see the first card in a series related to the topic you clicked.

   You can continue to open, close, and work with ClarisWorks documents while the help window is open.

Working with the Help Window

You can move the help window to a different part of the screen to make it more convenient to read as you work. To move the help window, drag it by its title bar.

To arrange windows for easy access, drag ClarisWorks document windows and the help window into a "stack," so the corners overlap. Then, you can click a corner of any one of the stacked windows to bring that window into view.

To close the help window, click the close box in the upper-left corner of the window.

Using Balloon Help

If you are running Apple System 7 software or later, you can use Apple Balloon Help to see brief descriptions of ClarisWorks tools, as well as information about system icons and menus. Help balloons are preset to be hidden from view.

To use Balloon Help, choose Show Balloons from the Help menu (the question mark in the upper-right corner of the screen). Show Balloons alternates with Hide Balloons in the Help menu.

ClarisWorks Samples

Included with ClarisWorks are several sample documents (sometimes called templates). These samples give you a head start on producing your own documents, and also show you ways to get the most out of ClarisWorks.

What's New in ClarisWorks

If you're familiar with an earlier version of ClarisWorks, you may want to read this section for an overview of new features. This section lists new features and tells you where you can find detailed information and step-by-step instructions.

General Enhancements

ClarisWorks includes new features that make working in documents more convenient in all its application environments.

Now you can...	For more information, see...
Choose from more tools on an enhanced tool panel.	"ClarisWorks Tools" in chapter 1.
Set up and use custom text styles.	"Using Custom Text Styles" in chapter 2.
Use the page indicator to navigate directly to the page you want.	"Going to a Page" in chapter 2.
Collapse palettes to make more room on the screen.	"Fill and Pen Palettes" in chapter 1.
Choose among 256 editable colors.	"Setting Preferences" in chapter 2.
Create custom fill and line patterns.	"Editing Colors, Patterns, and Gradients" in chapter 4.
Create custom gradients.	"Editing Colors, Patterns, and Gradients" in chapter 4.
Customize documents with more preferences settings.	"Setting Preferences" in chapter 2.
Use predefined shortcuts to accomplish tasks quickly.	"About ClarisWorks Shortcuts" in chapter 8.
Play macros quickly by clicking a button on a palette.	"Using Macros" in chapter 8.
Present a slide show from your computer.	"Creating a Slide Presentation" in chapter 8.
Quickly open stationery when you create a document.	"Creating a Document" in chapter 2.
Use System 7 Publish & Subscribe to share data with other applications and computers.	"Using Publish & Subscribe" in chapter 8.
Play QuickTime movies.	"Working with QuickTime Movies" in chapter 8.

Text Environment

The ClarisWorks text environment has new outlining capabilities. Other enhancements make it easier to work with text in columns and arrange text in a document or frame.

Now you can...	For more information, see...
Outline text in word processing documents and text frames. This is useful for organizing information, indenting text, and arranging text so you can hide certain parts of your document from view.	"Working with Outlines" in chapter 3.
Use column controls to change the number of columns in a document quickly.	"Adding Columns Using the Ruler" in chapter 3.
Resize columns manually.	"Modifying Columns Using the Mouse" in chapter 3.
Check the spelling of only text that is selected.	"Using the Spelling Checker" in chapter 2.
Wrap text around objects and pictures.	"Adding Pictures as Objects" in chapter 3.
Show or hide invisible characters.	"Displaying Formatting Characters" in chapter 2.
Add soft returns to control line breaks without starting a new paragraph.	"Using Formatting Characters" in chapter 3.
Use the Strike Thru text style to format text.	"Changing Text Appearance" in chapter 3.
Use fill (repeating) characters with tabs.	"Working with Tab Markers" in chapter 3.
Add a custom amount of space before and after paragraphs.	"Changing Paragraph Spacing" in chapter 3.

Draw Environment

If you worked with graphics documents in a previous version of ClarisWorks, you will find that you can do the same things in draw documents. The draw environment has all the features you are familiar with, plus a few new ones.

Now you can...	For more information, see...
Draw objects with any combination of sharp and smooth points using the bezigon tool.	"Drawing Bezier Curves" in chapter 4.
Draw symmetrical shapes such as hexagons with the regular polygon tool.	"Drawing Polygons" in chapter 4.

Now you can...	For more information, see...
"Pick up" an object's attributes (color, pattern, pen width, and so on) in your drawing and apply them to another object using the eyedropper tool.	"Picking Up an Object's Attributes" in chapter 4.
Frame the edges of an arc to create pie-shaped wedges.	"Reshaping Arcs" in chapter 4.
Specify the exact size and placement of objects.	"Arranging Objects" and "Resizing Objects" in chapter 4.
Select multiple objects for editing.	"Selecting Objects" in chapter 4.
Use a master page to give the pages of your document a common appearance.	"Working with a Master Page" in chapter 8.

Paint Environment

ClarisWorks has a new document type—paint. In the paint environment, you can use all the tools you know from the draw environment plus a set of painting tools for special effects. Use the paint environment to make freeform shapes in a variety of textures, or to refine an illustration to the smallest detail. For more information on painting, see chapter 5, "Working with Paintings."

Spreadsheet Environment

When you work in a spreadsheet document, you have more options for customizing the way you work with spreadsheet data. You also have more options when you chart data in a spreadsheet document.

Now you can...	For more information, see...
Add solid borders to cells or solid lines to just the edges you choose.	"Adding Borders" in chapter 6.
Wrap lines of text within a cell.	"Wrapping a Cell Entry" in chapter 6.
Lock a spreadsheet row or column to repeat a title on every page.	"Splitting the View and Locking Titles" in chapter 6.
Copy and paste cell formats.	"Cutting, Copying, and Pasting" in chapter 6.
Create more types of charts, combine different chart types in a single chart, and format charts in different ways.	"Displaying Data in Charts" in chapter 6.

Database Environment

When you work in a database document, you have more control over how you enter data. You also have more convenient ways to print labels.

Now you can...	For more information, see...
Automate how you enter data in database fields by creating pop-up menus of choices, letting ClarisWorks enter a value for you, and setting a field to check the data after it's entered.	"Customizing Fields for Data Entry" in chapter 7.
Format labels in more ways and choose among preset Avery label formats.	"Creating Labels" in chapter 7 and appendix C, "Printing Labels."
Insert the contents of another document into a database and "map" information into the appropriate fields.	"Inserting Database Documents from Other Applications" in chapter 7.
Share data with files created in the DBF (dBASE) format.	"Importing, Inserting, and Exporting Documents" in chapter 2.

Communications Environment

When you work in a communications document, you will find that communicating with other computers and with online services is more convenient than in previous versions of ClarisWorks.

Now you can...	For more information, see...
Set preferences options to automate frequently used communications settings.	"Setting Preferences" in chapter 2 and "Setting Communications Preferences" in chapter 9.
Open an overflow area (scrollback pane) to store incoming data that doesn't fit in the working area of your communications document.	"About the Scrollback" in chapter 9.
Conduct multiple communications sessions at once, with each session in its own window.	"Creating a Communications Document" in chapter 9.
Print a session right from the communications environment.	"Printing Your Work" in chapter 2.
Look up frequently used numbers in a custom phone book.	"Using the Phone Book" in chapter 9.

Chapter 1

ClarisWorks Concepts

About ClarisWorks	1-2	ClarisWorks Windows	1-19
Different Document Types	1-3	Where to Go from Here	1-20
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Chapter 1

ClarisWorks Concepts

This chapter introduces you to ClarisWorks documents, tools, and windows. It is not a how-to chapter. For instructions on using different document types, tools, and features, see chapters 2 through 9.

About ClarisWorks

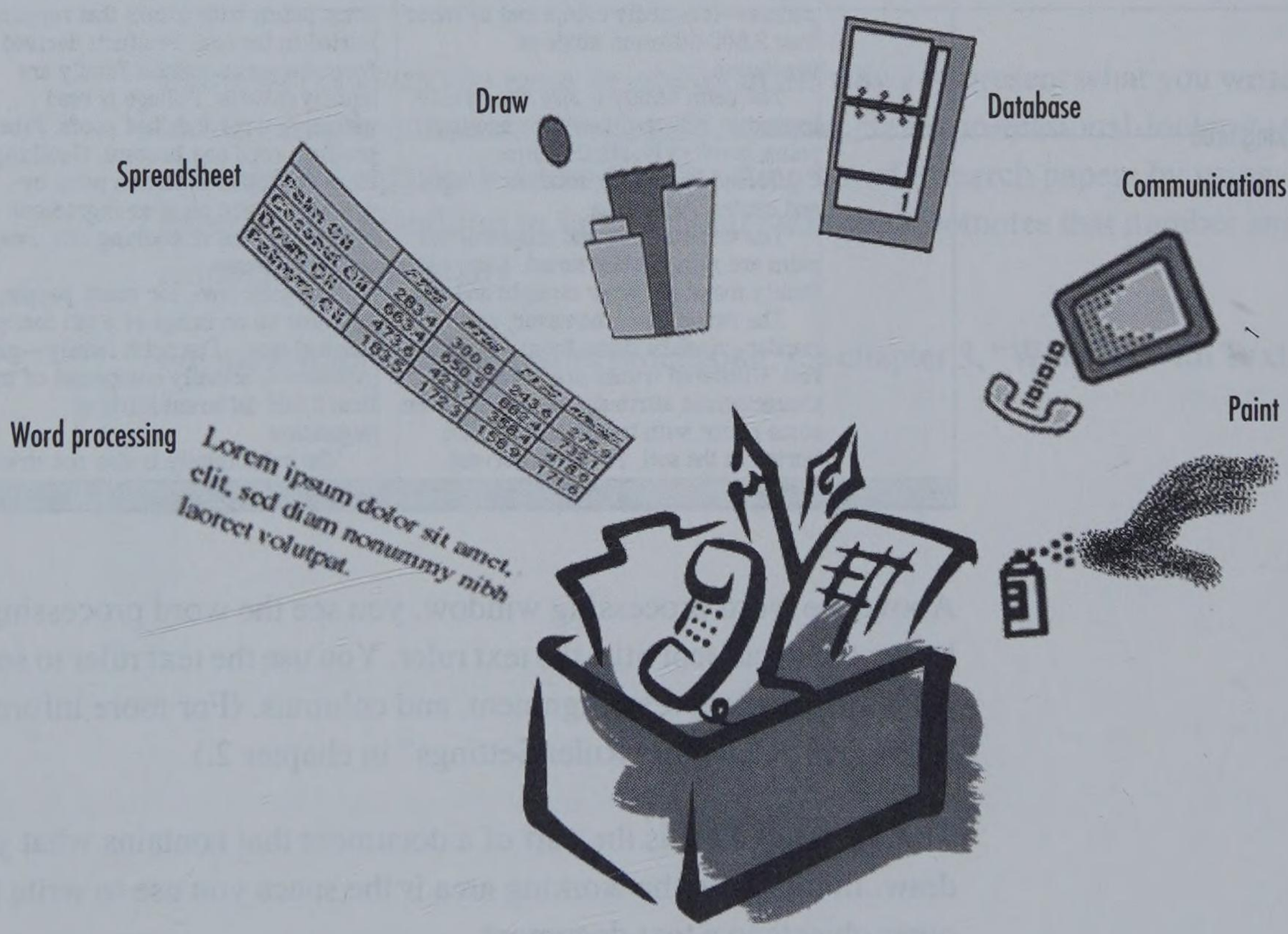
The ClarisWorks application is an integrated software package that provides a natural computing environment. "Natural" means you can work on ClarisWorks documents the same way you work with a pencil and a sheet of paper. When you're writing a letter or report, for example, you can sketch a drawing just as if you were working by hand.

ClarisWorks is easy to learn and use. It's also a power base for advanced computing when you're ready to tackle projects like "what-if" analyses in a spreadsheet or conditional searches in a database. You'll find a lot of accessible computing power in the ClarisWorks program.

Now, with a single application, you can do the jobs most frequently performed on a personal computer: word processing, outlining, drawing, painting, database management, spreadsheet work, charting, presentations, and telecommunications. You don't need to switch from one application to another to do a different task.

Different Document Types

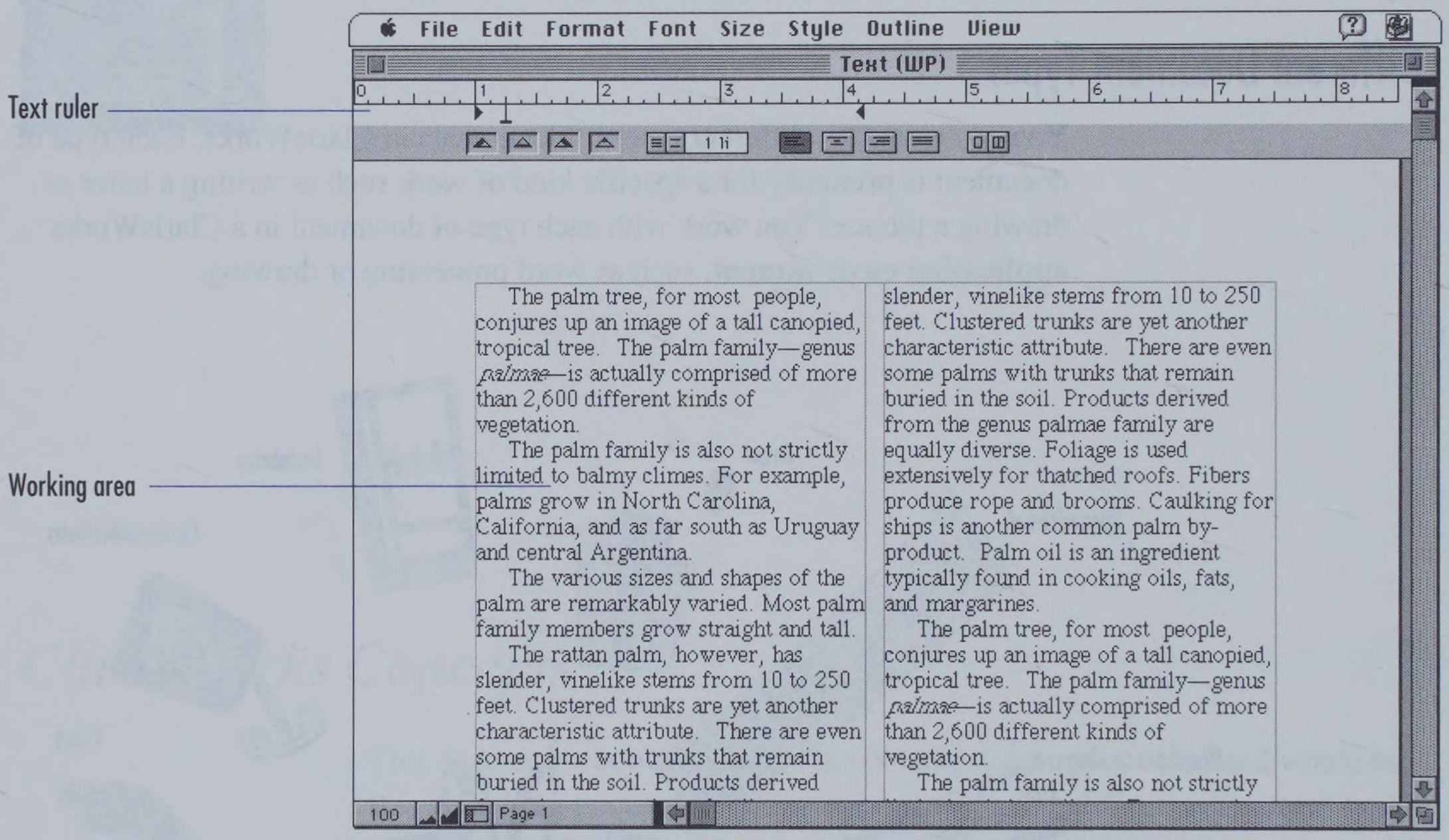
You can create six different types of documents in ClarisWorks. Each type of document is primarily for a specific kind of work such as writing a letter or drawing a picture. You work with each type of document in a ClarisWorks **application environment**, such as word processing or drawing.



When you create a document, it appears in its own special window, with the tools needed for that document type. (If you need help understanding windows, see "ClarisWorks Windows" on page 1-19, and the documentation that came with your Macintosh.)

Word Processing (Text)

You use a word processing document primarily to write and format text.



Above the word processing window, you see the word processing menus and, below the document title, the text ruler. You use the text ruler to set indentation, tabs, line spacing, text alignment, and columns. (For more information on rulers, see "Changing Ruler Settings" in chapter 2.)

The **working area** is the part of a document that contains what you type or draw. In this case, the working area is the space you use to write text or to add other objects to a text document.

A word processing document is useful for projects like these:

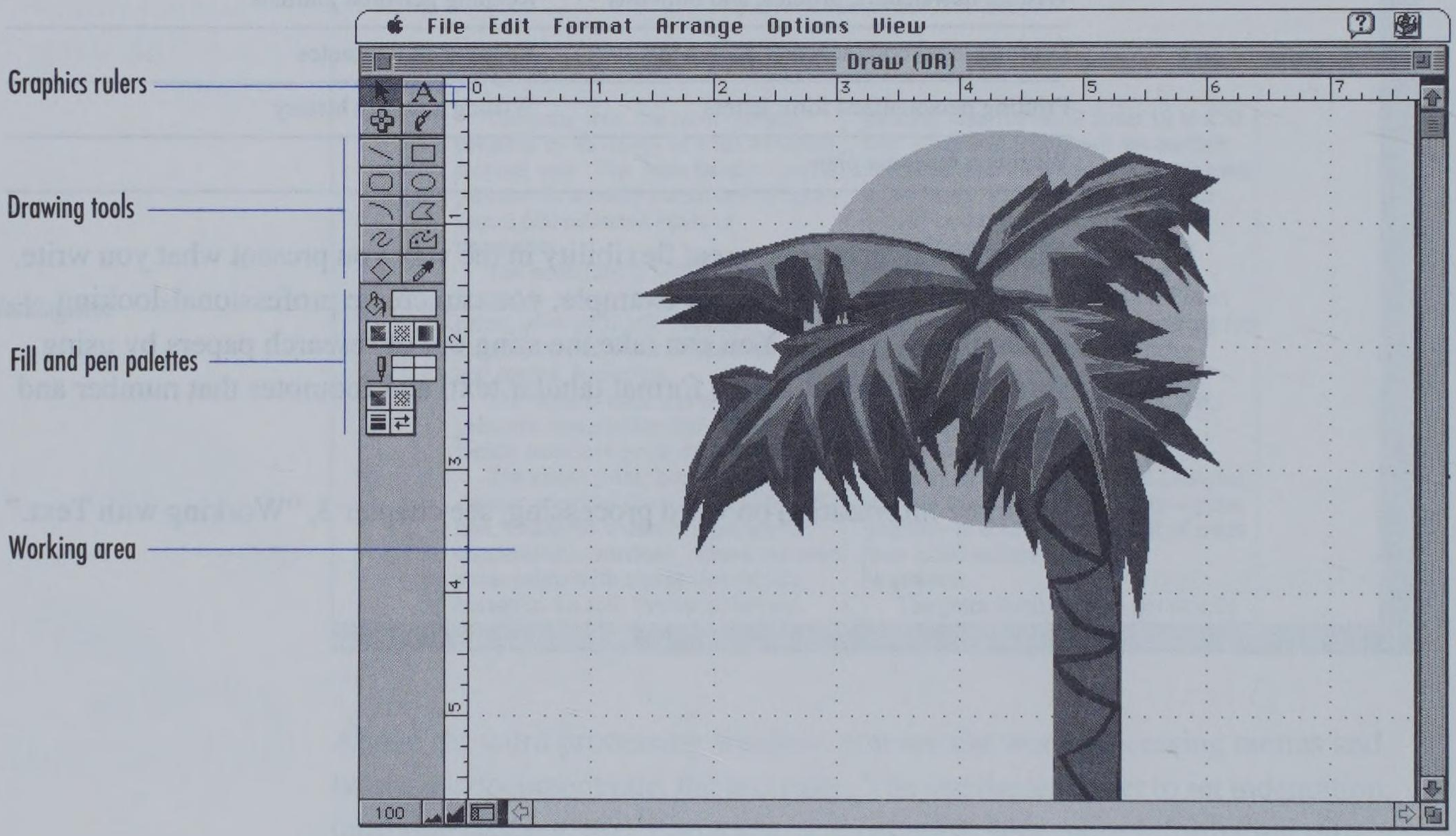
At the office	At home
Composing letters, memos, and general correspondence	Writing holiday and family letters
Outlining and writing business reports and research papers	Outlining and writing school reports
Writing newsletters, articles, and bulletins	Keeping personal journals
Drafting legal contracts and documents	Keeping club minutes
Printing personalized form letters	Writing a family history
Writing a business plan	

ClarisWorks gives you great flexibility in the way you present what you write. Using multiple columns, for example, you can create professional-looking catalogs and reports. You can take the sting out of research papers by using spreadsheet capabilities to format tabular text, and footnotes that number and renumber automatically.

For more information on word processing, see chapter 3, "Working with Text."

Drawing

You use draw documents primarily for artwork and page layout. A draw document is made of **objects** such as rectangles, circles, lines, and polygons. Each object is a separate element that you can select, move, and modify. With the fill and pen palettes, you can change an object's pen (line) width and fill color and pattern or gradient.



Notice the different menus, Arrange and Options, in the draw document. Menus change when you change application environments, so you have access to the appropriate commands when you need them. The gridlines you see in the working area, along with graphics rulers, help you draw objects and align them precisely.

A draw document is a good choice for projects like these:

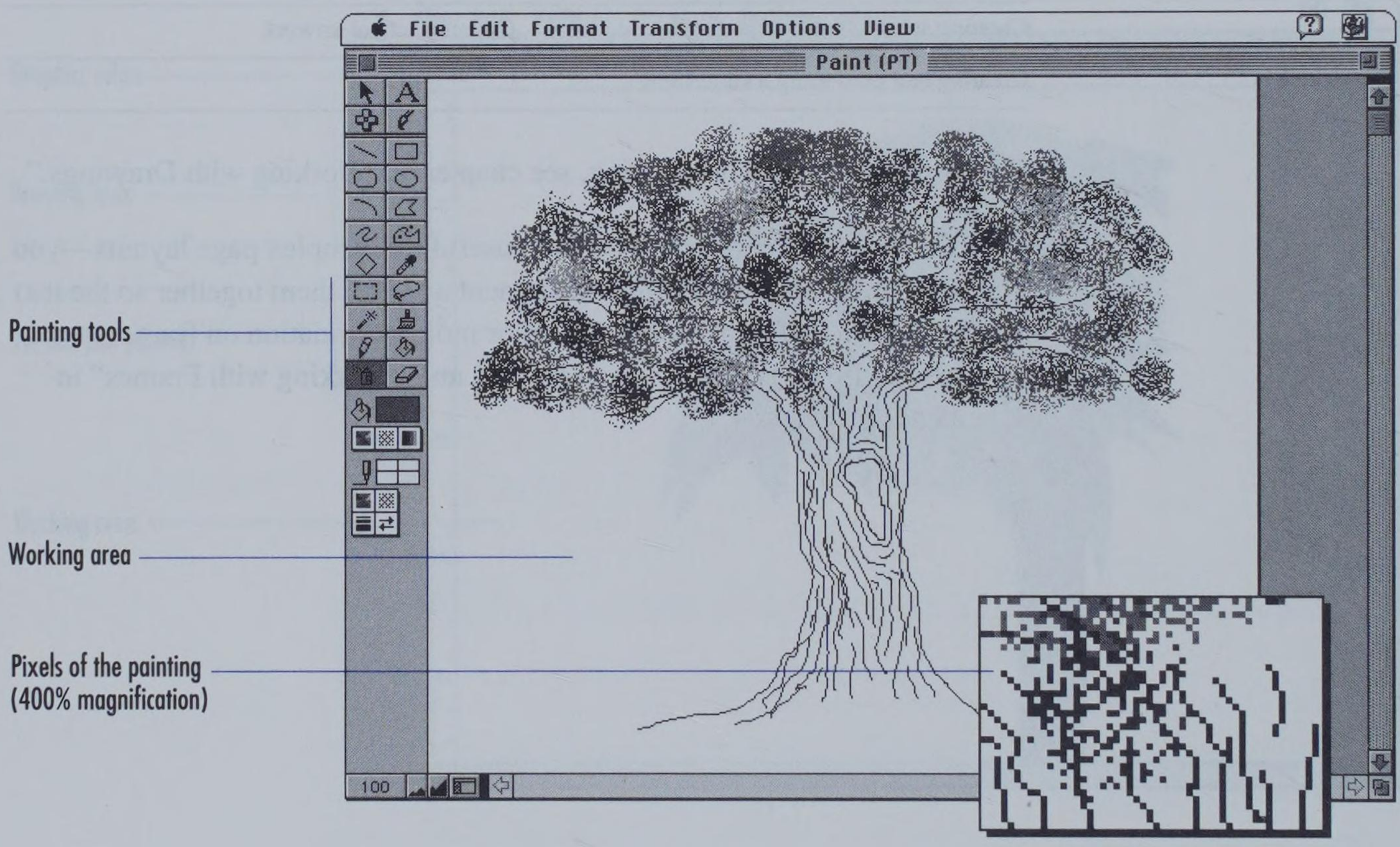
At the office	At home
Creating newsletters and brochures	Creating club and organization announcements
Creating professional-looking business forms	Creating party invitations
Developing organization charts	Documenting the family tree (genealogy)
Developing office and facilities layouts	Doing furniture-arrangement diagrams
Creating sales bulletins and direct mail pieces	Creating school artwork
Creating and presenting a slide show	

For more information on drawing, see chapter 4, "Working with Drawings."

- **Tip** Draw documents are especially useful for complex page layouts—you can add text frames to a draw document and link them together so the text flows from one frame to the next. For more information on frames, see "Putting It All Together" on page 1-13 and "Working with Frames" in chapter 8.

Painting

You use paint documents primarily for creating illustrations. You can use the same tools as when you create drawings, plus a set of tools for special effects like paintbrush strokes and spray paint. A paint document is made of **images**—shapes and visual effects that, if you look at them in a magnified view, are composed of tiny squares called **pixels**.



A paint document is a good choice for projects like these:

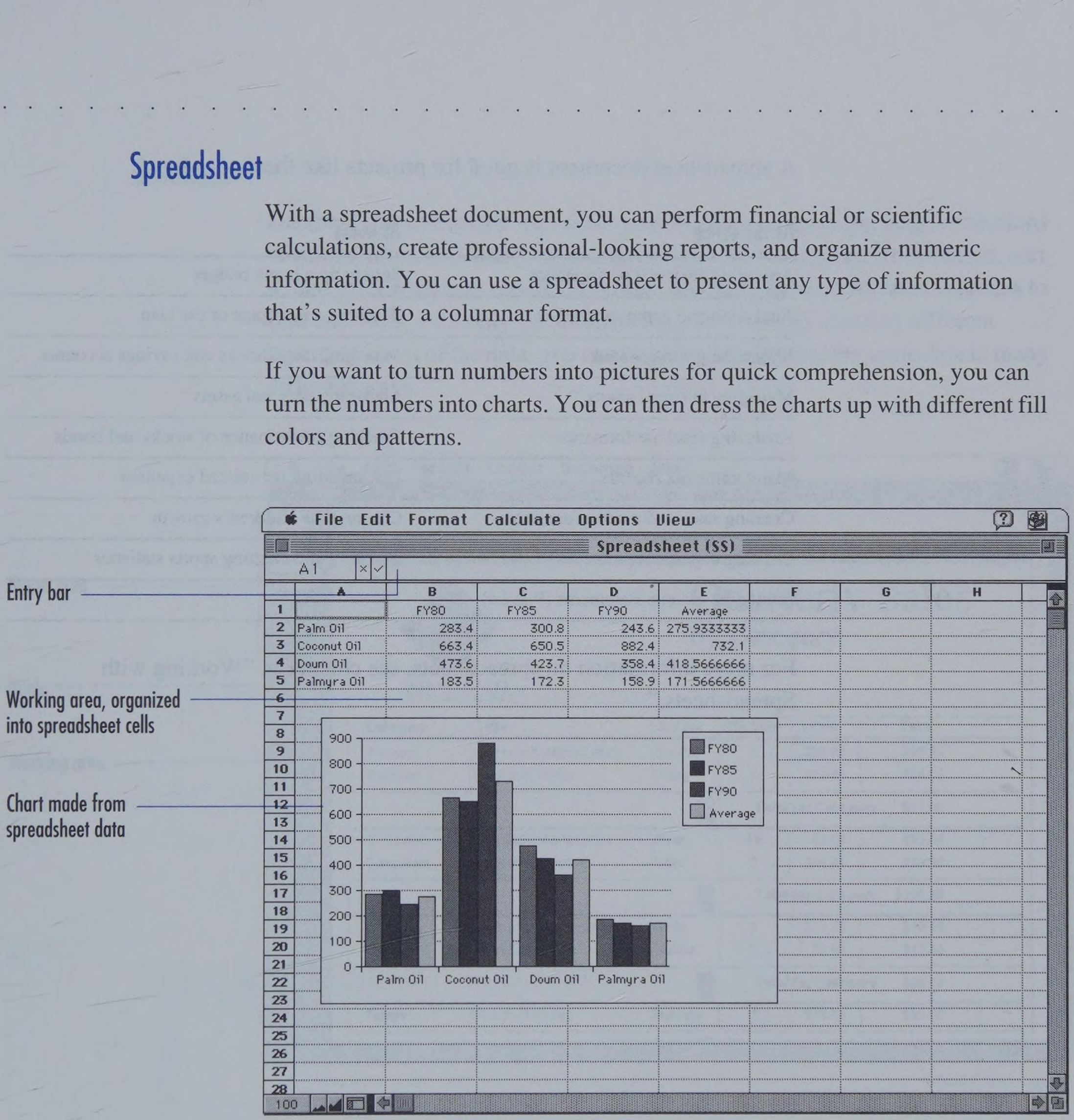
At the office	At home
Creating artwork for brochures and newsletters	Creating illustrations for personal stationery
Creating illustrations for reports	Creating school artwork
Designing logos	Designing a family coat of arms

For more information on painting, see chapter 5, "Working with Paintings."

Spreadsheet

With a spreadsheet document, you can perform financial or scientific calculations, create professional-looking reports, and organize numeric information. You can use a spreadsheet to present any type of information that's suited to a columnar format.

If you want to turn numbers into pictures for quick comprehension, you can turn the numbers into charts. You can then dress the charts up with different fill colors and patterns.



In a spreadsheet document, you type and edit data in the entry bar. When you confirm an entry, what you typed appears in a spreadsheet **cell** (the intersection of a column and a row).

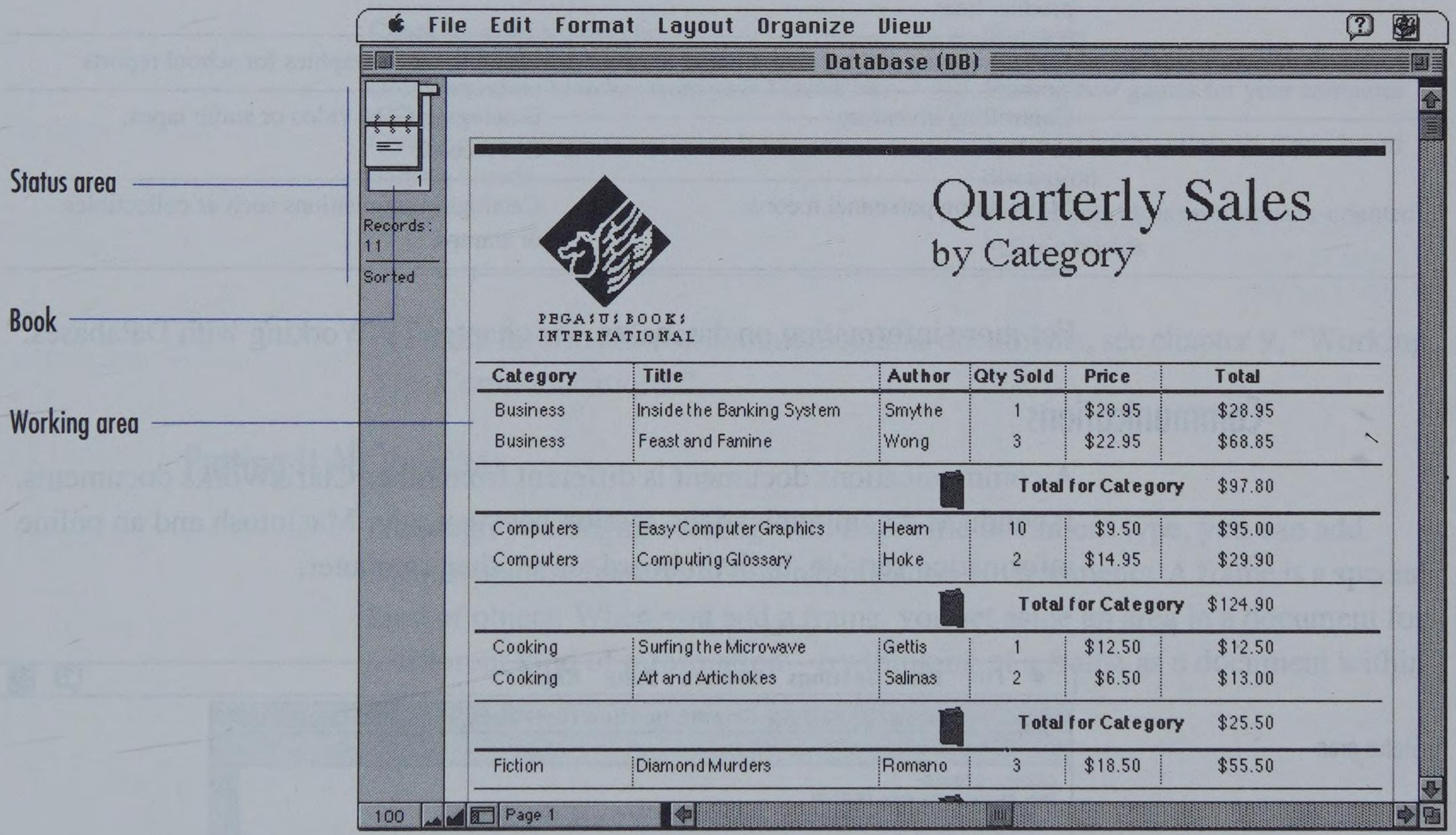
A spreadsheet document is good for projects like these:

At the office	At home
Analyzing financial performance	Setting up a home budget
Analyzing and comparing loans	Tracking a mortgage or car loan
Maintaining a checkbook	Managing checkbooks and savings accounts
Managing business assets	Managing personal assets
Analyzing stock performance	Tracking performance of stocks and bonds
Maintaining tax records	Documenting tax-related expenses
Creating sales and market forecasts	Charting the children's growth
Creating expense reports	Tracking and charting sports statistics
Producing income statements (P & Ls)	

For more information on spreadsheets, see chapter 6, "Working with Spreadsheets."

Database

Database documents are useful for managing and organizing large collections of information. In a database document you can accumulate information, sort it, and print attractive reports. You can also perform sophisticated searches to find and work with only the information you want. By creating different layouts (views) of the data, you can organize and present the same data in many different ways.



The book and status area help you move through the document and keep track of what you're doing.

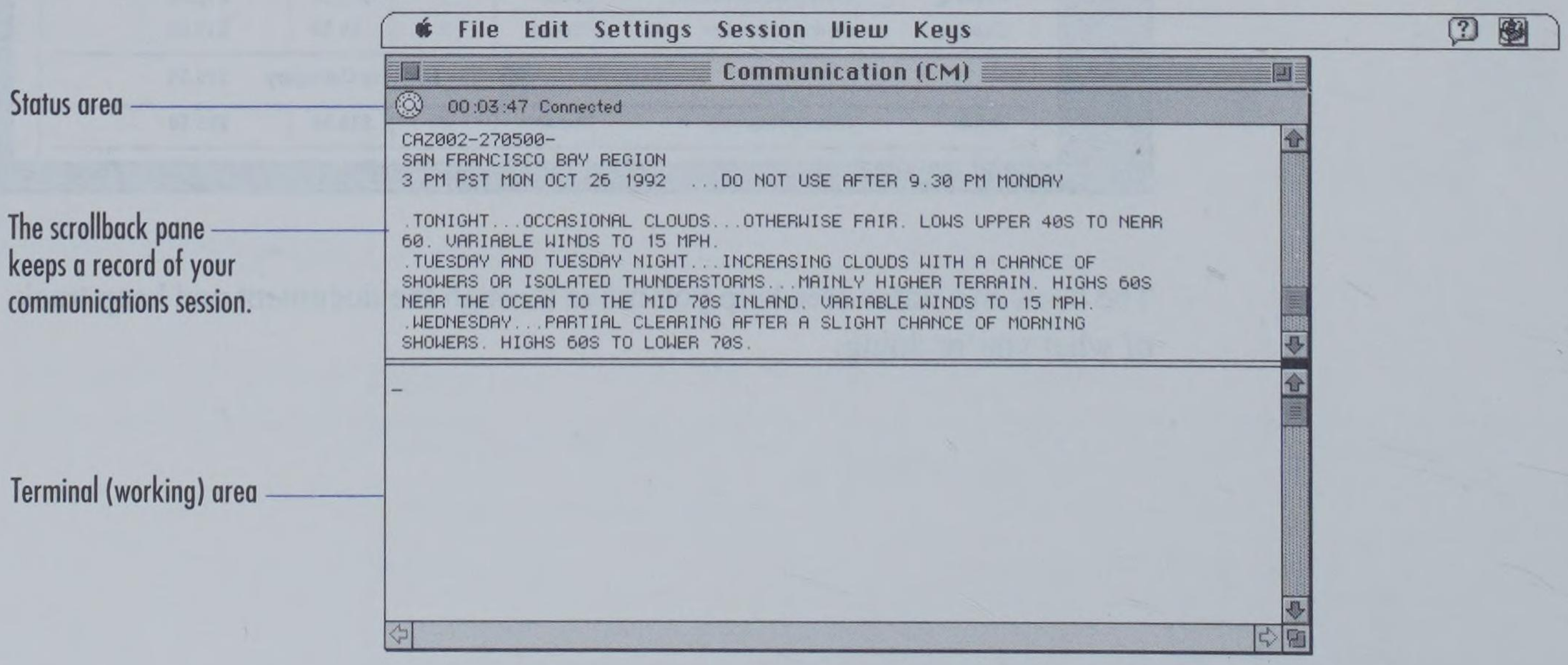
A database document is a good choice for projects like these:

At the office	At home
Maintaining a business contacts list	Maintaining address and telephone lists
Maintaining customer lists for automated mass mailings	Cataloging household furnishings for insurance purposes
Printing mailing labels from the customer list	Printing mailing labels for a family letter
Tracking sales, markets, channels, and product lines	Keeping track of your favorite recipes
Managing time and logging billable hours	Creating bibliographies for school reports
Controlling inventory	Cataloging CDs, video or audio tapes, and records
Maintaining personnel records	Cataloging acquisitions such as collectibles or stamps

For more information on databases, see chapter 7, "Working with Databases."

Communications

A communications document is different from other ClarisWorks documents. It conducts a communications session between your Macintosh and an online information service, bulletin board, or another computer.



With a communications document, you can connect to a remote computer and receive, send, and save data. Options are preset for most commonly used settings, so all you usually have to do is add the telephone number.

Using ClarisWorks as a communications tool, you can work on projects like these:

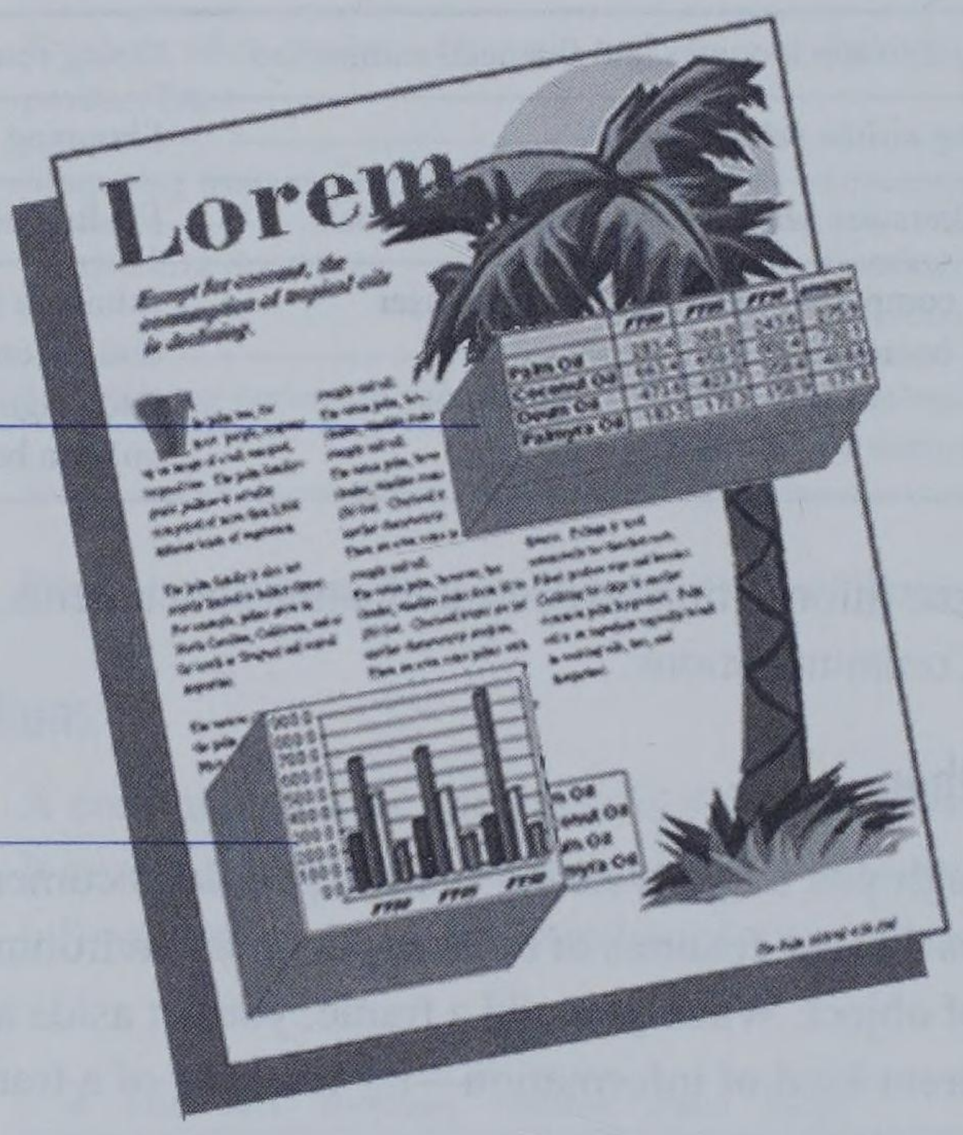
At the office	At home
Tapping into stock quotes and financial summaries	Doing research for school reports
Checking airline schedules	Shopping
Doing literature searches from your Macintosh	Finding new games for your computer
Getting computing tips and ideas from user bulletin boards	Joining a hobby-related bulletin-board discussion Exchanging ideas on education-oriented bulletin boards

For more information on communications documents, see chapter 9, "Working with Communications."

Putting It All Together

Although you begin working with a specific document type, you can add **frames** that use features of other application environments. A frame is a special kind of object. When you add a frame, you set aside an area in a document for a different kind of information—try thinking of a frame as a document within a document.

For example, you can add a spreadsheet frame to a text document and use the spreadsheet for calculations—just as if you were in a spreadsheet document. You can open the spreadsheet to a full window from within the text document if you need more room to work. When you print the text document, the spreadsheet prints as part of it. You only have to work with one document, because the spreadsheet is *integrated* into the text document.



Besides combining application environments by using frames, you have several other advanced capabilities that help you automate your work:

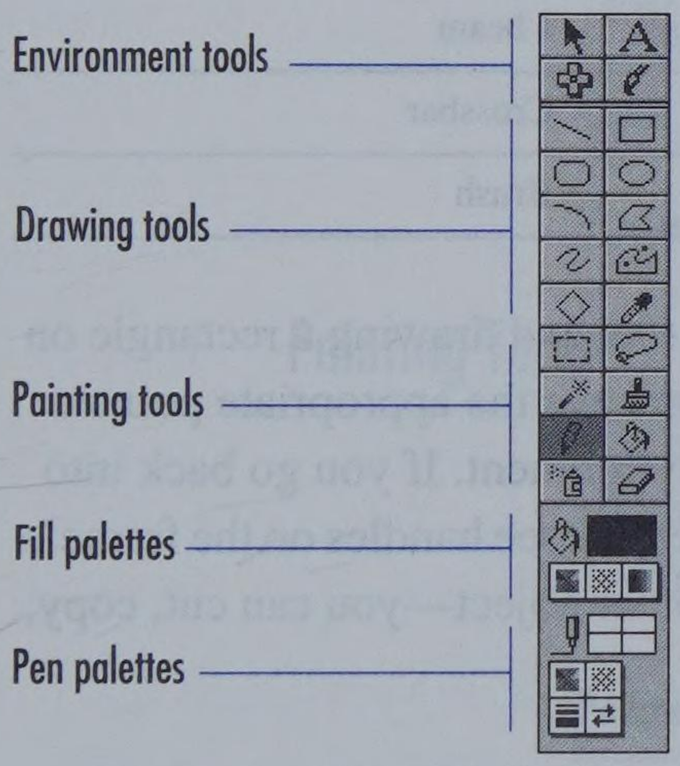
- *Mail merge*—Customize mailings by combining information stored in a database with a word processed letter.
- *Slide show*—Make a presentation directly from ClarisWorks on your computer. Use a master page for a common background on each slide.
- *Shortcuts and macros*—Increase your productivity by reducing long tasks to a single step.
- *System 7 Publish & Subscribe*—Share data with other software applications, and send and receive updates automatically when the data changes.

For more information on these topics, see chapter 8, "Using Advanced Features."

ClarisWorks Tools

Much of the work you do in ClarisWorks involves the **tool panel**— a collection of tools at the left side of the document window. Each **tool** represents something you can do in ClarisWorks, such as drawing a line, coloring a circle, or adding a frame to your document.

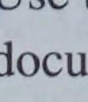
Just as the menus change, the appearance of the tool panel changes depending on which environment you are in. For example, you see a different set of tools in a paint document or frame than you see in a spreadsheet.



You can show or hide the tool panel in most documents. (In a database document, tools are only available in Layout view.) For more information on showing and hiding the tool panel, see "Showing or Hiding Tools and Rulers" in chapter 2.

Environment Tools

Use the environment tools to add text, spreadsheet, or paint frames to the current document, or to switch to another environment in the current document if a frame for it already exists. You don't need to add a frame to draw objects—ClarisWorks puts you in the drawing environment as soon as you click the arrow tool or select one of the drawing tools. The environment tools are always available when you can see the tool panel.

Tool	Environment	Pointer
	Drawing	Arrow
	Text (for word processing)	I-beam
	Spreadsheet	Crossbar
	Painting	Brush

You add a frame by choosing an environment tool and drawing a rectangle on a page in your document. Inside the frame, you have the appropriate pointer and all the tools of that frame's application environment. If you go back into the original document and then select the frame, you see handles on the frame's border. A frame with handles is just like any other object—you can cut, copy, paste, and resize it.

For more information on frames, see "Working with Frames" in chapter 8.

Drawing Tools

Use the drawing tools to draw objects such as lines, ovals, and rectangles in a document. With the arrow pointer, you can select, move, and resize objects. These tools are always available in a draw document, and are usually available in other application environments (except communications and some of the database views).

Drawing tool	Use to...
	Draw a straight line.
	Draw a rectangle or square.
	Draw a rounded rectangle or rounded square.

Drawing tool	Use to...
	Draw an oval or circle.
	Draw an arc that curves between two points.
	Draw irregular shapes composed primarily of angles and straight lines, such as triangles and stars.
	Draw a freeform shape composed of curving or irregular lines, like a shape you draw with a pen or pencil.
	Draw an irregular shape composed of lines and angles, with control points for precise shaping.
	Draw a regular shape with sides of equal length, like a hexagon or octagon.
	Pick up the attributes of an object.

For more information on drawing, see chapter 4, "Working with Drawings."

Painting Tools

The painting tools build on the set of drawing tools by providing special effects and more control over details. These tools are only available in a paint document or frame.

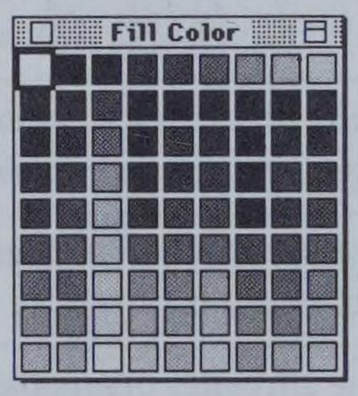
Painting tool	Use to...
	Select a rectangular area.
	Select an irregular area.
	Select adjacent pixels of the same color.
	Paint strokes of various shapes and sizes.
	Paint fine lines.
	Fill an enclosed area with a color, pattern (or both), or a gradient.
	Create an airbrushed or spray painted effect.
	Erase part or all of an image.

For more information on painting, see chapter 5, "Working with Paintings."

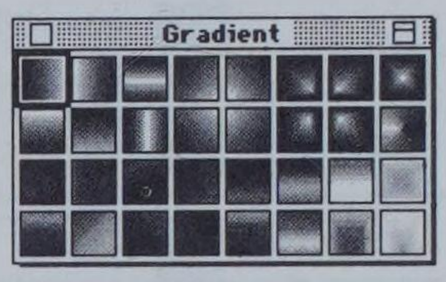
Fill and Pen Palettes

A **palette** is a window with options you can apply to an object or image you create. With the fill and pen palettes, you can change the fill color, pattern, or gradient of an object or image; and the pen width, color, and pattern of the lines that form the borders of an object or image. You can also add arrowheads to lines.

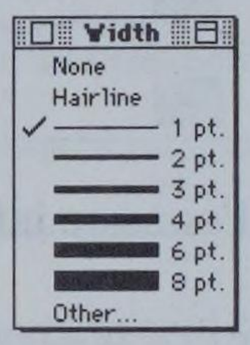
Fill/Pen color palette



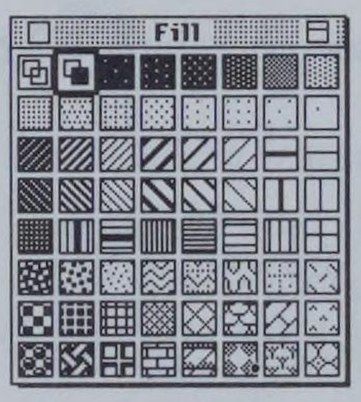
Gradient palette



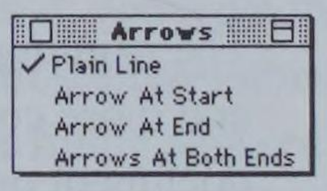
Pen width palette



Fill/Pen pattern palette



Arrows palette



You can work with palettes directly from the tool panel, or by "tearing" the palette from the tool panel and moving it to another part of the screen. Once the palette is open, you can collapse it so only the title bar is showing. Doing so is useful when you want to keep the palette on your screen without closing it.

To tear a palette from the tool panel:

1. Point to the palette's icon in the tool panel and press the mouse button to open the palette.
2. While the palette is open, drag it away from the tool panel.
3. When the palette is positioned where you want it, release the mouse button.

   The palette stays open in front of your document. You can drag the palette by its title bar to move it anywhere on the screen.

To collapse a palette, click the control in the upper-right corner of the palette. The palette's contents are hidden, and you see a bar with the palette's name in the upper-right corner of the screen. To reopen the palette, click the control again. Option-clicking the control collapses or expands all open palettes.

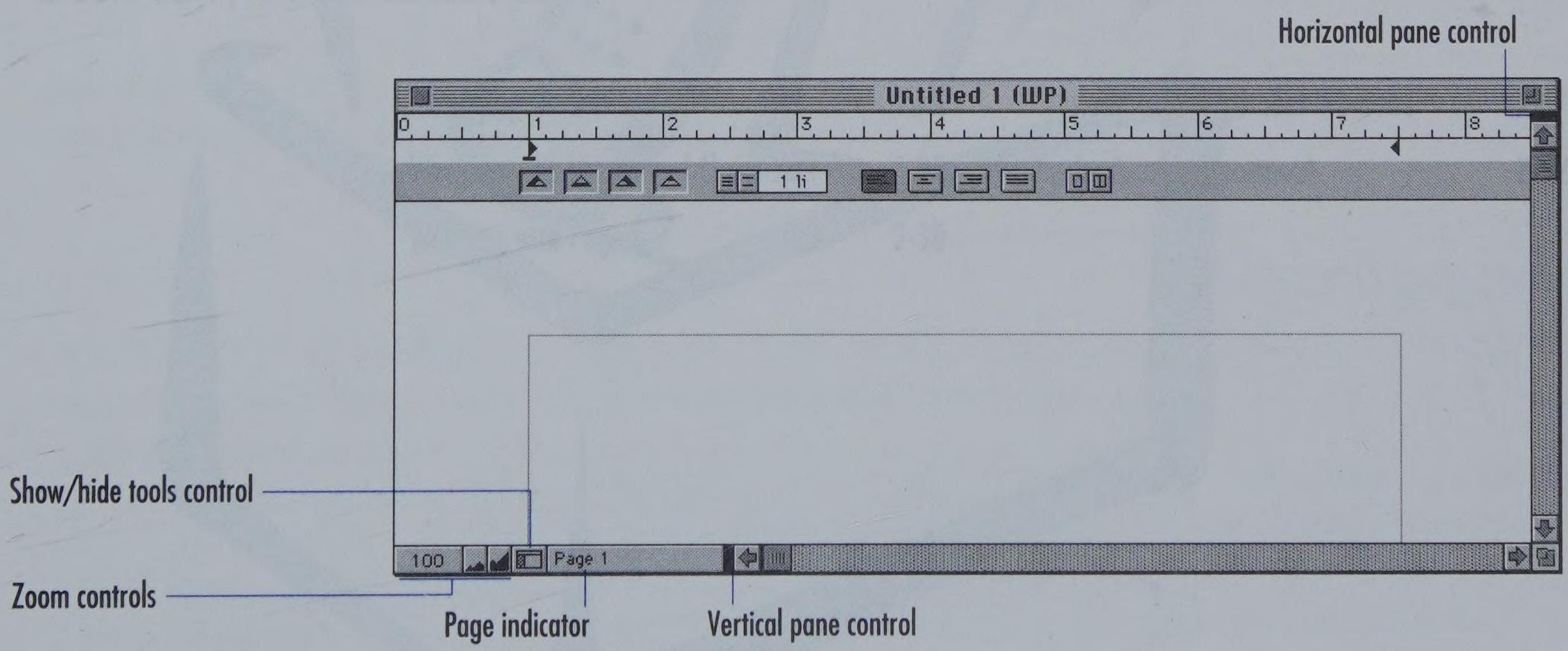
To close a palette, click the close box in the palette's upper-left corner. Option-clicking the close box closes all open palettes.

For more information on working with fill and pen palettes, see "Changing Object Fills and Borders" in chapter 4.

ClarisWorks Windows

The contents of a ClarisWorks document show in a window, with the name of the document in the title bar and standard controls for closing and resizing the window.

Other controls are specific to ClarisWorks windows. Use the horizontal and vertical pane controls to separate the window into smaller working areas that can show different parts of the same document. With the show/hide tools control, you can show or hide the tool panel. Use the zoom controls to rescale what you see in the working area, and the page indicator to navigate to a page. For more information on using the controls, see "Working with Document Windows" in chapter 2.



The page indicator shows the current page number. If you double-click the page indicator, you can navigate directly to a page. For more information on navigating to a page, see "Going to a Page" in chapter 2.

If you are using a master page (in a draw document), the page indicator shows the text "Master Page" instead of a page number. For more information on using a master page, see "Working with a Master Page" in chapter 8.

You can have more than one window open at a time, and open multiple views of the same document. For information on views, see "Working in Views" in chapter 2.

Where to Go from Here

This chapter provided an introduction to ClarisWorks elements. The rest of the manual gives step-by-step instructions for creating and working with different types of ClarisWorks documents.

Chapter 2

ClarisWorks Basics

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Chapter 2

ClarisWorks Basics

This chapter gives step-by-step instructions on activities that are common to text, draw, paint, spreadsheet, and database documents. Some of these activities are also common to communications documents.

Managing Documents

A **document** is a Macintosh file created by an application. In the ClarisWorks application, you can create and work with six different types of documents, each of which is designed primarily for a specific task—word processing, drawing, painting, spreadsheet work, database management, or communications.

This section describes how to open, save, print, and close documents. It also explains how to share ClarisWorks documents with other applications and how to save documents as **stationery**—templates with text or settings you use frequently.

Creating a Document

You can create a document when you first start ClarisWorks, or after ClarisWorks is already running.

The type of document you choose to create depends on the kind of work you plan to do. For a brief description of the document types, see "Different Document Types" in chapter 1.

When You Start ClarisWorks

To create a document when you first start ClarisWorks:

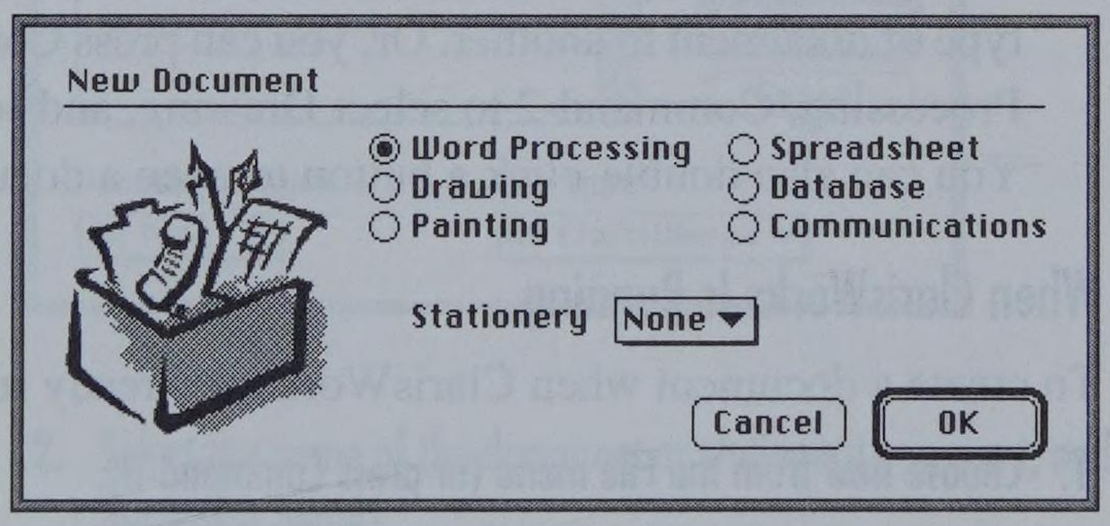


ClarisWorks

Application icon

1. Double-click the ClarisWorks application icon (or select the icon and choose Open from the File menu).

   You briefly see the ClarisWorks start-up screen, and then you see the New Document dialog box. The preset document type is word processing.



2. Select the type of document you want. Or, if you want to open a new copy of a stationery document, choose from the Stationery pop-up menu.

- **Note** The Stationery pop-up menu lists all the stationery documents that are stored in the ClarisWorks Stationery folder (in the Claris folder of your System Folder). If you prepared an options stationery file, you can prevent it from opening by holding down the Option key when you create the document. For more information on stationery, see "Using Stationery to Automate Your Work" on page 2-20.

3. Click OK.

The new document opens on the desktop. If you open a word processing document, ClarisWorks names it *Untitled 1 (WP)*. The letters "WP" in the name stand for word processing. If you create another type of document, you see these initials: DR (draw), PT (paint), SS (spreadsheet), DB (database), or CM (communications).

ClarisWorks numbers documents in the order in which you create them. Numbering begins with the first document you create after you open ClarisWorks. If you quit and then reopen the application, document numbers begin again at 1. If you open stationery, it is numbered just like a plain new document.

You can give a document a new name when you first save it. For details, see "Saving a Document" on page 2-6.

◆ **Tip** In the New Document dialog box, you can use the arrow keys or the Tab key (Shift-Tab to move backwards) to move the selection from one type of document to another. Or, you can press Command-1 to select Word Processing, Command-2 to select Drawing, and so on, up to Command-6. You can also double-click a button to open a document quickly.

When ClarisWorks Is Running

To create a document when ClarisWorks is already running:

1. Choose New from the File menu (or press Command-N).

   You see the New Document dialog box (shown in the previous section).

2. Select the type of document you want. Or, if you want to open a new copy of a stationery document, choose from the Stationery pop-up menu.

3. Click OK.

Opening a Document

When you open a document, it looks just as it did when you last saved it. You can open a document from the desktop or from within ClarisWorks.

If you want to open a document created in a previous version of ClarisWorks, see "From an Earlier Version of ClarisWorks" on page 2-6.



ClarisWorks Document

Document icon

From the Desktop

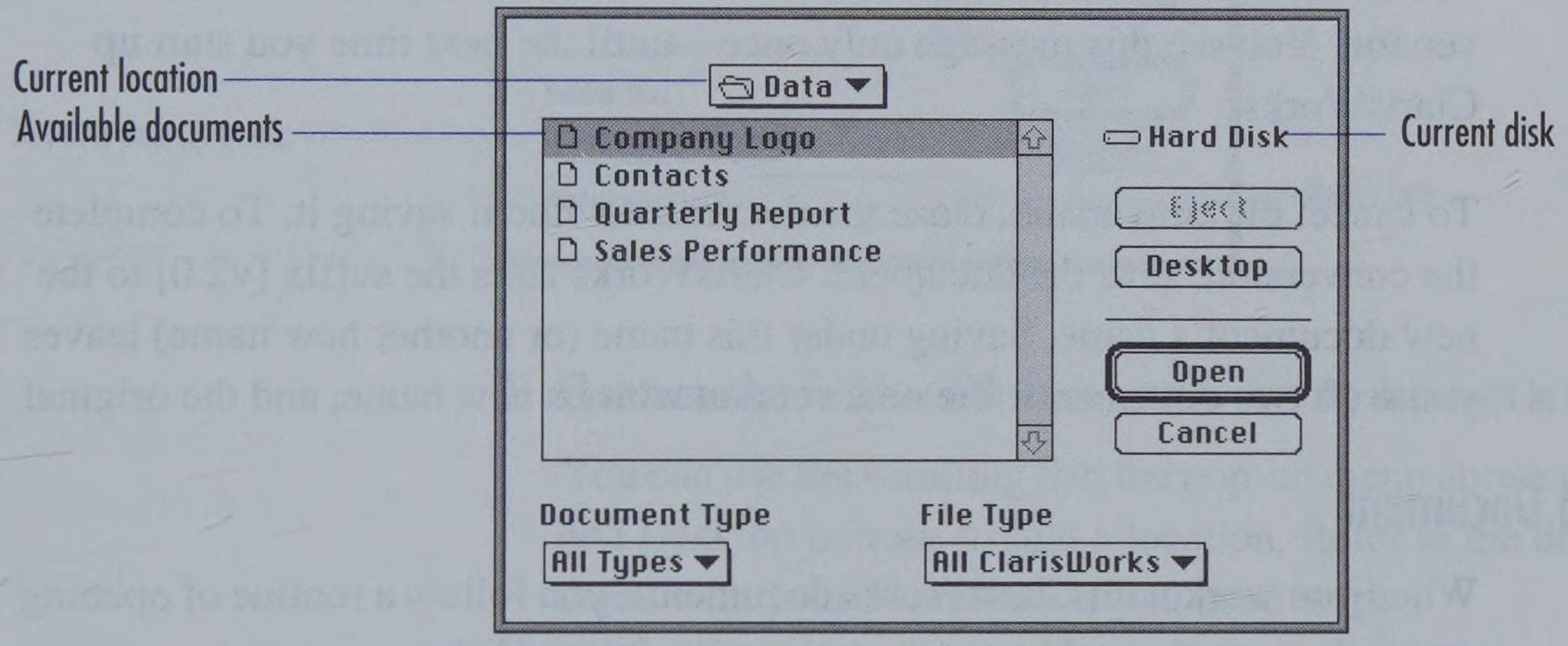
To open a ClarisWorks document from the desktop, double-click its document icon. ClarisWorks starts up (if it's not already running) and opens the document.

From Within ClarisWorks

To open a document from within ClarisWorks:

1. **Choose Open from the File menu (or press Command-O).**

   You see the Open dialog box.



2. **Select the name of the document or stationery you want, and click Open (or double-click the document name).**

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to locate the document. Refer to the documentation that came with your Macintosh if you need help.

   Use the pop-up menus at the bottom of the dialog box to change what type of documents you see in the list of available documents. You can also use these choices to open a document created in another application. For more information, see "Importing, Inserting, and Exporting Documents" on page 2-14.

- **Tip** If you have a lot of documents, you can use the pop-up menus to hide document names you don't need to see. For example, if you know you want to open a database document, choose Database from the Document Type pop-up menu to show only database documents. (You can also press Command-1, -2, -3, -4, -5, or -6 to choose a document type.)

The document opens. You can open as many documents as memory allows. If your computer doesn't have enough memory to open a document, ClarisWorks displays a message to let you know.

- **Tip** If you see a low memory message when you open a document, try increasing the amount of memory allocated to the ClarisWorks application. For more information, see the *ClarisWorks Installation Guide*.

From an Earlier Version of ClarisWorks

The first time you open a document saved in an earlier version of ClarisWorks, you see a message that ClarisWorks is converting the document to the new version. You see this message only once—until the next time you start up ClarisWorks.

To cancel the conversion, close the document without saving it. To complete the conversion, save the document. ClarisWorks adds the suffix [v2.0] to the new document's name. Saving under this name (or another new name) leaves you with two documents: the new version with its new name, and the original.

Saving a Document

When you work with ClarisWorks documents, you follow a routine of opening a new document, working on it, and storing it on a disk.

A document resides temporarily in the computer's memory as you work. If you switch the computer off or experience a power failure, you lose any work since the last time you saved the document. To protect a document, you must save it. Try to save your work often.

You use the Save command to update an active document on a disk with the most recent changes you've made. When you want to make a copy of a document with the changes, and you also want to keep the original document unchanged, use the Save As command to give the new version a different name or location.

You can also save a document as stationery. For more information, see "Using Stationery to Automate Your Work" on page 2-20. For information on saving a document in another format for use in a different application, see "Exporting a Document" on page 2-18.

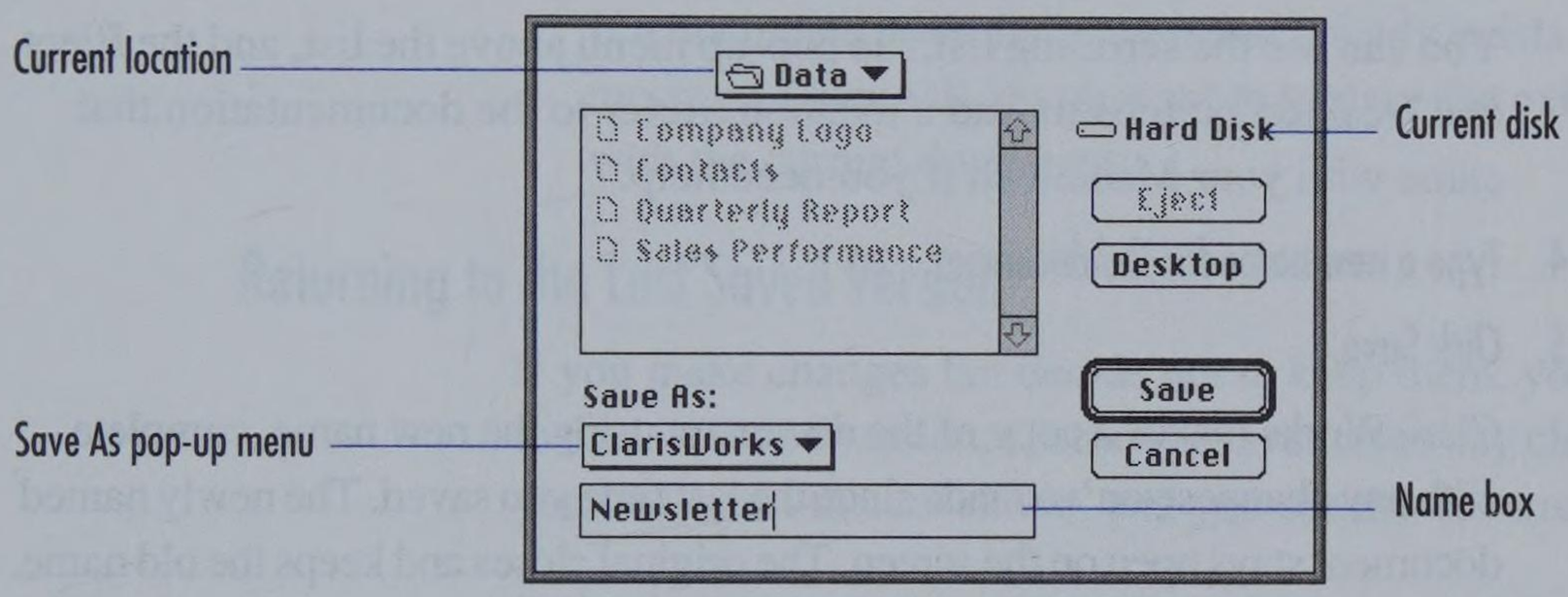
The First Time

When you save a new document the first time, you also have a chance to name it.

To save and name a document:

1. Make sure the document you want to save is active (click anywhere in the document).
2. Choose Save from the File menu (or press Command-S).

   You see the Save As dialog box.



3. Choose another folder or disk if you want to save the document in a different location.

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to find a location. Refer to the documentation that came with your Macintosh if you need help.

4. Type a name for the new document in the Save As box.

   You don't need to delete the "Untitled 1" text first; you can just start typing to replace the selected text in the box.

5. Click Save.

   The document's new name appears at the top of the window where "Untitled" was before.

As You Work

To save a document you've previously saved, choose Save from the File menu (or press Command-S). ClarisWorks saves any changes you've made since you last saved the document and leaves the document open.

Under a Different Name

Saving a document under a different name is useful when you want to make changes and also retain a copy of the original document.

To save a document under a different name:

1. Make sure the document you want to save is active (click anywhere in the document).
2. Choose Save As from the File menu (or press Command-Shift-S).

   You see the Save As dialog box.
3. Choose another folder or disk if you want to save the document in a different location.

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to find a location. Refer to the documentation that came with your Macintosh if you need help.
4. Type a new name for the document.
5. Click Save.

   ClarisWorks makes a copy of the document using the new name, complete with any changes you've made since the last time you saved. The newly named document stays open on the screen. The original closes and keeps the old name.

Making a Backup Copy

A backup copy is a duplicate of a document that you save on a different disk, usually a 3.5-inch disk. Making a backup copy protects you against loss of a document if a disk or disk drive fails.

- **Note** Occasionally you may see a message that tells you there isn't enough room on the disk to hold the document you want to save. If the disk is full, you must save the document elsewhere. Switch disk drives or eject the current disk and insert another.

On a Floppy Disk

To make a backup copy of a document on a 3.5-inch disk:

1. Insert the backup disk into the 3.5-inch disk drive.

- **Tip** To keep activities straight, add the initials *BU* (for *backup*) to the name of the backup disk.

2. Open the backup disk by double-clicking its icon on the desktop.
3. Select the ClarisWorks document icon, drag it to the window for the backup disk, and release the mouse button.

   If a document with the same name already exists on the disk, you see a message. Click OK if you want to replace the existing backup document with the current document.

On a Hard Disk

To make a backup copy of a document on a hard disk:

1. Open the hard disk by double-clicking its icon on the desktop.
2. Select the document icon, drag it to the window for the hard disk, and release the mouse button. If you are copying to the same hard disk, press Option while dragging.

   If a document with the same name already exists on the disk, you see a message. Click OK if you want to replace the existing backup document with the current document.

Returning to the Last Saved Version

If you make changes but decide not to keep them, you can return a document to the last saved version. ClarisWorks removes any changes you've made since you last saved the document, and you see the document as it was last saved.

Returning to the last saved version of a document is useful if you have experimented with changes and don't want to undo each change by hand.

To return to the last saved version, choose Revert from the File menu. ClarisWorks asks you to confirm that you want to discard the latest changes.

Closing a Document

It's always wise to close documents and windows before you quit ClarisWorks and before you shut down the Macintosh, because you'll be less likely to discard unsaved changes.

To close a document or window:

1. Click anywhere in a document to activate the window.
2. Click the close box, press Command-W, or choose Close from the File menu.

   If you have multiple windows open, the next window is activated as soon as you close the active window.

   If you haven't saved the document or recent changes to it, you're given the opportunity to save the document.

To close all windows at once, hold down the Option key and choose Close from the File menu. Or, hold down the Option key and click the close box of the active window.

Printing Your Work

Before you try to print a document for the first time, be sure your printer is set up properly:

- Is the printer plugged in and switched on?
- Is the cable from the printer to the Macintosh inserted in the proper Macintosh port?
- Do you have paper in the tray (LaserWriter, StyleWriter) or at the top of a form (ImageWriter)?
- If your printer has a Select or On Line light, is it on?
- Is the Chooser properly set? (See the next section.)

Choosing a Printer

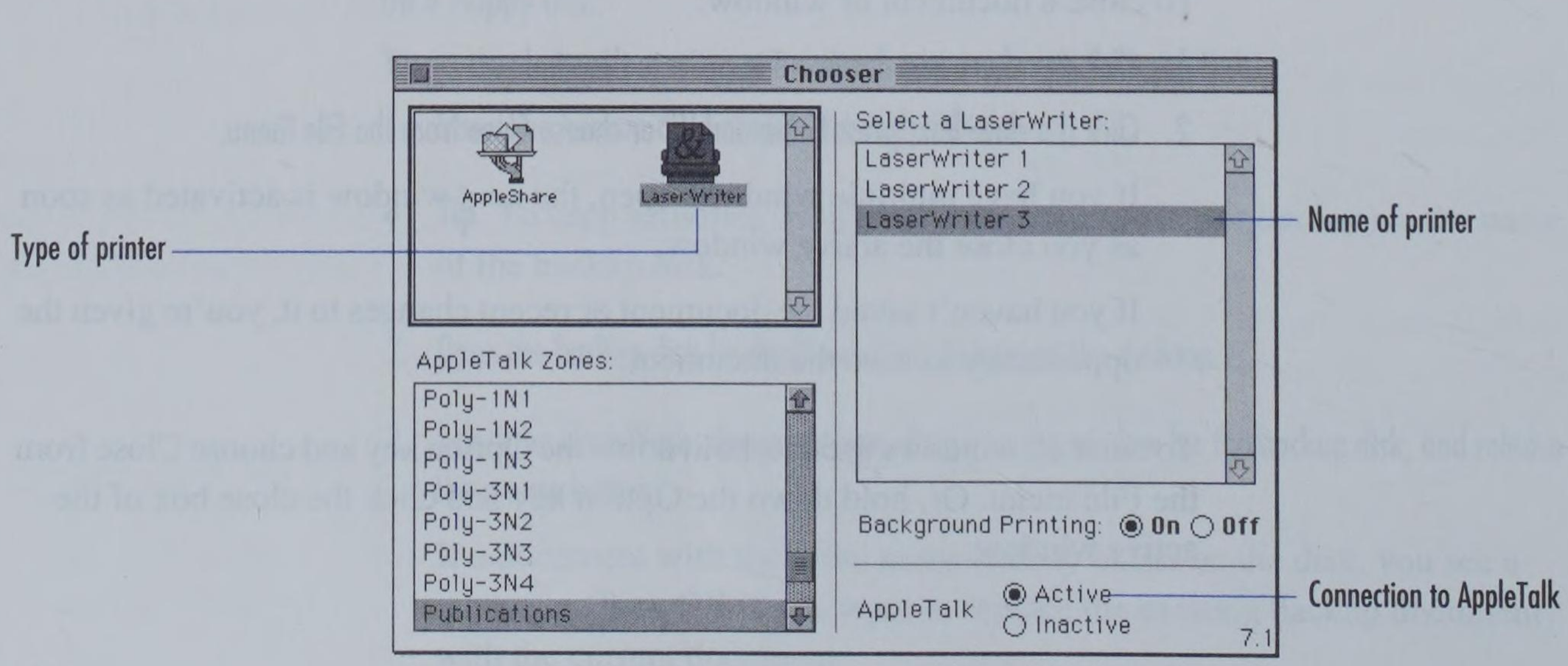
When you first use your printer, or when you change printers, you need to identify the printer to the Macintosh system software. You do this with the Chooser desk accessory. These instructions summarize the steps. For complete information, and for information on using the Chooser on a network, see the manual that came with your printer.

If you've already set Chooser options for your printer while working in another application, you don't have to redo the steps.

To choose a printer:

1. **Choose Chooser from the Apple menu.**

   You see the Chooser window.



2. **Select your printer type, choose a printer name, and set the options you want for Background Printing and AppleTalk.**

   The options vary with your printer.

3. **Click the close box (or choose Close from the File menu).**

   The printer has now been identified by the Macintosh. You don't have to repeat this process until you change printers.

Preparing to Print

Most printers are preset to print on 8.5-by-11 inch paper, using vertical orientation (the long way), and 100% scaling. Before you print a document, you can change these options.

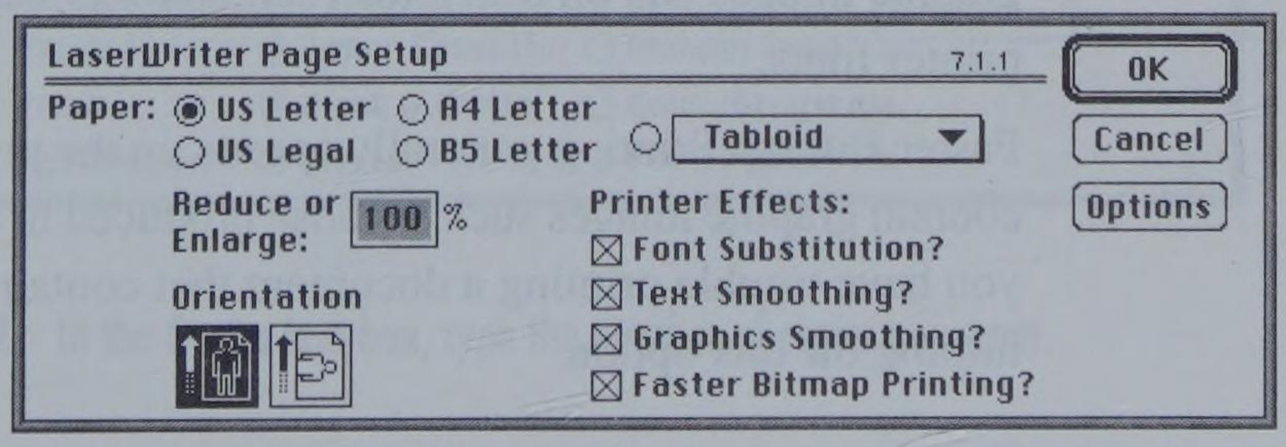
The following instructions describe how to print with a LaserWriter. If you have a different printer, some procedures may be different. See the manual that came with your printer.

- **Tip** If you are using a LaserWriter or high-resolution printer, you can select Fractional Character Widths in the Text options of the Preferences dialog box. Doing so provides finer character spacing in the printed document, improving its appearance. You may also notice that characters appear closer together on the screen. For more information on setting preferences, see "Setting Preferences" on page 2-52.

To prepare to print:

1. **Choose Page Setup from the File menu.**

   You see the Page Setup dialog box. The specific options shown may vary slightly because the Macintosh automatically changes the options to match the printer it's connected to. For additional details, see the manual that came with your printer.



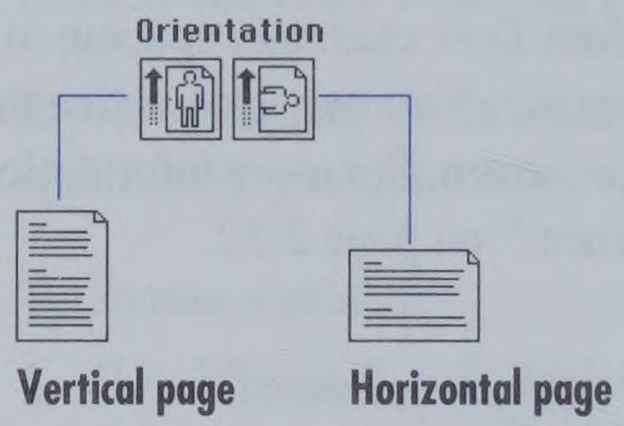
2. **Select a paper size.**

   U.S. Letter is 8.5 inches wide, 11 inches tall. U.S. Legal is 8.5 inches wide, 14 inches tall. Tabloid is 11 inches wide, 14 inches tall. A4 European Standard is 8.25 inches wide, 11.66 inches tall. B5 International Standard is 8.25 inches wide, 12 inches tall. For more information on paper sizes and the printable area on a sheet of paper, see the documentation that came with your Macintosh and printer.

3. **If you want to reduce or enlarge the document when you print, type a percentage in the Reduce or Enlarge box.**

   Actual size is 100%. Percentages less than 100 reduce the image, and percentages greater than 100 enlarge it. For example, 75% reduces the image to 75% of actual size, 125% enlarges the image to 125% of actual size. You can use any percentage from 25% to 400% on the LaserWriter. The percentage range varies on other printers.

4. **Select one of the Orientation icons for a vertical (portrait) page or a horizontal (landscaped) page.**



5. **Select any options you want in the Printer Effects list.**

   Font Substitution causes all instances of the Geneva, New York, and Monaco fonts to print as Helvetica, Times, and Courier, respectively.

   Text and Graphics Smoothing options help minimize jagged edges on graphic images and on Macintosh screen fonts that have no corresponding printer fonts.

   Faster Bitmap Printing generally speeds up the printing of documents that contain graphic images such as those produced in the paint environment. If you have trouble printing a document that contains these images, try turning off this option.

◆ **Note** On an ImageWriter, No Gaps Between Pages sets the printer to print across a page break, for example when printing labels.

6. **Click OK.**

   You're now ready to print the document. For more information, see "Printing a Document," next.

- **Tip** Only the current, open document is affected by changes you make in the Page Setup dialog box. You can, however, save the document as ClarisWorks stationery and preserve the settings for future use. For more information, see "Using Stationery to Automate Your Work" on page 2-20.

Printing a Document

Before you print a document, you must identify a printer (see "Choosing a Printer" on page 2-10). If you want to change any of the preset page options, see "Preparing to Print" on page 2-11.

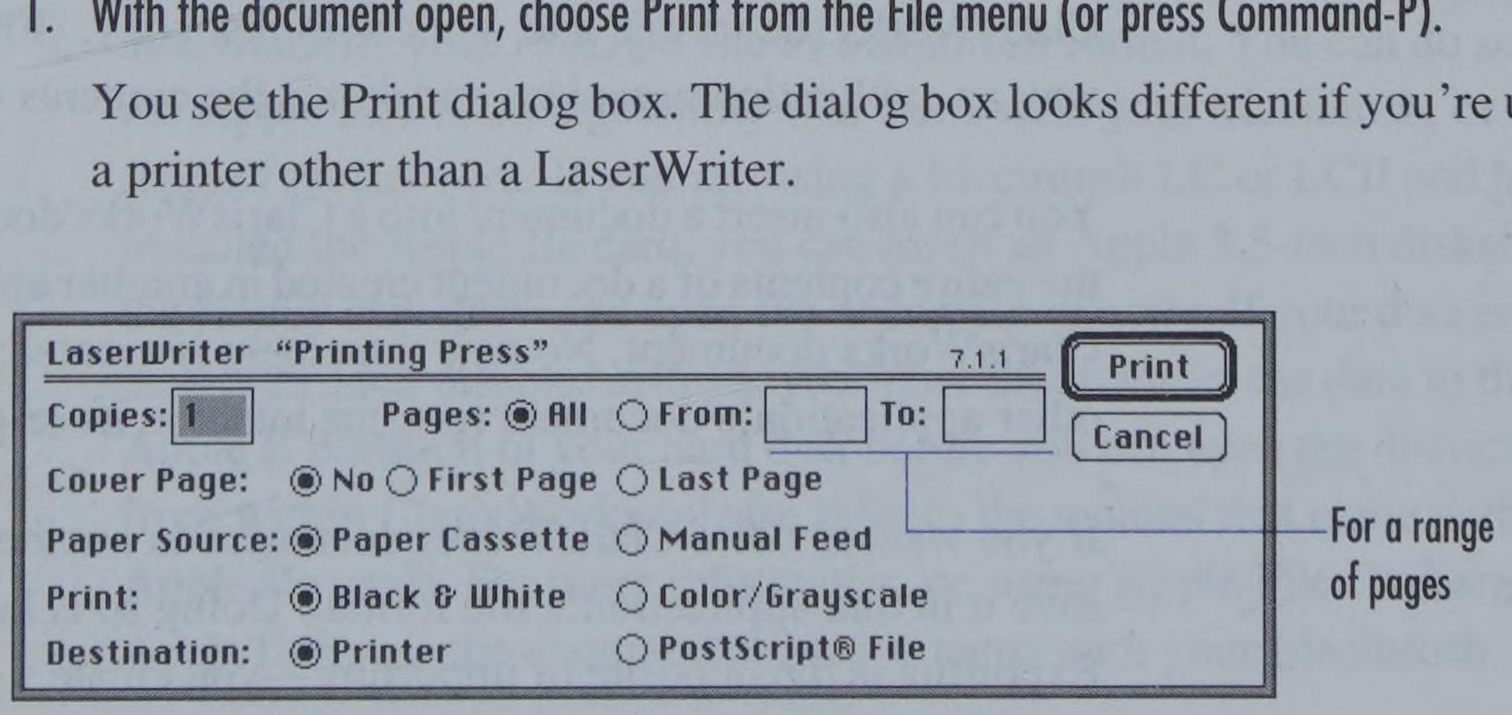
Most printers are preset to print one copy of a document, all pages, no cover page, and on paper fed automatically from the paper cassette. For a detailed description of options in the Print dialog box, see the documentation that came with your Macintosh.

- **Note** When you print a paint document (or a document with a paint frame) that contains color images to an ImageWriter II with a color ribbon, the images print in shades of gray.

To print a document:

1. **With the document open, choose Print from the File menu (or press Command-P).**

   You see the Print dialog box. The dialog box looks different if you're using a printer other than a LaserWriter.



2. In the Copies text box, type the number of copies you want.

3. If you want to print only part of the document, type page numbers in From and To.

   To print just one page, type the same page number in both text boxes.

4. If you are printing a document that contains color or grayscale, select Color/Grayscale.

5. Click Print.

   ClarisWorks prints the document.

◆ **Note** If you're printing a spreadsheet or database document, the Print dialog box gives you additional options. For a spreadsheet, you can choose not to print row and column headings and the cell grid. For a database, you can print the current record or all visible records. If you plan to print labels from a database document on an ImageWriter, don't use a header part in your label layout. Also, click the No Gaps Between Pages option in the Page Setup dialog box. (For more information on printing labels, see "Creating Labels" in chapter 7 and appendix C, "Printing Labels.")

To print a document using the current print settings, hold down the Option key and choose Print from the File menu.

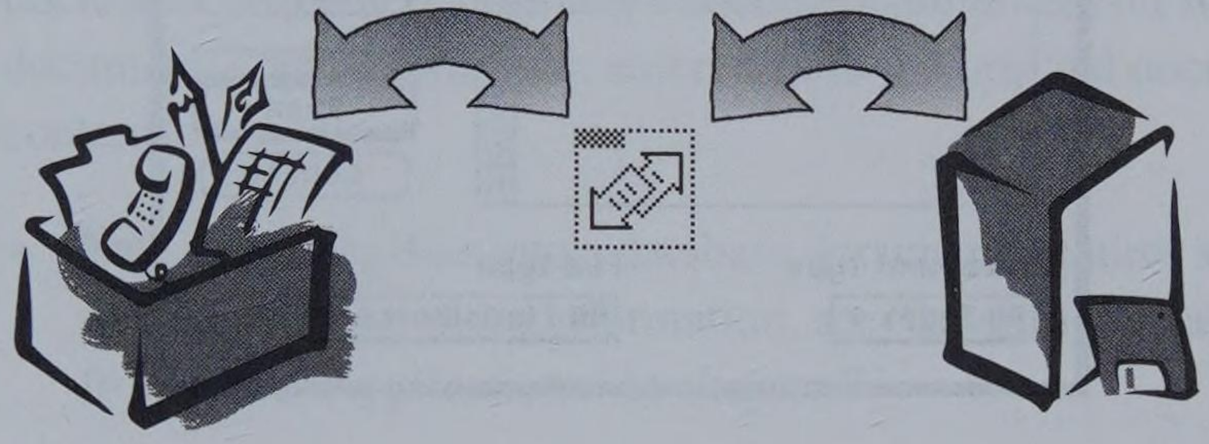
Importing, Inserting, and Exporting Documents

You can share ClarisWorks documents with other applications in several ways. If you want to work with a document created in another application, you can simply open the document from within ClarisWorks. Doing so is known as **importing**. When you import a document, you make a copy of it in the ClarisWorks file format and work with that copy. (**File format** refers to the way an application organizes and stores the contents of a document.)

You can also insert a document into a ClarisWorks document. **Inserting** places the entire contents of a document created in another application into an existing ClarisWorks document. No new document is created; but like importing, the other application's document remains intact in its original format.

If you want to use a ClarisWorks document in another application, you can save it in that application's file format. Doing so is known as **exporting**. Exporting is the opposite of importing—you create a copy of the ClarisWorks document in the other application's file format.

To share documents with other applications, the ClarisWorks application uses programs called **translators.** These translators change the file format of a non-ClarisWorks document into the ClarisWorks file format, or a ClarisWorks document into a file format another application can use. Before you import, insert, or export a document, be sure the appropriate translators are installed. For information on installing translators, see the *ClarisWorks Installation Guide*. For more information about the file formats you can use with ClarisWorks, see appendix B, "Sharing Documents with ClarisWorks."



Importing a Document

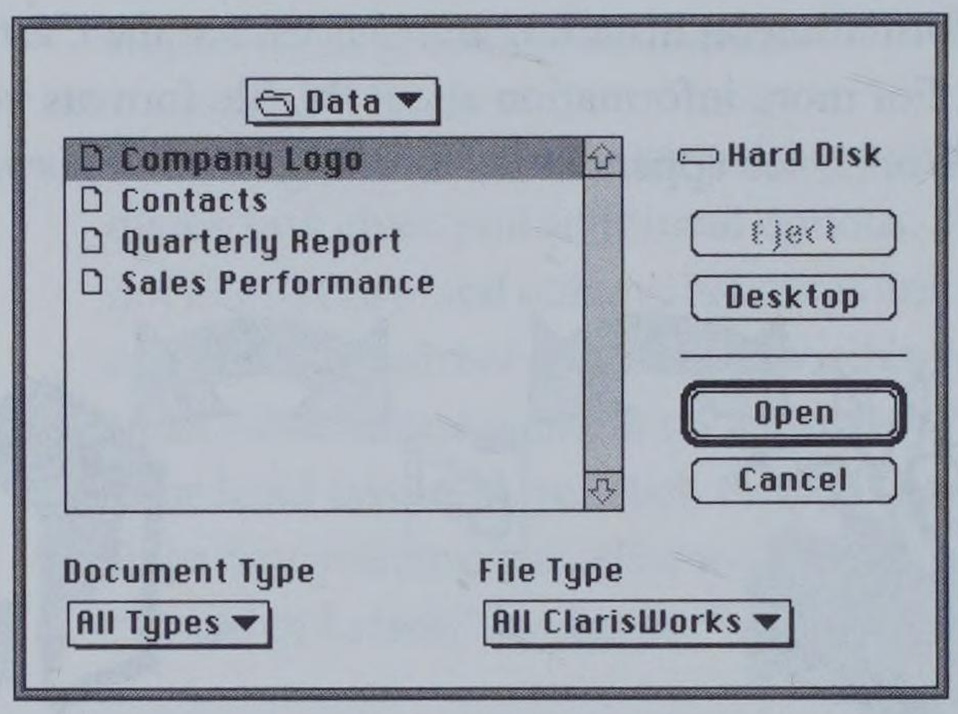
Import a document when you want to work with it in one of the ClarisWorks application environments. The changes you make only affect the ClarisWorks document—the other application's copy is untouched.

- **Note** To import an AppleWorks® or AppleWorks GS document, you must first translate your ProDOS file to Macintosh format. You can do so using the Apple File Exchange utility that came with your Macintosh, or an AppleTalk network. If you are using a Macintosh LC or LCII and have installed the Apple IIe card, you can insert an Apple 3.5-inch diskette into the floppy disk drive and open the document directly. If your data is stored on a 5.25-inch diskette instead, you must first transfer the data to the Apple II partition of your hard disk before you can open the documents from within ClarisWorks (please refer to the manual that came with the Apple IIe card). For more information on using Apple File Exchange or AppleTalk, see the documentation that came with your Macintosh.

To import a document from another application:

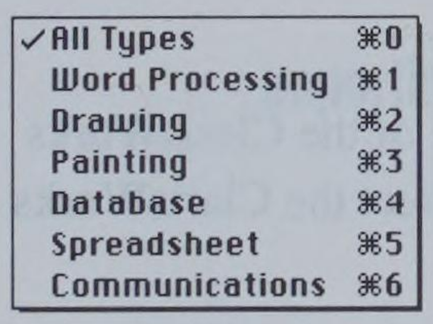
1. **Within ClarisWorks, choose Open from the File menu.**

   You see the Open dialog box.



2. **Choose the type of document you want to import (for example, draw or spreadsheet) from the Document Type pop-up menu.**

   The list of available documents changes to show only documents of the type you chose.

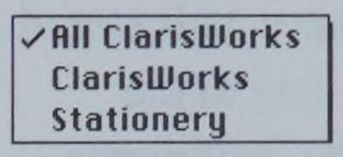


Document Type pop-up menu

- **Note** All Types shows documents in the ClarisWorks format only. To import a QuickTime movie, choose Drawing.

3. **Choose a file format from the File Type pop-up menu.**

   The list of available documents changes to show only documents in the file format you chose. What you see in this pop-up menu depends on which translators you have installed and what is selected in the Document Type pop-up menu. (For more information, see the *ClarisWorks Installation Guide*.)



File Type pop-up menu

4. **Select the name of the document you want and click Open (or double-click the name).**

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to locate the document. Refer to the documentation that came with your Macintosh if you need help.

   ClarisWorks opens the document and adds the word *Converted* to the title. You see a progress message as the conversion takes place.

◆ **Tip** If you want to open a document from an application that isn't listed, try this: open the document in the other application and save it in a format that's compatible with a ClarisWorks translator. (This process is sometimes called "saving out.") For example, if a spreadsheet application supports SYLK format, you can save the spreadsheet in SYLK format. You can then open it as a ClarisWorks document.

Inserting a Document

You can insert an entire document saved in another format into a ClarisWorks document in one step. Inserting a document eliminates the need to open another document, copy its contents, and return to the original document to paste the contents.

◆ **Note** Inserting data into a database document requires steps not covered in this section. For more information, see "Inserting Database Documents from Other Applications" in chapter 7.

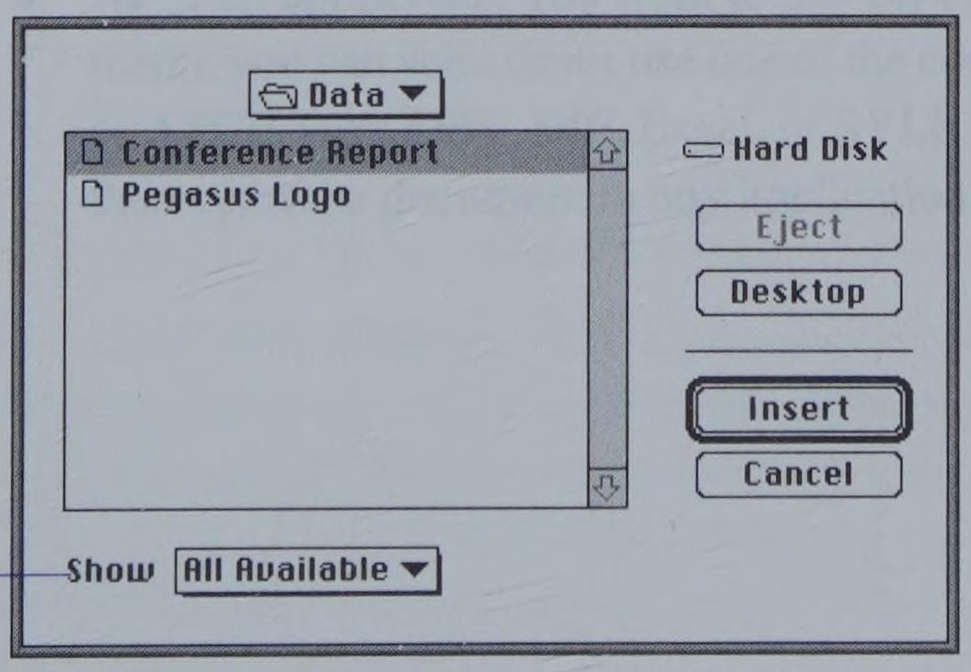
To insert a document:

1. **In the receiving document, determine where you want the insert to appear.**

   In a draw document, ClarisWorks places the insert where you last clicked in the window. In a paint document, ClarisWorks places the insert in the middle of the working area. In a text document or frame, ClarisWorks places the insert at the insertion point.

2. **Choose Insert from the File menu.**

   You see the Insert dialog box.



The scrolling list shows only the documents in a format that you can insert into the current document.

3. **Choose the document type from the Show pop-up menu.**

   The list of available documents changes to show only documents of the type you chose.

4. **Select the name of the document you want to insert and click Insert (or double-click the document or filename).**

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to locate the document. Refer to the documentation that came with your Macintosh if you need help.

   You see the contents of the insert in your ClarisWorks document.

- **Note** You can also insert data into a spreadsheet or database document by copying and pasting the data. Before you paste data into a database document, press the Enter key to exit the current field. When you paste data from one ClarisWorks database to another, ClarisWorks ensures that data is pasted into the correct fields by matching field names. If these elements do not match, ClarisWorks pastes data using the current tab order. If the database document has fewer fields than the information you are pasting, ClarisWorks ignores the extra information.

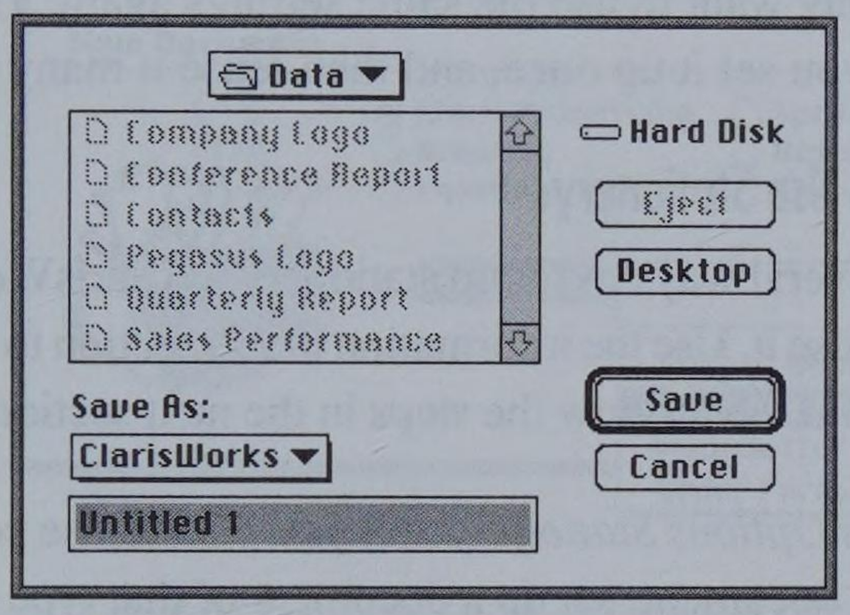
Exporting a Document

Export a document when you want to open it in an application other than ClarisWorks. When you export a document, you end up with two copies: the original ClarisWorks document and a copy in another file format.

To export a document:

1. Choose Save As from the File menu.

   You see the Save As dialog box.



2. Find the disk and folder in which you want to save the exported document.

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to find a location. Refer to the documentation that came with your Macintosh if you need help.

3. Type a name for the exported document.
4. Choose the file format type from the Save As pop-up menu.
5. Click Save.

   The document is stored, with the new name, in the folder and on the disk you specified.


Exported Report

◆ **Tip** If an application you want to use isn't listed in the Save As pop-up menu, you can sometimes use one of the commonly accepted formats, such as ASCII Text, DBF, DIF, Excel, or SYLK, to save the document. You can then open the document in any application that supports those formats.

Using Stationery to Automate Your Work

Stationery is a ClarisWorks document that you save in a special format. Stationery can contain data, formatting, and settings. Saving a document as stationery is useful if you've spent time customizing a document, and you think you may want to use the same settings again. Think of stationery as a template—you set it up once, and then reuse it many times.

Preparing to Use Stationery

There are several ways to set up stationery in ClarisWorks, depending on how you want to use it. Use the information in this section to decide how to set up your stationery, and then follow the steps in the next section to create the stationery.

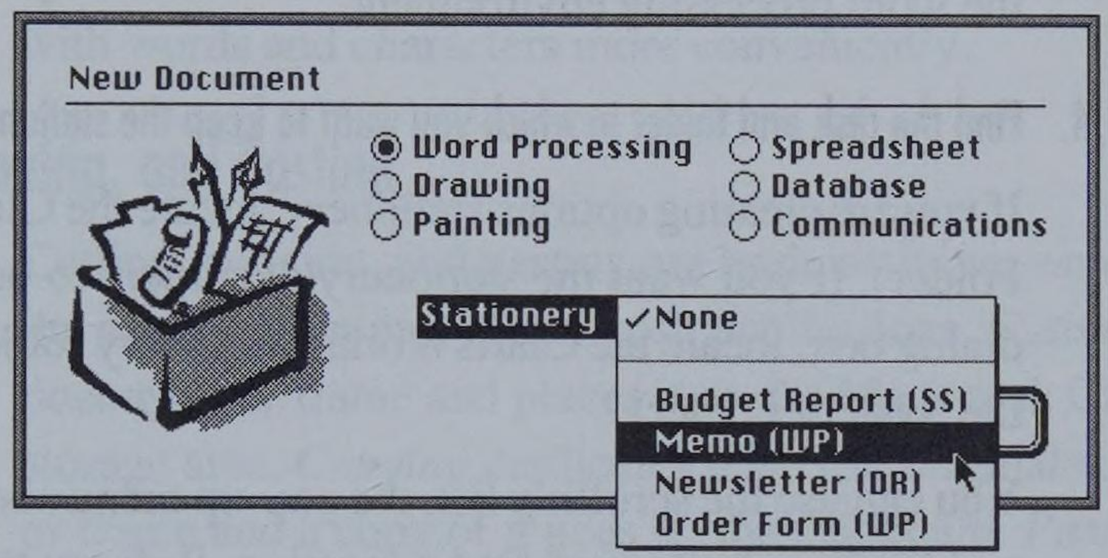
ClarisWorks Options Stationery— If you plan to use certain settings every time you create a document, set up a document of that type as an options stationery file that opens automatically whenever you choose New from the File menu and create a document of that type. For example, you might want to change the default font used in a new document. You must store the options file in the Claris folder (in your System Folder) and use the following naming conventions:

Document type	Name of stationery document
Word Processing	ClarisWorks WP Options
Draw	ClarisWorks DR Options
Paint	ClarisWorks PT Options
Spreadsheet	ClarisWorks SS Options
Database	ClarisWorks DB Options
Communications	ClarisWorks CM Options

◆ **Note** You can prevent an options stationery file from opening by holding down the Option key when you create a document.

Easy Stationery—If you plan to use a particular combination of settings frequently and want easy access to them (for instance, a memo or letterhead), set up a stationery document so you can open it directly from the New dialog box when you create a document. To do so, store the stationery in a folder named ClarisWorks Stationery in the Claris folder (in your System Folder).

You can give the stationery document any name. ClarisWorks adds a suffix to the filename (WP for Word Processing, DR for Drawing, and so on) to help you keep track of the stationery.



Regular Stationery—If you plan to use the stationery infrequently or you want to access it like a regular document, store the stationery document anywhere on a hard disk or floppy disk, under any name.

- **Note** You can also use the Preferences dialog box to change default ClarisWorks settings to a custom set of options. However, when you open stationery, any preferences settings in the stationery take precedence over the default preferences settings. For more information on preferences, see "Setting Preferences" on page 2-52.

Creating Stationery

To make stationery from a document:

1. Prepare a document with the settings and information you want to be in the stationery.
2. Choose Save As from the File menu (or press Command-Shift-S).

   You see the Save As dialog box.
3. Type a name for the stationery document.

   If you are creating options stationery that opens automatically whenever you create a document, be sure to use the naming conventions described in the section "Preparing to Use Stationery" on page 2-20.

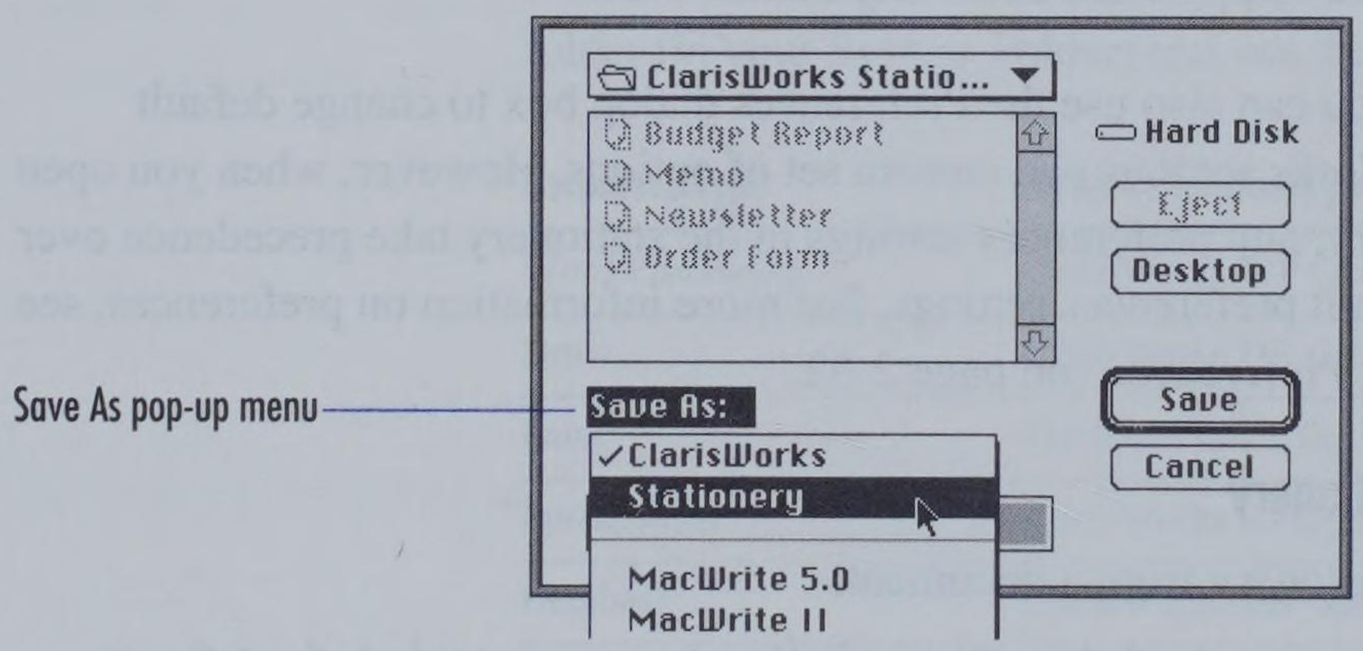
- **Tip** If you plan to use stationery for a variety of purposes, create your own naming convention for the stationery so you can easily identify the document type of the stationery when you open it. For example, you could use the "WP" abbreviation as part of the name of a stationery document saved from the word processing environment.

4. **Find the disk and folder in which you want to keep the stationery document.**

   If you are creating options stationery, locate the Claris folder (in the System Folder). If you want the stationery document to be a choice in the New dialog box, locate the ClarisWorks Stationery folder (in the Claris folder of the System Folder).

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to find a location. Refer to the documentation that came with your Macintosh if you need help.

5. **Choose Stationery from the Save As pop-up menu.**




Letterhead Stationery

6. **Click Save.**

   ClarisWorks makes a copy of the document and saves it in the ClarisWorks Stationery format.

Later, when you open the stationery document, you see a new, untitled copy of the stationery. The untitled document is numbered according to the number of documents you've created in a session. The original remains intact so that you can use it over and over again. You can rename the new document when you save it.

Working with Words and Characters

Much of what you do in ClarisWorks involves working with the individual characters that make up words in a sentence or paragraph, numbers in a spreadsheet, and data in a database. This section describes ways you can work with words and characters more conveniently.

Cutting, Copying, and Pasting

Cutting, copying, and pasting are basic activities on the Macintosh and work the same way in most Macintosh applications. *Cutting* removes text from a document or frame and places it on the Macintosh Clipboard, a temporary storage area. *Copying* duplicates text. The original text stays in the document or frame and a copy of it goes on the Clipboard. *Pasting* takes text on the Clipboard and puts it in your document or frame. (You can also cut, copy, and paste objects and images in the draw and paint environments.)

In ClarisWorks, you can cut, copy, and paste text within a document or frame, between ClarisWorks documents, and even between a ClarisWorks document and another application's document.

- **Note** In a communications document, you cannot cut text but you can copy it. If you paste text to communications document with an open connection, the text is sent to the remote computer to which you are connected.

To cut or copy and paste text:

1. Select a line or paragraph of text, an object, or a data entry in a database or spreadsheet document.
2. Choose Cut or Copy from the Edit menu.

   ClarisWorks places a copy of the selected item on the Macintosh Clipboard.
3. Select the spot in the document where you want the copy to go, or activate another document where you want to place the copy.
4. Choose Paste from the Edit menu.

   You can paste the same item many times. The copy on the Clipboard remains the same until you cut or copy something else.

- **Note** You can use the Macintosh keyboard to help make basic editing tasks go faster. For information, see the *ClarisWorks Quick Reference*.

Displaying Formatting Characters

Each time you press the Space bar, Tab, Return, or add a break, ClarisWorks inserts a **formatting character**—a symbol or placeholder that represents how you want text arranged in a document or frame.

The·palm·tree,·for·most··people,·conjures·up·an·image·of·a·tall·canopied,·tropical·tree.·The·palm·family—genus·*palmae*—is·actually·comprised·of·more·than·2,600·different·kinds·of·vegetation.↵

The·palm·family·is·also·not·strictly·limited·to·balmy·climes.·For·example,·palms·grow·in·North·Carolina,·California,·and·as·far·south·as·Uruguay·and·central·Argentina.↵

↵

Type→	**Average Sales**↵
↵	
Palm·Oil→	275.93↵
Coconut·Oil→	732.10↵
Doum·Oil→	418.56↵
Palmyra·Oil→	171.56↓

The·various·sizes·and·shapes·of·the·palm·are·remarkably·varied.·Most·palm·family·members·grow·straight·and·tall.·

The·rattan·palm,·however,·has·slender,·vinelike·stems·from·10·to·250·feet.·Clustered·trunks·are·yet·another·characteristic·attribute.·There·are·even·some·palms·with·trunks·that·remain·buried·in·the·soil.·Products·derived·from·the·genus·palmae·family·are·equally·diverse.·Foliage·is·used·extensively·for·thatched·roofs.·Fibers·produce·rope·and·brooms.·Caulking·for·ships·is·another·common·palm·by-product.·Palm·oil·is·an·ingredient·typically·found·in·cooking·oils,·fats,·and·margarines.

Description	Formatting character
Space	·
Tab	→
Paragraph return	↵
Line break (soft return)	↵
Break (column or page)	↓

ClarisWorks is preset to hide formatting characters from view onscreen, and the characters do not print. If you are fine-tuning a document's design, though, you may want to see the formatting characters.

To show formatting characters:

1. **Choose Preferences from the Edit menu and select the Text icon in the scrolling list.**

   You see the Text options in the Preferences dialog box. If you need help navigating in this dialog box, see "Setting Preferences" on page 2-52.

2. **In the General area, select Show Invisibles.**
3. **Click OK.**

◆ **Tip** You can press Command-; (semicolon) or click the Show/Hide Invisibles shortcut button to switch the display of formatting characters on or off.

Using "Smart" Quotation Marks

ClarisWorks is preset to use typeset-quality quotation marks, also known as **smart quotes.** Smart quotes are curly (“ ”, ‘ ’) rather than straight (" ", ' '), and have a more professional appearance in a printed document.

- **Note** When you type quotation marks in a spreadsheet cell, they are straight.

You can use straight quotation marks if you are following special design requirements, or if you want to abbreviate measurements in inches (5") or feet (12').

- **Important** Smart quotes are not part of the communications character set. If you plan to send the text of your document to another computer using the text transfer tool, don't use smart quotation marks.

To set the quotation mark style:

1. **Choose Preferences from the Edit menu and select the Text icon.**

   You see the Preferences dialog box. If you need help navigating in this dialog box, see “Setting Preferences” on page 2-52.

2. **In the General area, select Smart Quotes.**

   When this option is selected, you see smart quotes when you type a single or double quotation mark.

3. **Click OK.**

Selecting or deselecting the Smart Quotes option does not change the appearance of quotation marks you've already typed. The Smart Quotes option does not affect what you type in spreadsheet cells.

- **Tip** You can type smart quotes in a spreadsheet cell or in the text environment when the Smart Quotes setting is not selected in the Preferences dialog box. To do so, press Option-left brace ({) for the opening quotation mark (“) and Shift-Option-left brace for the closing quotation mark (”). To type single smart quotes, press Option-right brace (}) for the opening mark (‘) and Shift-Option-right brace for the closing mark (’).

Adding Automatic Page Numbers

An automatic page number is a special character that "knows" what page it is on in a document. In headers and footers, an automatic page number updates itself to show the correct page number on every page in the document. (For more information on headers and footers, see "Adding Headers and Footers" on page 2-45.)

You can insert automatic page numbers anywhere in a document, but you'll probably find them most useful in a header or footer with identifying text that shows the document title, date, or other information.

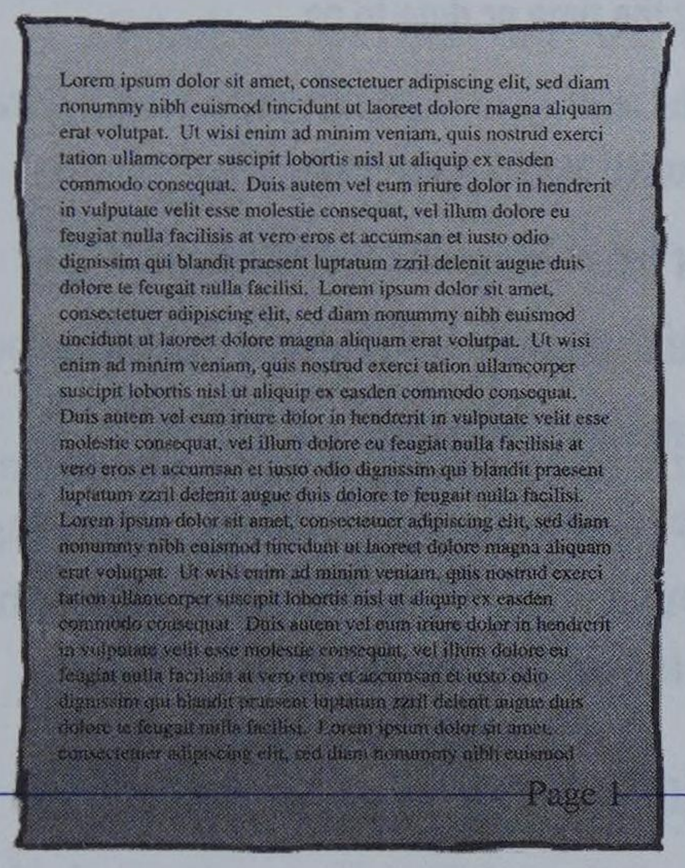
You can also set the starting page number to something other than one. Resetting the starting number is useful when you've divided a single document into multiple documents. For more information, see "Changing Page Settings" on page 2-40.

To add an automatic page number:

1. If you want the page number in a header or footer, choose Insert Header or Insert Footer from the Format menu.
2. If you want to add text (for instance, the word *page*) before the number, type the word and then press the Space bar.

3. **Choose Insert Page # from the Edit menu.**

You see the current page number at the insertion point.



- **Note** If you want a fixed page number in a document, instead of one that is numbered automatically, type the number as text, or hold down the Option key and choose Insert Page # from the Edit menu.

Adding Automatic Dates and Times

Automatic dates and times are special characters that "know" the current date and time, as determined by your computer's system clock. You can use automatic dates and times in word processing documents, text frames, headers, and footers.

When you insert the date or time in a document, ClarisWorks updates the date or time as you work. If you want to repeat the date or time on every page in a document, you can insert the date or time in a header or footer.

- **Note** ClarisWorks is preset to use the short format (for example, 3/28/93) for automatic dates. You can reset the format in the Text options of the Preferences dialog box. For more information, see "Setting Preferences" on page 2-52.

To insert the date or time:

1. If you want the date or time in a header or footer, choose Insert Header or Insert Footer from the Format menu.
2. Click where you want the time or date to go.

   If you want to add text (for instance, the word *date* or *time*), type the word and add a space with the Space bar.
3. Choose Insert Date or Insert Time from the Edit menu.

   You see the current date or time at the insertion point.

◆ **Note** If you want a fixed date or time in a document, type the entry as text or hold down the Option key and choose Insert Date or Insert Time from the Edit menu. Otherwise, ClarisWorks updates the date or time whenever you open or print the document.

Finding and Changing Information

One of the advantages of working on a computer is the speed with which you can find and revise information within a document. If you need to update a product name everywhere it occurs in a brochure, for example, you can quickly search for and replace the old name with the new name.

In ClarisWorks, you can search for specified text and characters and automatically change the information. Or, you can find each instance and change each one individually.

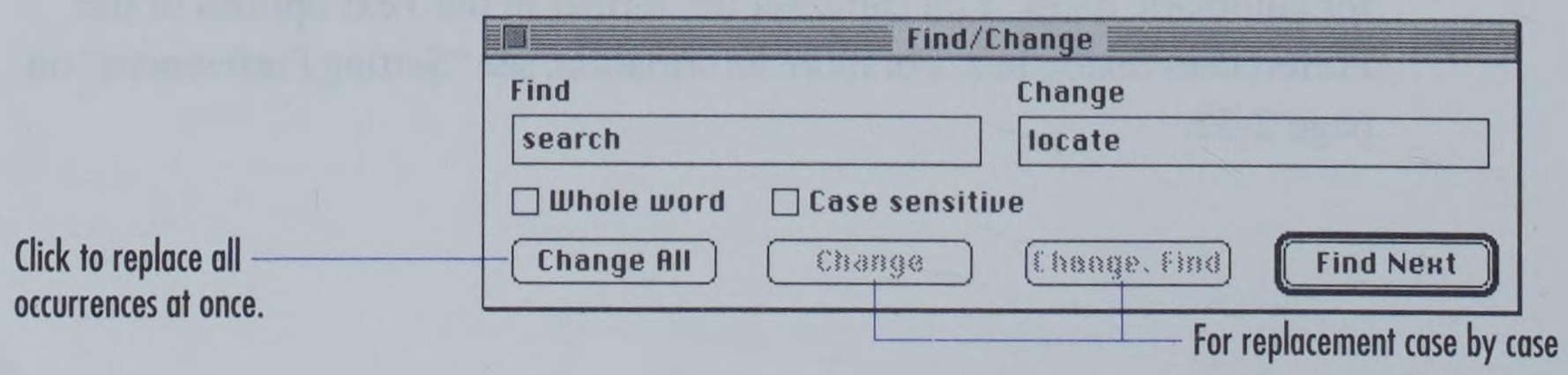
Finding and Changing a Word or Phrase

To find and change a word or text phrase:

1. Choose Find/Change from the Edit menu, and Find/Change again from the submenu.

   You see the Find/Change dialog box.

   If you have already searched for text since opening ClarisWorks, the Find/Change dialog box displays the text you last searched for.



2. **In the Find box, type the word or phrase you want to find.**
3. **If you plan to replace the found word or phrase, type the new text in the Change text box.**
4. **If you want to, set options to limit the search.**

   Whole word finds only the word or phrase itself and not text that contains the same characters. Case sensitive finds only the occurrences with capitalization that exactly matches the contents of the Find text box.
5. **Click Find Next.**

   ClarisWorks finds the specified text and selects it.
6. **If you want to replace the found text, click one of the Change buttons.**

   - Change replaces the selected text without searching for another occurrence.
   - Change, Find replaces the selected text and then searches for the next occurrence.
   - Change All replaces all occurrences of the text in the document at once. If you click Change All, you see a message reminding you that changing all occurrences is not undoable. When all the text is replaced, you see a message that tells you the number of occurrences that were replaced.
   - To change the found text by hand, see "Changing Found Text by Hand," next.
7. **When you are finished finding and changing text, click OK to return to the document.**

Changing Found Text by Hand

You can leave the Find/Change dialog box to change text by hand, and then return to the dialog box to continue finding and changing text automatically.

To change found text by hand:

1. **Click once in the document to make it active.**
2. **Make any changes you want to the text.**
3. **Return to the Find/Change dialog box.**

   If the Find/Change dialog box is in view, you can click it to bring it in front of the document so you can resume the search. If you cannot see the dialog box, choose Find/Change from the Edit menu, and Find/Change again from the submenu.

Finding Text that Matches a Selection

If you have more than one occurrence of the same text in a document, you can quickly find other occurrences of that text. For example, you can make sure that a name or address appears correctly in several places in the same document.

To find text that matches selected text:

1. In the document, select words or characters you want to match.
2. Choose Find/Change from the Edit menu, and Find Selection from the submenu.

   ClarisWorks finds the next occurrence of the text you selected.
3. Choose Find/Change from the Edit menu, and Find Again from the submenu to find additional occurrences.

Finding Formatting Characters and Special Text

ClarisWorks documents contain formatting characters, such as return characters, tab characters, and symbols for column breaks. You can search for these characters the same way you search for regular text. You also can search for special text such as automatic dates, times, and page numbers.

Formatting characters are preset to be hidden from view in your document. You can show the formatting characters before you find and change them. For more information on showing formatting characters, see "Displaying Formatting Characters" on page 2-24.

To find formatting characters and special text:

1. Choose Find/Change from the Edit menu, and Find/Change from the submenu.
2. Type the character's substitute in the Find box.

To find...	Press or type...	You see this in the Find text box...
Space	Space	(nothing)
Nonbreaking space	Option-Space	(nothing)
Tab	\t or Command-Tab	\t
Paragraph return	\p or Command-Return	\p
Line break (soft return)	\n	\n
Break (column or page)	\c or Command-Enter	\c

To find...	Press or type...	You see this in the Find text box...
Automatic date	\d	\d
Automatic time	\h	\h
Automatic page number	\#	\#
Backslash (\)	\\	\\

3. If you want to replace the character, type a replacement in the Change text box.
4. Click Find.

   ClarisWorks finds and selects the formatting character or special text. You can delete the selection or replace it with another formatting character by using the change buttons the same way you do with text.

For more information on working with the Find/Change dialog box, see "Finding and Changing a Word or Phrase" on page 2-28.

Using the Spelling Checker

You can check spelling in any ClarisWorks document except a communications document. ClarisWorks includes a Main Dictionary with almost 100,000 words. For special terminology or personal names, you can create your own supplement, known as the User Dictionary. ClarisWorks consults both dictionaries when checking spelling. The spelling checker also counts the words in your document.

If you need to check spelling in a communications document, you can save the document as a word processing document and check the spelling there.

You can also look up synonyms for a word. For more information, see "Finding Synonyms" on page 2-36.

Checking Spelling in a Document

ClarisWorks gives you a Main Dictionary and a User Dictionary when you install the application. A Main Dictionary is required to check spelling. If you have another User Dictionary you prefer to use, see "Installing a Dictionary or Thesaurus" on page 2-33.

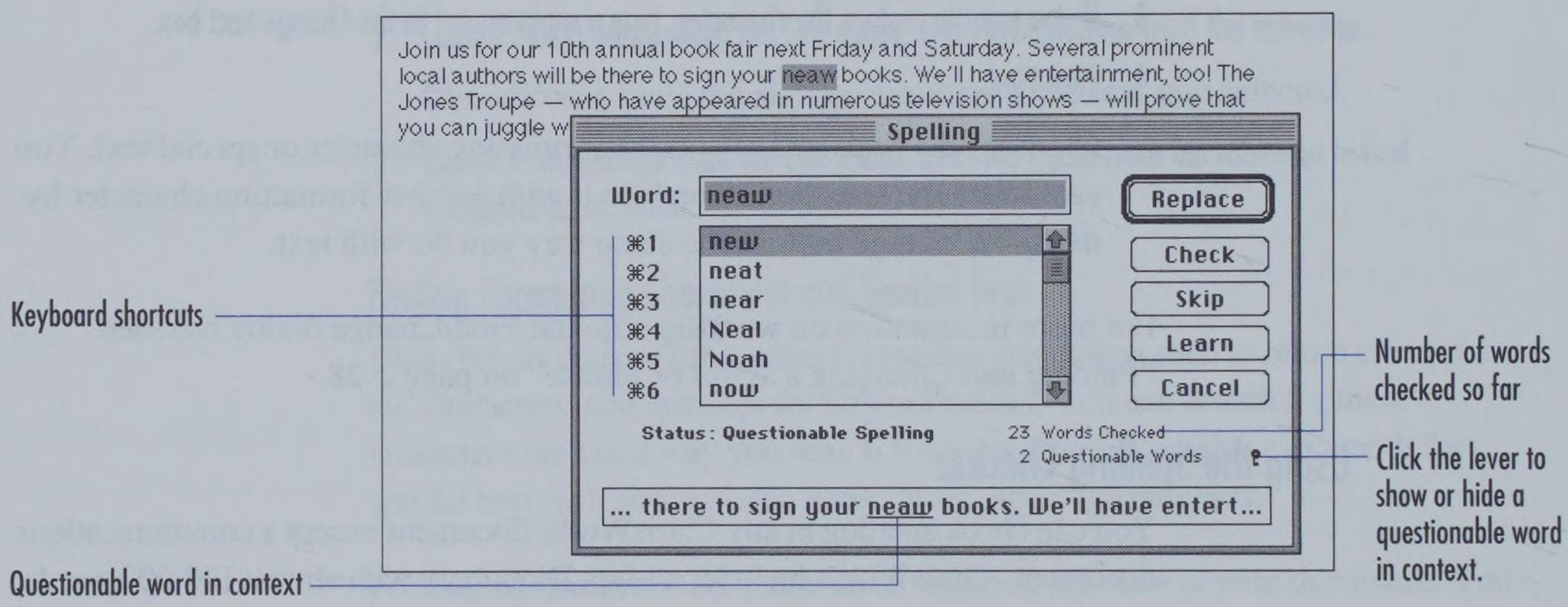
Before you start to check the spelling, you need to open a document; spelling options aren't available when all documents are closed.

To check spelling:

1. **Choose Spelling from the Edit menu, and Check Document from the submenu.**

   Check Document checks the whole document, beginning at the start of the document. In a spreadsheet, the spelling checker begins at the first cell.

   As the spelling checker starts, you see the Spelling dialog box.



2. **Replace the word by typing the correct word in the Word box, or select one of the other options:**

   - To replace the word, select a word from the list of replacements and click Replace. (You can also double-click a suggested replacement or type the keyboard shortcut beside a suggested word and press Return).
   - To change the word yourself, edit the word in the Word box and click Check to have the spelling checker verify the new spelling. If the word is okay, click Replace. If the word is not okay, ClarisWorks suggests a replacement.
   - To accept the word as is, click Skip. The spelling checker skips the word throughout the current spell-checking session.
   - If you've set up a user dictionary, click Learn to add the word to the dictionary.

   The spelling check continues until the end of the document is reached (or until you click Cancel).

When the check is complete, the Replace button changes to Done and the other buttons are dimmed.

If ClarisWorks finds no spelling errors, it tells you so in the status area at the bottom of the dialog box.

3. **Click Done to return to the document.**

Checking the Spelling of Selected Text

Checking the spelling of selected text is useful if you're working in a long document and don't want to run a complete spelling check. It's also a quick way to look up the spelling of a single word.

To check the spelling of selected text:

1. **Select the area or word you want to check.**
2. **Choose Spelling from the Edit menu, and Check Selection from the submenu.**

   You see the Spelling dialog box (shown in the previous section).
3. **Tell ClarisWorks what to do with the word by responding to the dialog box.**

   For more information on the options in this dialog box, see step 2 in the previous section.

Installing a Dictionary or Thesaurus

The ClarisWorks Installer places the Main Dictionary, User Dictionary, and Thesaurus in the Claris folder (in the System Folder), so they are available when ClarisWorks is running.

If you need to use different dictionaries, you can do so by *installing* the dictionaries. You can install and use two dictionaries with the ClarisWorks spelling checker: one Main Dictionary and one User Dictionary that you set up yourself. If you've already set up a User Dictionary in another Claris product, you can install and use that dictionary in ClarisWorks.

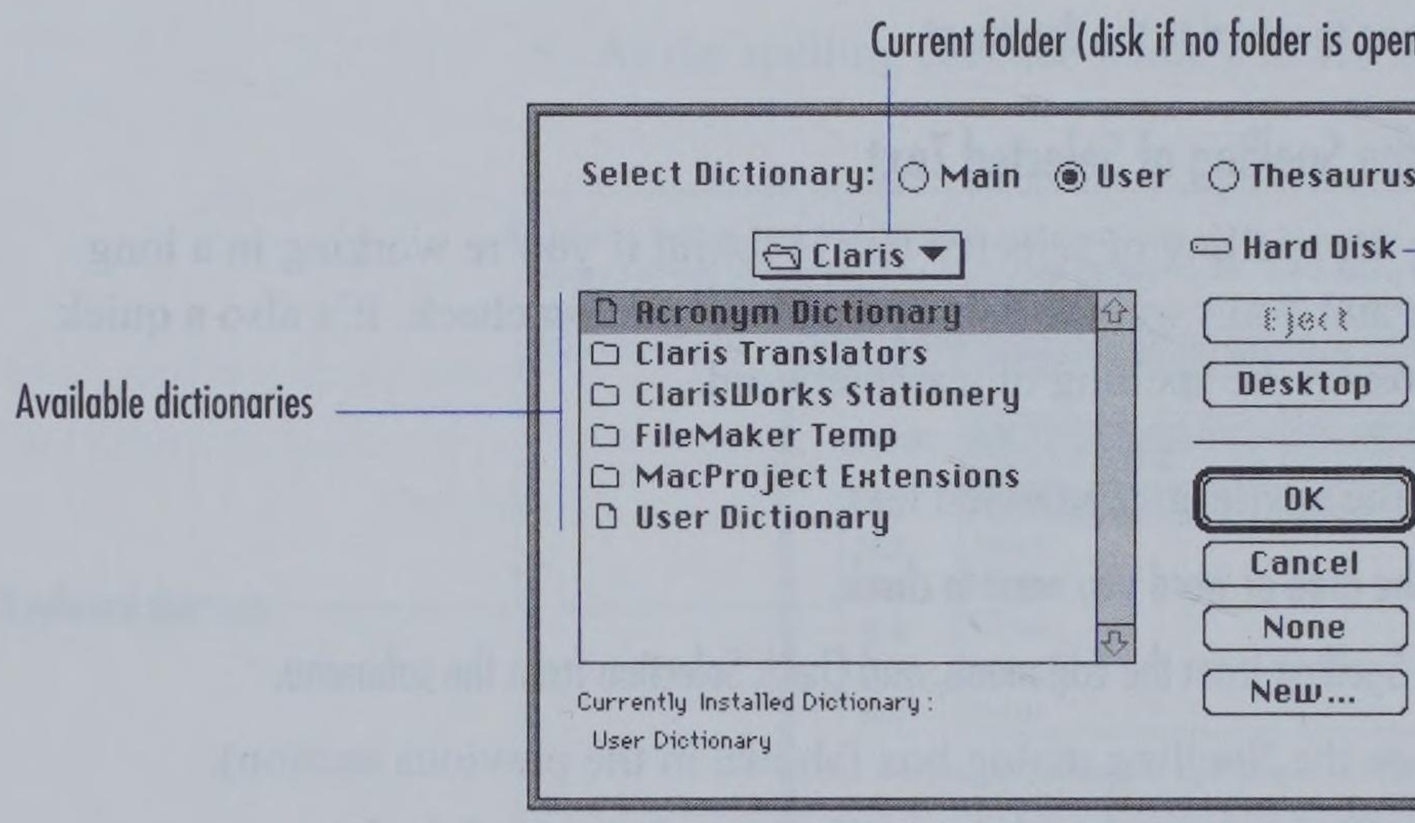
You can also install one thesaurus to look up synonyms for words in a ClarisWorks document.

Once you install a dictionary or thesaurus, you can use it with any ClarisWorks document. You won't need to run the installer again until you want to change a dictionary or thesaurus.

To install a dictionary or thesaurus:

1. Choose Spelling from the Edit menu, and Install Dictionaries from the submenu.

   You see the Install Dictionaries dialog box.



2. Click Main, User, or Thesaurus.

   The list of available dictionaries changes, depending on the button you select. You can use the scrolling list, the pop-up menu above the list, and the Eject and Drive buttons to locate the dictionary. Refer to the documentation that came with your Macintosh if you need help.

3. Select the dictionary or thesaurus name.
4. Click OK (or double-click the name) to return to the document.

Adding a User Dictionary

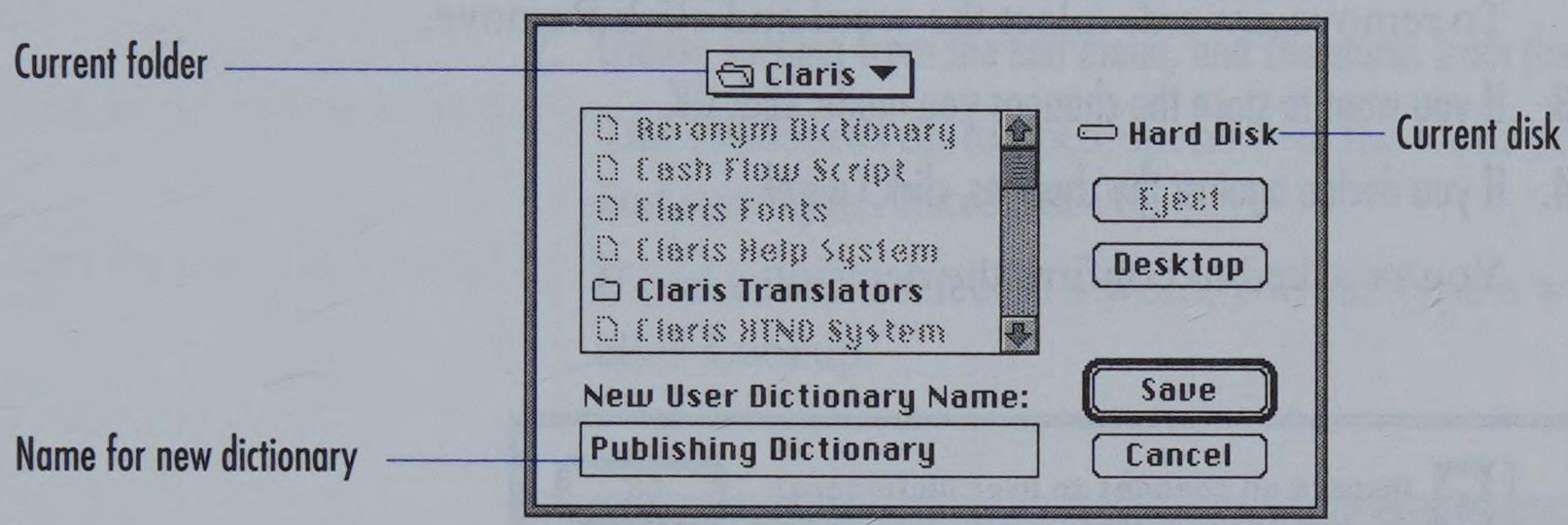
You may find a User Dictionary helpful if a document contains specialized terms or proper nouns that don't appear in the Main Dictionary. You can create several different user dictionaries, each containing a particular set of words you use frequently in your writing.

To add and install a User Dictionary:

1. Choose Spelling from the Edit menu, and Install Dictionaries from the submenu.

2. In the Install Dictionaries dialog box, click User and then click New.

   You see the New User Dictionary dialog box.



3. Type a name and click Save.

   The new User Dictionary is now ready for you to add entries.

◆ **Tip** When you name a User Dictionary, give it a logical name, such as "Engineering Dictionary" or "Customer Dictionary." Specific names help you recognize a dictionary later when you need to reinstall it.

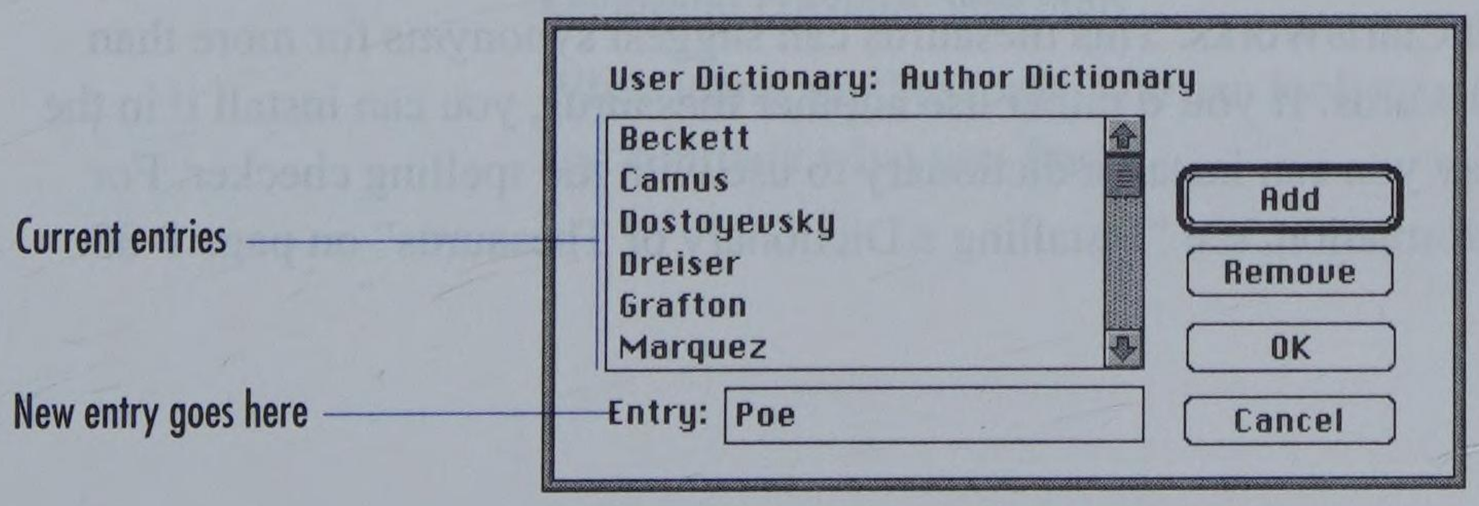
Working with a User Dictionary

Once you've created and installed a User Dictionary, you can keep it up to date by adding new terms, editing terms, teaching it words when you check spelling, or removing words from the current list.

To edit a User Dictionary:

1. Choose Spelling from the Edit menu, and User Dictionary from the submenu.

   You see the User Dictionary dialog box. Current entries are in the scrolling list.



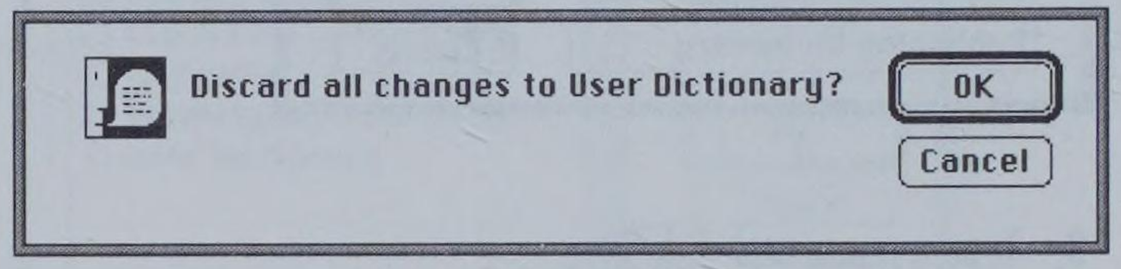
2. **Type a new word in the Entry text box and click Add.**

   To change an existing word, select the word in the list, click Remove, type the revised word in the Entry box, and then click Add.

   To remove a word, select the word and click Remove.

3. **If you want to store the changes you made, click OK.**
4. **If you decide against the changes, click Cancel.**

   You're asked to confirm the decision.



   Click Cancel to leave the User Dictionary as it was before you made changes.

To close a User Dictionary:

1. **Choose Spelling from the Edit menu, and Install Dictionaries from the submenu.**
2. **In the Install Dictionaries dialog box, click User.**
3. **Click None.**

   ClarisWorks closes the User Dictionary for the current session.

Finding Synonyms

When you're searching for precisely the right word, you can look up synonyms—words of similar meaning—in the onscreen thesaurus that comes with ClarisWorks. A **thesaurus** is a collection of words organized by synonyms.

If you did a complete install, the US English thesaurus was installed when you installed ClarisWorks. This thesaurus can suggest synonyms for more than 220,000 words. If you'd rather use another thesaurus, you can install it in the same way you can install a dictionary to use with the spelling checker. For more information, see "Installing a Dictionary or Thesaurus" on page 2-33.

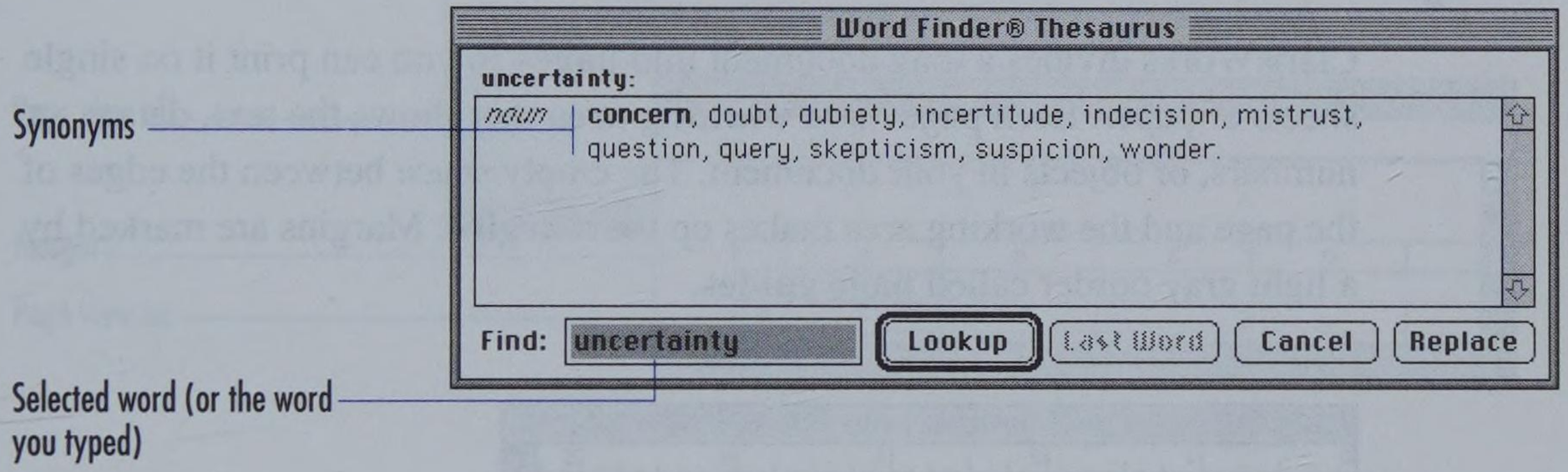
Looking Up a Word

To look up a word:

1. **Select the word in your document for which you want synonyms.**
2. **Choose Spelling from the Edit menu, and Thesaurus from the submenu.**

   The Thesaurus dialog box opens with the word you selected in the Find box and synonyms listed above.

   If you haven't selected a word, you can type a word in the Find box and click Lookup.



   The thesaurus sorts synonyms by parts of speech. The ∞ symbol indicates the start of a new chain of synonyms with a new or slightly different meaning. If the scroll bar is active, you can scroll to review more synonyms.

3. **If you don't see a word you like, select one of the synonyms and click Lookup to see more words.**
4. **When you find a word you like, click the word, and then click Replace (or double-click the word you want).**

   ClarisWorks replaces the original word and closes the dialog box.

Reviewing Previous Selections

When using the thesaurus, you can look up synonyms for more than one word and compare what you find.

To review previous selections:

1. In the Thesaurus dialog box, click Last Word.

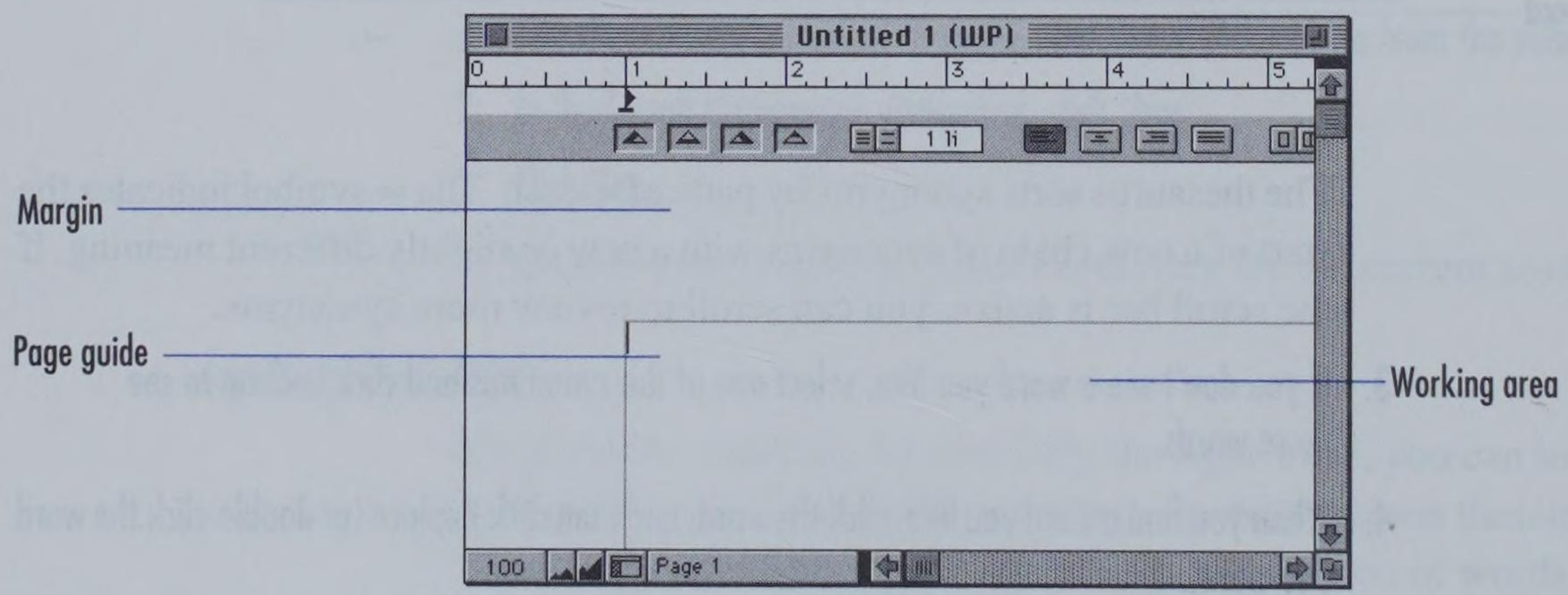
   The window lists the words (up to 10) you've most recently looked up since opening the dialog box.

2. Select a word from the list and click Lookup to review its synonyms (or double-click the word you want).

3. Click Cancel to close the dialog box when you've reviewed the synonyms, or select a word and click Replace.

Working with Pages

ClarisWorks divides a long document into **pages** so you can print it on single sheets of paper. Each page has a **working area** that shows the text, data, numbers, or objects in your document. The empty space between the edges of the page and the working area makes up the **margins**. Margins are marked by a light gray border called **page guides**.



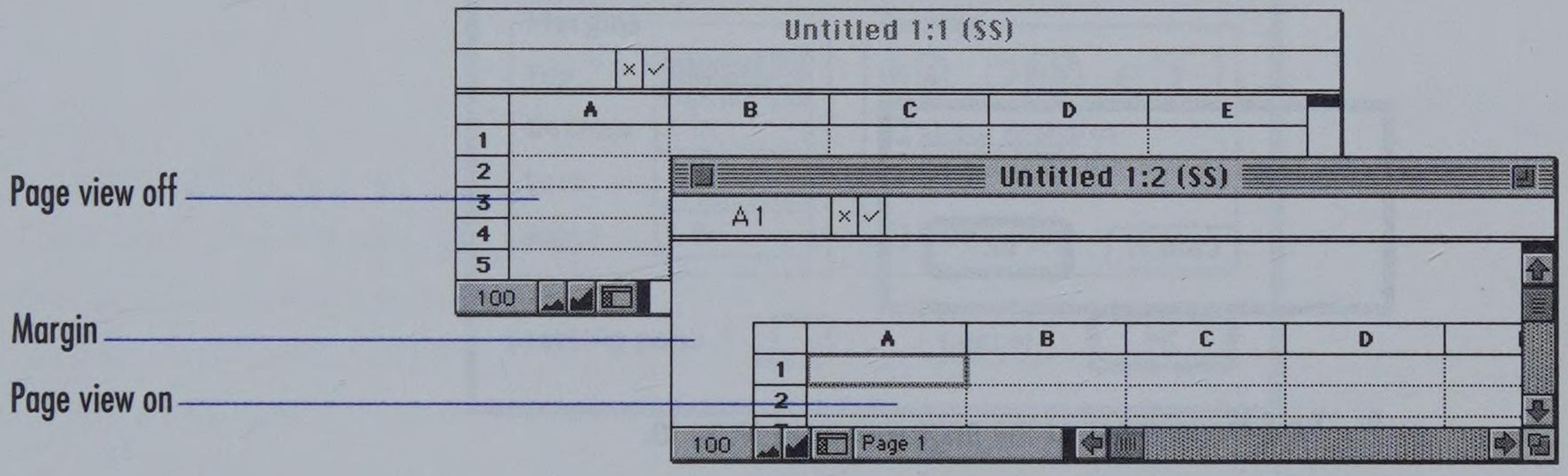
This section explains how to set margins, indentations, page and column breaks, and other elements that affect the working area of pages in a document.

- **Note** The preset page size is 8.5 inches wide by 11 inches tall. You can change the page size in the Page Setup dialog box. For more information, see "Preparing to Print" on page 2-11.

Viewing Pages

ClarisWorks can show the pages of a document exactly as they will print. This view of pages is called **page view.** In computer terms, a document in page view is **WYSIWYG:** What You See Is What You Get.

For example, a spreadsheet document looks different onscreen depending on whether you are looking at it in page view. In page view, you see the margins, headers, footers, and automatic page numbers, if any.



- **Note** In a database document, you can set ClarisWorks to close up gaps between pieces of information from separate fields or from empty fields. In this instance, the printed database does not exactly match what you see onscreen. For more information, see "Closing Up Space When You Print" in chapter 7.

To see a document in page view, choose Page View from the View menu. There is a checkmark beside the command when it is selected. To see more of a document's contents without the distraction of margins, choose Page View from View menu again. Switching off page view can be useful on a small screen.

- **Note** In a word processing document, the Page View command is dimmed because this type of document is always in page view. To hide margins and page guides, choose Document from the Format menu and deselect the Show Margins and Show Page Guides options.

Going to a Page

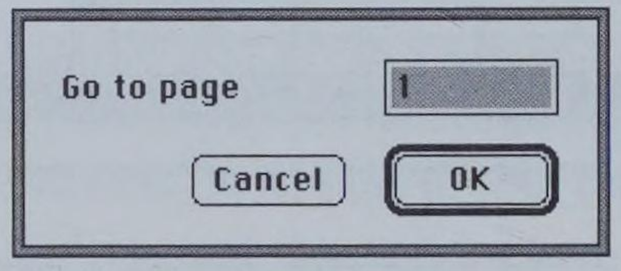
You can go directly to a page in your document without using the scroll bars. Doing so is useful when you know exactly where to find the information you want in a document—for instance, if you're entering changes from a printed copy of the document.



To go to a page:

1. **Double-click the page indicator.**

   You see the Go to page dialog box.



2. **Type the number of the page you want to go to.**

   ClarisWorks scrolls to the page.

Changing Page Settings

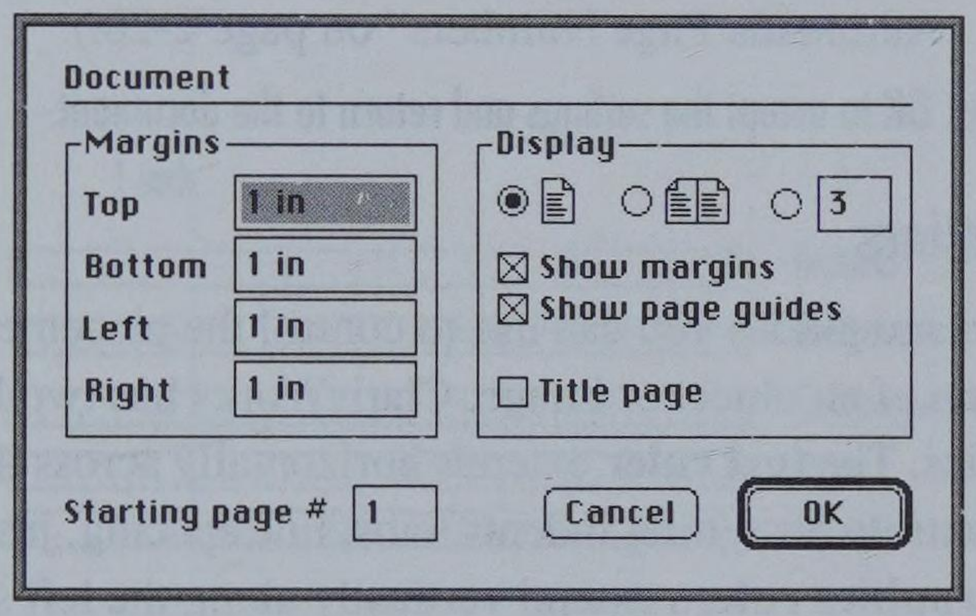
Each ClarisWorks document type has preset margins and display options. Some of the basic ways you can set up the working area of a page are by changing the margins and specifying how the working area of a page appears onscreen. For example, if you're using ClarisWorks to create a brochure, you can view two or three pages side by side to get an overview of your work.

You can change these and other page-related settings in the Document dialog box.

To change page settings:

1. **Choose Document from the Format menu.**

   You see the Document dialog box. The figure shows the dialog box for a word processing document. (This dialog box has different options, depending on what type of document you are in. Specific settings for other environments are covered in later chapters.)



2. **Type the margin widths you want in the margins boxes.**

   Use these abbreviations for the unit of measurement: in (inches), pt (points), p (picas), mm (millimeters), and cm (centimeters). If the unit of measurement you use doesn't match that of the document's ruler, ClarisWorks converts it for you. (For more information on units of measurement, see "Changing Ruler Settings" on page 2-42.)

3. **Change the other options if you want to.**

   - In word processing and database documents, you can change how pages flow onscreen. You can view pages top to bottom (scroll up or down), side by side (scroll right or left), or set a custom number of pages to show side by side before you must scroll up or down to see the rest.
   - Select Show margins to see the working area *and* the margins of your document. Deselect this option to see only the working area.
   - Select Show page guides to see a light gray border (page guides) around the document's working area. Deselect this option to hide the border.
   - Select Title page to print the first (title) page of a document without a header or footer. This option applies only to word processing and database documents.

- Type a value for Starting page # to start numbering pages with a number other than 1. You can use this option if you are using automatic page numbers and you divided a document into several documents that you want to print with consecutively numbered pages. You don't have to print the first document to determine its final page number. You can scroll through the pages on the screen to find the last page number and then change the starting number of the second document. (For more information on inserting automatic page numbers, see "Adding Automatic Page Numbers" on page 2-26.)

4. Click OK to accept the settings and return to the document.

Changing Ruler Settings

Rulers are guides you can use to control the placement of text or the size and position of an object or image. ClarisWorks has two kinds of rulers: text and graphics. The **text ruler** extends horizontally across the top of a document and has controls for setting indents, tabs, line spacing, justification, and columns. The **graphics rulers** extend vertically along the left side of a document and horizontally across the top. Graphics rulers don't have special controls.

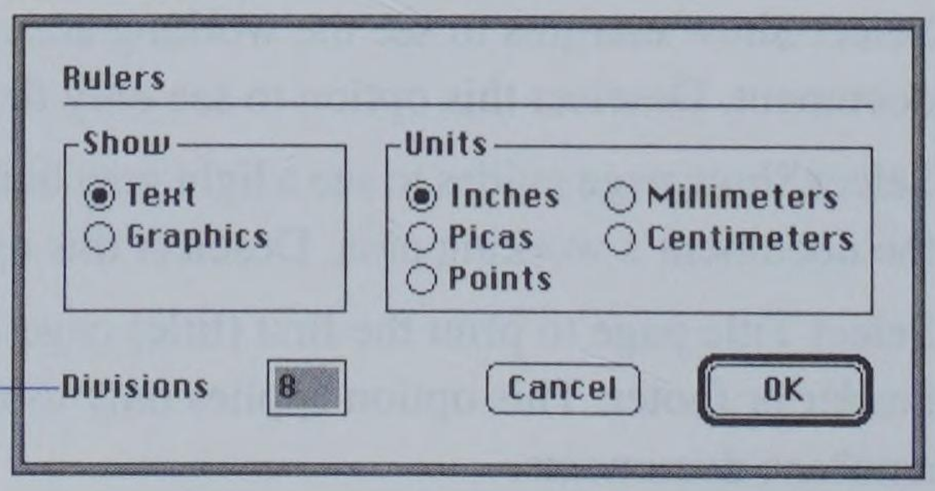
You can specify which kind of ruler to use in a document, and you can change the unit of measurement for the ruler as well as the number of Autogrid divisions per unit.

You can also show or hide rulers. For more information, see "Showing or Hiding Tools and Rulers" on page 2-47.

To change ruler settings:

1. Choose Rulers from the Format menu.

   You see the Rulers dialog box.

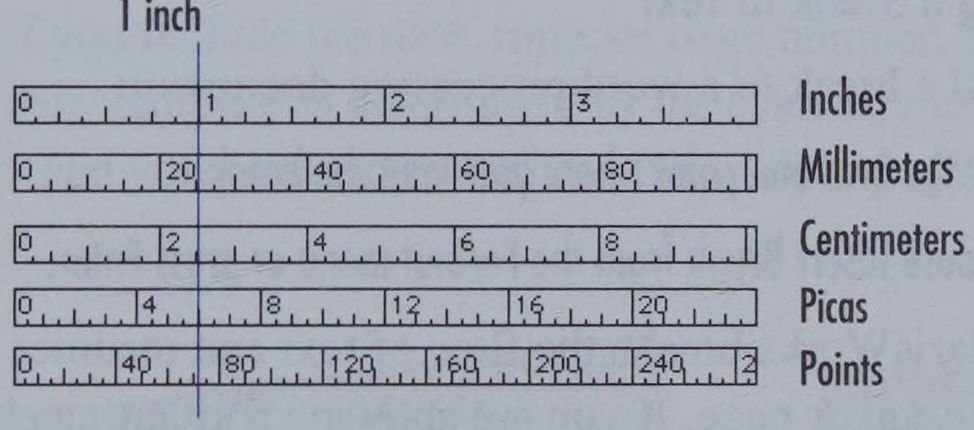


2. **In the Show area, click Text or Graphics to designate which of the rulers you want to set and show.**

   Text documents are preset to use a text ruler. Draw, paint, spreadsheet, and database documents are preset to use graphics rulers.

3. **From the Units area, select a unit of measurement.**

   The preset unit of measurement is inches. Points and picas are typographic measures. There are 72 points in an inch, and 6 picas (each 12 points) in an inch.



4. **Type the number of divisions you want (you can display up to 14), or leave the preset number as it is.**

   Divisions are invisible segments into which each unit of measurement is separated. You use divisions with the Autogrid to move and size items in a document or frame. For more information on the Autogrid, see "Arranging Objects" in chapter 4.

   The preset number of divisions in a text or graphics ruler is usually 8. In a paint document, it is 9; in a database document, it is 16.

5. **Click OK.**

   The ruler is reset to the new unit of measurement and number of Autogrid divisions.

For information on using controls on the text ruler, see chapter 3, "Working with Text."

Breaking Pages and Columns

As you add to a document, ClarisWorks breaks it into pages for you. If you are working with multiple columns of text, ClarisWorks flows the text from one column to the next for you.

You can change the point at which a page or column ends and the next one begins by inserting a break. In a word processing document, a break ends one column or page and begins another. In a spreadsheet document, a break applies only to pages.

Adding a Break to Text

To add a break to a word processing document:

1. Set the insertion point where you want the break.
2. Choose Insert Break from the Format menu or press Enter.

   ClarisWorks breaks the flow of text and resumes it at the top of the next column or page. If you are showing formatting characters in a word processing document, you see a break character. (For more information on showing formatting characters, see "Displaying Formatting Characters" on page 2-24.)

Adding a Break to a Spreadsheet

To add a page break to a spreadsheet:

1. Select the cell above and to the left of where you want the break.

   ClarisWorks forms pages at the column to the right of the cell you selected, and at the row below the cell you selected.

2. Choose Add Page Break from the Options menu.

   ClarisWorks marks the break with a dashed line.

Removing a Break from Text

To remove a break in a word processing document, click at the beginning of the line that follows the break and press Delete. Or, if you are showing formatting characters, you can delete the formatting character for the break. (For more information on showing formatting characters, see "Displaying Formatting Characters" on page 2-24.)

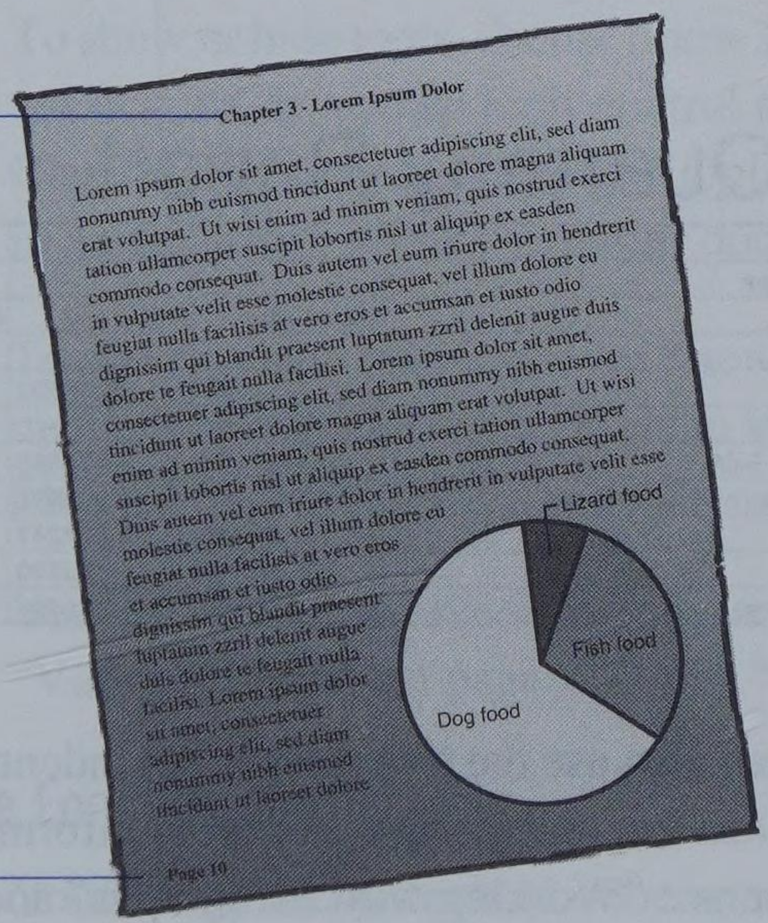
Removing a Break from a Spreadsheet

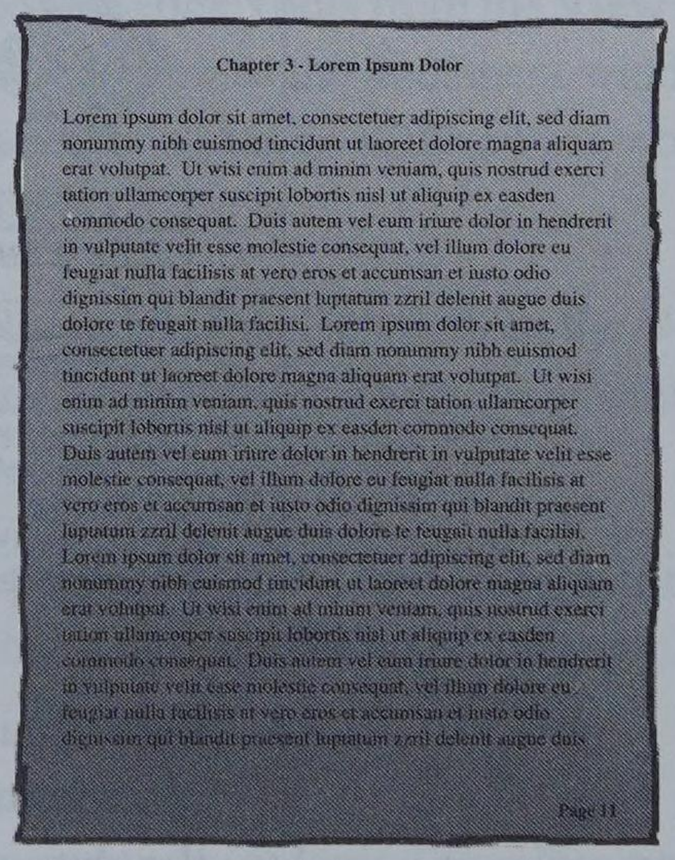
To remove a page break in a spreadsheet, click a cell immediately to the left of or above the break you want to remove and choose Remove Page Break from the Options menu. To remove all page breaks in a spreadsheet, choose Remove All Breaks from the Options menu.

Adding Headers and Footers

A **header** is a page element that repeats at the top of every printed page in a document. A **footer** repeats at the bottom of every page. You can include text, pictures, the current date and time, and the page number in headers and footers. If you include the date, time, or page number, ClarisWorks uses the current date and time as determined by the system, and it increments the page number when you print a document with multiple pages.

Headers repeat at the top of the page.





Footers repeat at the bottom.

Headers and footers each can occupy up to one-third of the height of the working area on a page.

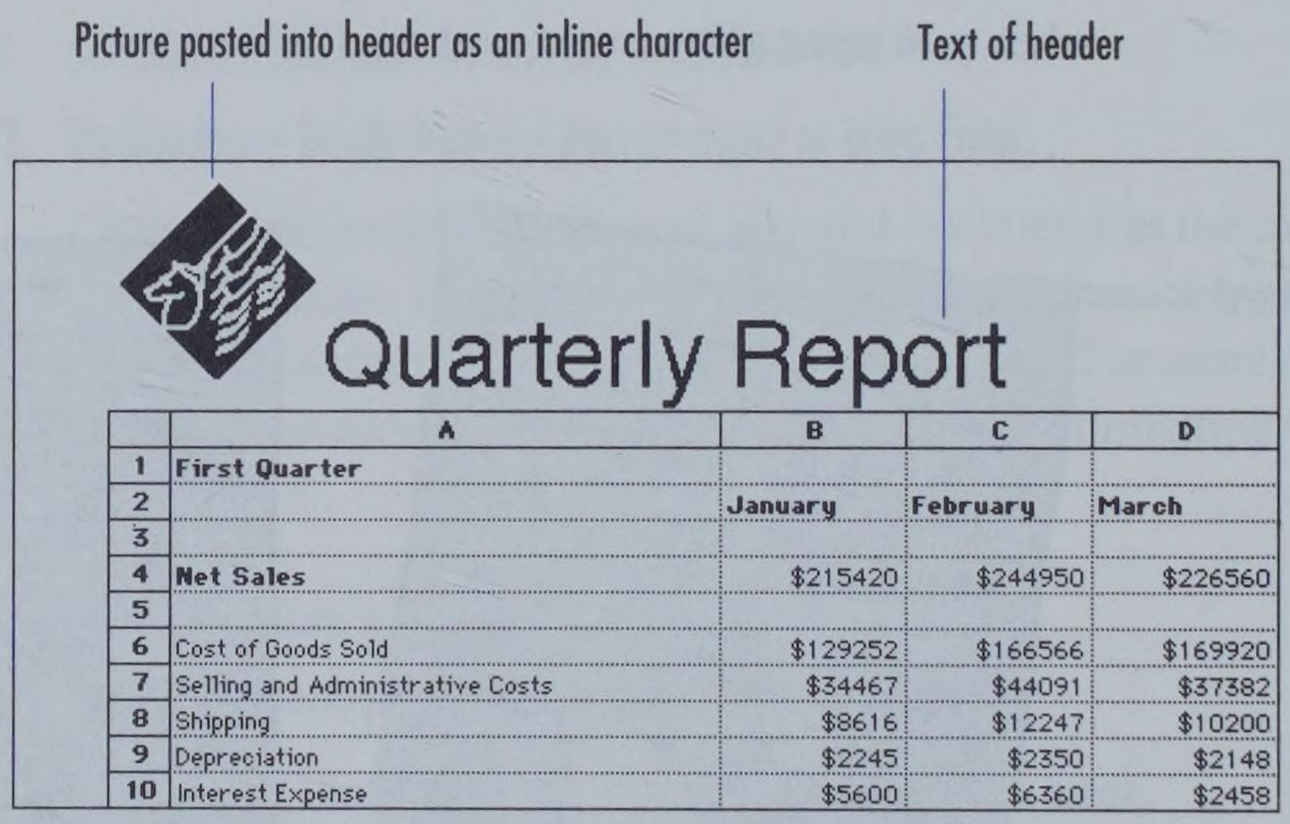
To add a header or footer:

1. **Choose Insert Header or Insert Footer from the Format menu.**

   The insertion point moves to the top or bottom of the page. A gray line marks the header or footer area.

2. **Type or paste the contents of the header or footer.**

   You can paste both text and pictures into headers and footers. You can also insert automatic page numbers, the date, and the time. (For more information, see "Adding Automatic Page Numbers" on page 2-26, "Adding Automatic Dates and Times" on page 2-27, and "Adding Pictures as Inline Characters" in chapter 3.)



	A	B	C	D
1	**First Quarter**			
2		**January**	**February**	**March**
3				
4	**Net Sales**	$215420	$244950	$226560
5				
6	Cost of Goods Sold	$129252	$166566	$169920
7	Selling and Administrative Costs	$34467	$44091	$37382
8	Shipping	$8616	$12247	$10200
9	Depreciation	$2245	$2350	$2148
10	Interest Expense	$5600	$6360	$2458

◆ **Note** You can also use the text ruler to set indentation, tabs, and line spacing for headers and footers. For more information on working with the text ruler, see "Working with Paragraphs" and "Working with Tab Markers" in chapter 3.

3. **Click anywhere else in the document or press Enter.**

   You see the header and footer on each page—on the screen and when you print.

Working with Document Windows

To make working with documents more convenient, ClarisWorks gives you several ways to customize your view of a document in a window.

This section explains how to show and hide parts of the window, rescale the contents of a document, set up multiple views of a document, view more than one part of a document at once, and quickly arrange several document windows on the screen.

Showing or Hiding Tools and Rulers

You can choose whether to show or hide the tool panel and text or graphics ruler in a ClarisWorks document. In database and communications documents, you can show or hide the status area. You must show these elements to use them. Hiding them gives you more working space in a document window.

To show or hide tools, choose Show Tools or Hide Tools from the View menu, or click the show/hide tools control at the bottom of the document window. ClarisWorks shows or hides the tool panel (or status area, if you are working in a database or communications document).

To show or hide rulers, choose Show Rulers or Hide Rulers from the View menu. A text document is preset to show the text ruler. Other documents are preset to hide the ruler.

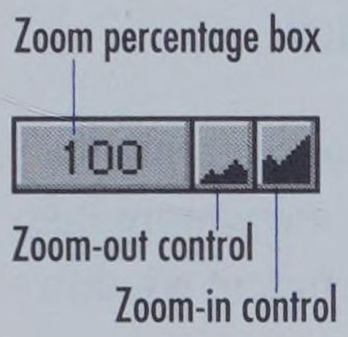
You can also show or hide margins and page guides. For more information, see "Viewing Pages" on page 2-39 and "Changing Page Settings" on page 2-40.

Rescaling the Contents of a Window

You rescale the contents of a document window by reducing or enlarging them. Reducing (zooming out) makes the contents look smaller, and you can see more of the document in the window. Enlarging (zooming in) gives you a closer view so you can work more effectively with fine details. Rescaling does not change the size of the window itself—just its contents.

- **Note** Rescaling a document in its window does not affect how the document prints. For more information on rescaling a document when you print it, see "Preparing to Print" on page 2-11.

Zooming In or Out



Using the zoom controls at the lower-left corner of the document window, you can reduce or enlarge a document's contents. The viewing scale currently in use shows in the zoom percentage box.

To reduce the document, click the zoom-out control. Clicking the control successively reduces the viewing scale by a preset value, to a minimum of 3.13 percent. Option-clicking the control reduces the scale by 50%.

To enlarge the document, click the zoom-in control. Clicking the control successively enlarges the viewing scale by a preset value, to a maximum of 3200 percent. Option-clicking the control doubles the enlargement.

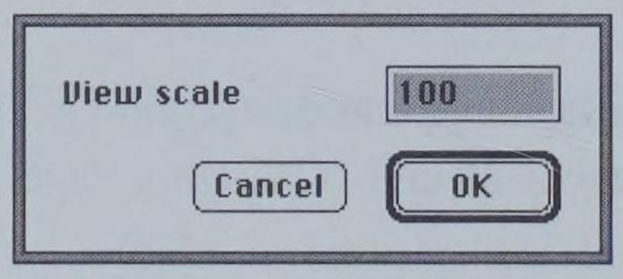
Setting a Custom Zoom Percentage

You can set a custom zoom percentage for more precise control over the viewing scale of a document.

To set a custom zoom percentage:

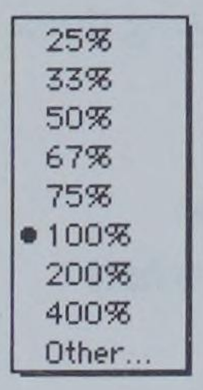
1. **Choose Other from the Zoom percentage pop-up menu. (Place the pointer over the zoom percentage box and hold down the mouse button to see the menu.)**

   You see the View scale dialog box.



2. **Type the percentage you want, and click OK.**

   ClarisWorks rescales the document as you specify.



Returning to Actual Size

To return a document to actual size (100 percent) from a zoomed view, choose 100% from the zoom percentage pop-up menu. (Place the pointer over the zoom percentage box and hold down the mouse button to see the menu.)

Working in Views

You can have more than one **view** of a document, so you can see different parts of the document at the same time. Each view is in its own document window, but the windows are all related—changes you make in a view also get made in the original document.

- **Tip** Multiple views are especially useful in database documents. For example, you can see the database in Layout view and in Browse view at the same time. When you make a change in Layout view, you also see that change in Browse view.

To open a new view, choose New View from the View menu. You see a new window for the document. Views are numbered consecutively from 1, in the order you create them.

To go to another view, choose the name of the window you want from the View menu. (Each view is listed at the bottom of the View menu.) Or, if you can see the window, click it. ClarisWorks activates the window and moves it to the "front" position on the screen.

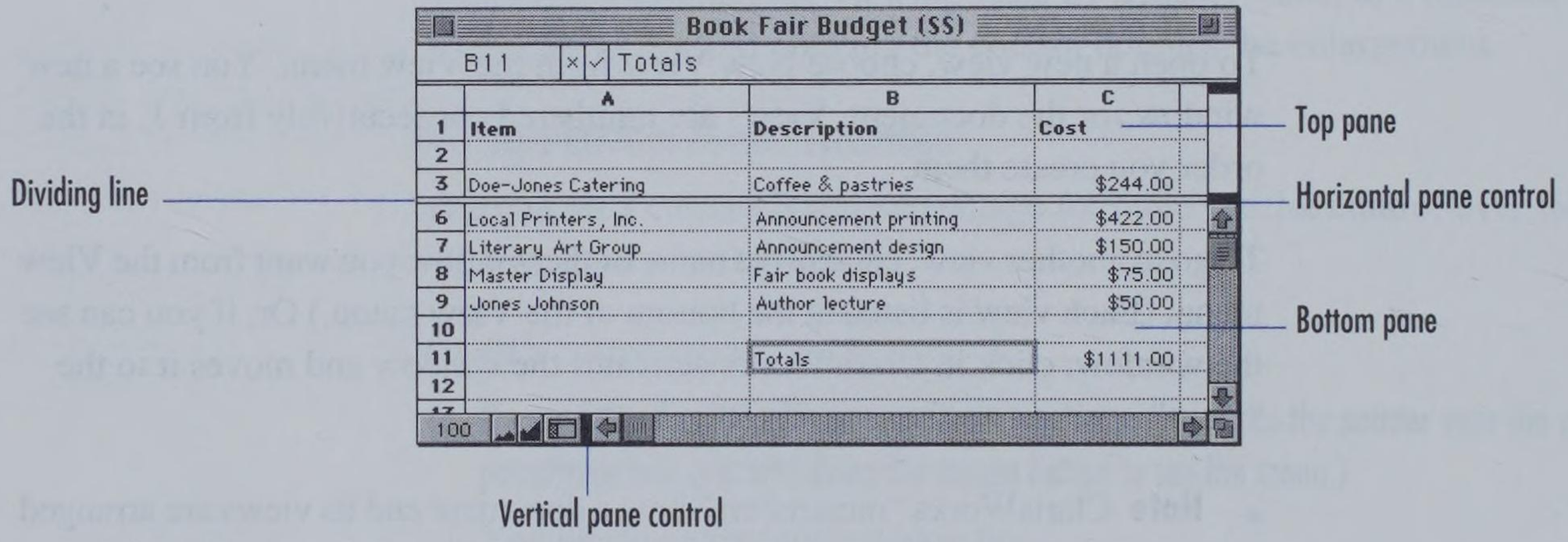
- **Note** ClarisWorks "remembers" how a document and its views are arranged onscreen each time you save. If you save and then close a document when other views of it are open, ClarisWorks saves the views with the document. You must close each view individually, though. If you make a change in one of the views and then save it, ClarisWorks considers that view to be the original document.

Dividing Windows into Panes

When you want to work with one section of a document while maintaining a fixed view of another section, you can divide a window into panes. **Panes** are similar to the panes in a house window. Beyond a house window, you see a single landscape, segmented by the window panes. When you segment a window into panes, you can see different parts of the same document in each section. This is different from opening a new view, where each new view is one complete window showing the document.

- **Tip** Dividing a window into panes is particularly useful in a large spreadsheet document, when calculations you make in one part of the document also affect other areas. Try dividing a spreadsheet window into panes so you can see more than one area at once.

To split a window into panes, drag the vertical or horizontal pane control. The window divides as you drag the dividing line. When you release the mouse button, you see two panes, each with its own set of scroll bars. You can use the scroll bars in the separate panes to bring the information you want into view.



To close panes, drag the vertical pane control all the way to the left, or the horizontal control all the way to the top (or drag the dividing lines) of the working area. The divisions disappear when you release the mouse button.

Arranging Windows

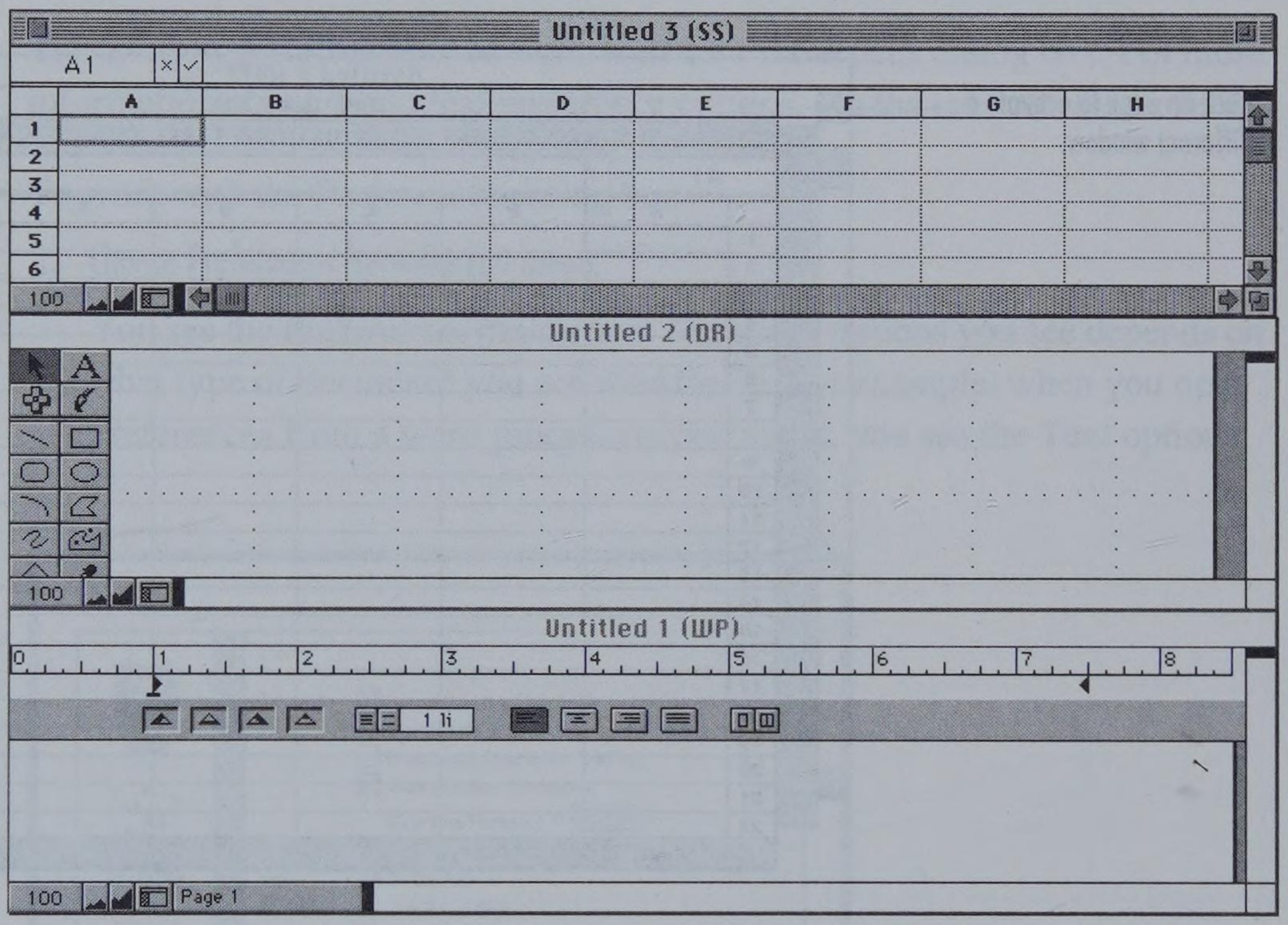
ClarisWorks can tile or stack open document windows so they are arranged neatly onscreen.

- **Tip** Tiling or stacking windows is especially useful when you are working with multiple views of a document. For more information on views, see "Working in Views" on page 2-49.

Tiling Windows

Tiling arranges open windows so they fill the screen and do not overlap. All the windows are the same size.

To tile windows top to bottom, as if in rows, choose Tile Windows from the View menu. ClarisWorks resizes the windows and arranges them to fill the screen.



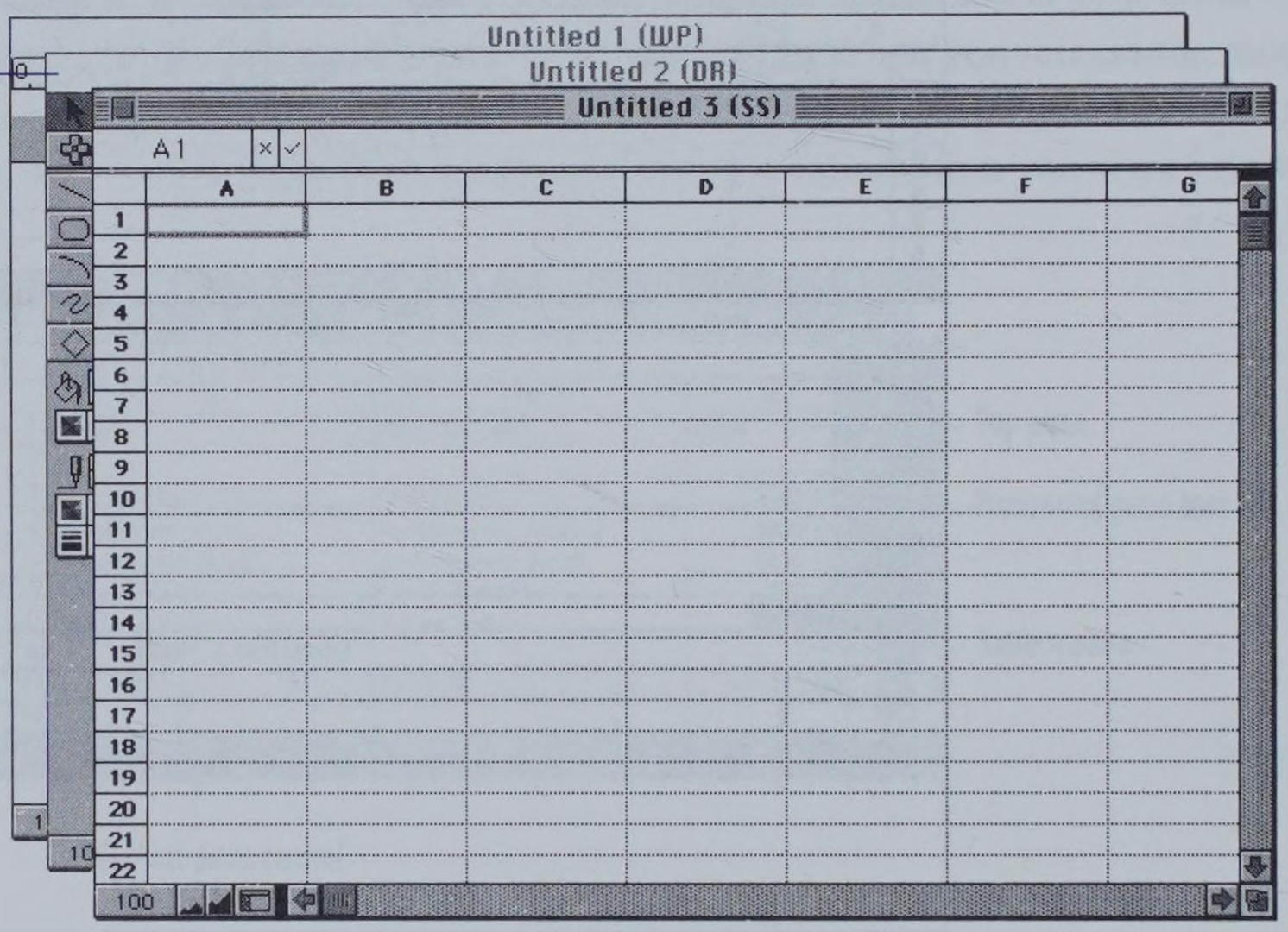
To tile windows side by side as if they were in columns, hold down the Option key as you choose Tile Windows from the View menu. The windows are arranged across the screen.

Stacking Windows

Stacking arranges open windows so they are layered one over the next, starting at the upper-left corner of the screen. All the windows are the same size.

To stack windows, choose Stack Windows from the View menu. The windows are arranged in a layer. The upper-left corner of each window stays visible, so you can always find a corner to click when you want to activate another document or view.

Click an edge to activate a different window.



Customizing a Document

ClarisWorks provides several ways you can customize how you work with documents. This section explains how to set preferences, use custom styles, and load a custom color palette.

Setting Preferences

ClarisWorks documents are set up so that you can immediately get to work using standard options for footnote numbering, date format, and other factors that affect whole documents. You may not need to change any of these options, but if you do, this section shows you how.

Using the Preferences Dialog Box

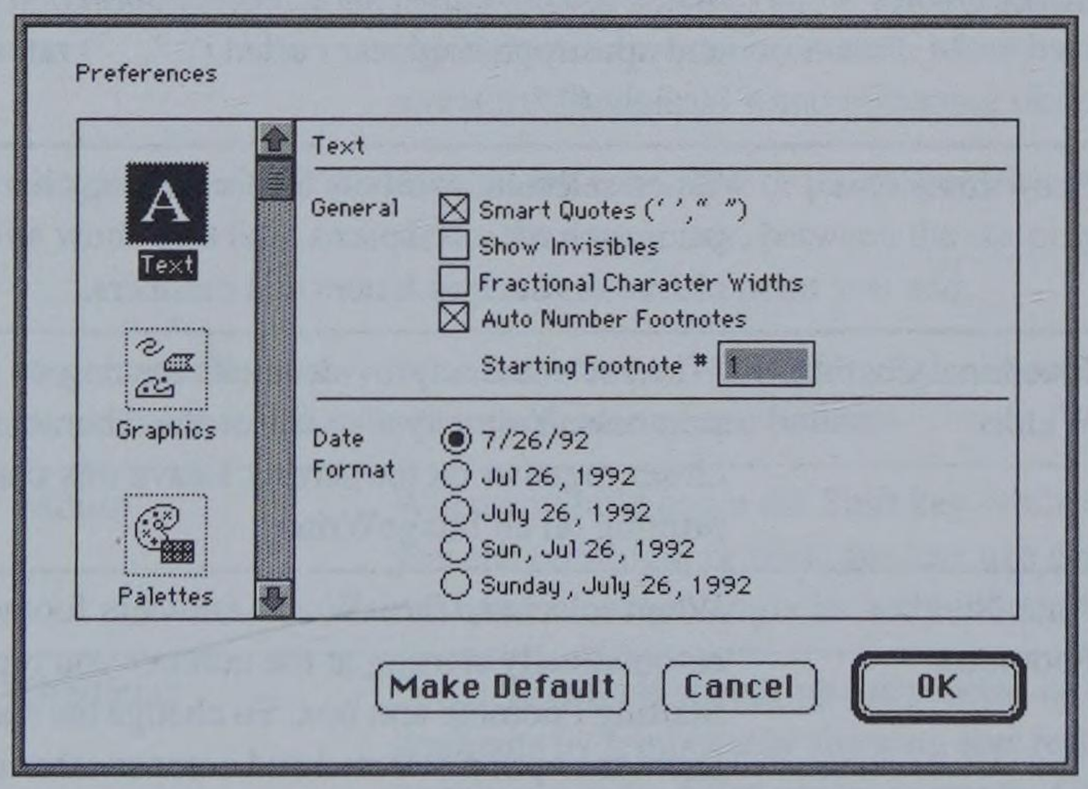
Many options for customizing ClarisWorks are in the Preferences dialog box. This dialog box has four sets of options that apply to different aspects of ClarisWorks: text, graphics, palettes, and communications.

This section describes how to work with the Preferences dialog box. For more information about individual preference options, see the sections that follow.

To work with the Preferences dialog box:

1. **Choose Preferences from the Edit menu.**

   You see the Preferences dialog box. The set of options you see depends on what type of document you are working in. For example, when you open Preferences from a word processing document, you see the Text options.



2. **To show a different set of options, select the appropriate icon in the scrolling area on the left side of the dialog box.**

   Use the scroll bar to bring other icons into view. When you select an icon, the options associated with it appear.

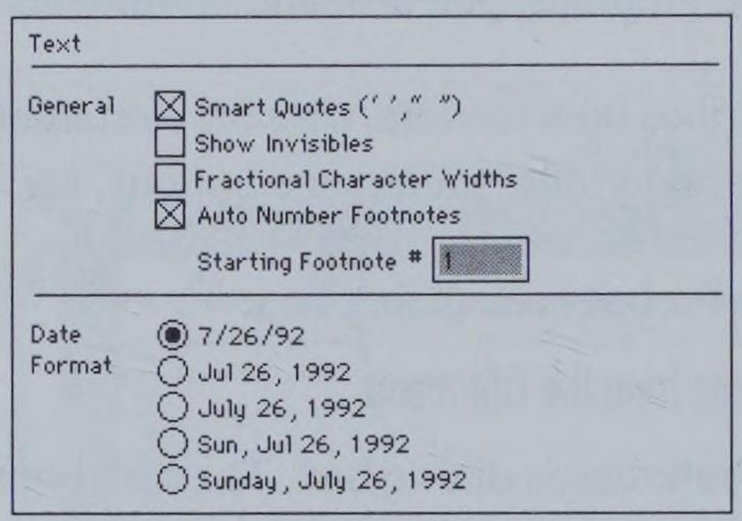
3. **Set the desired options. If you want to, you can select other icons and set other options.**

4. **Click OK when you are finished using the dialog box.**

   Doing so closes the Preferences dialog box and accepts all the changes you made.

About Text Preferences

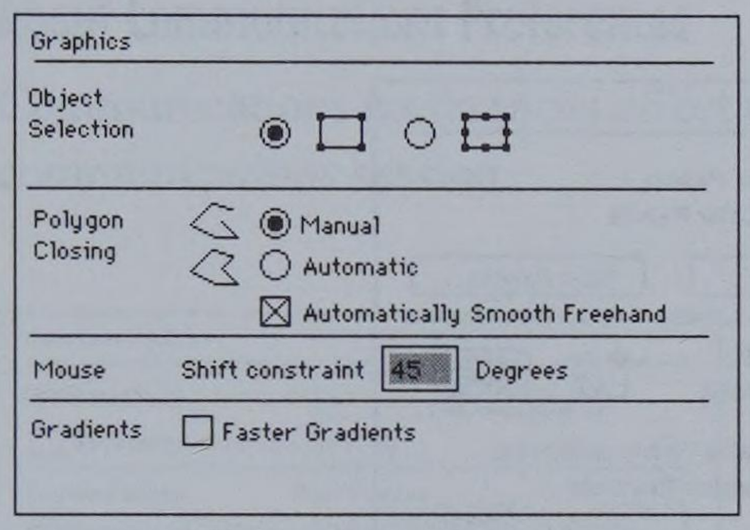
Text preferences affect the appearance of text in a document.



Option	Description	Preset
Smart Quotes	When selected, the characters for quotation marks and apostrophes appear curled (“ ”, ‘ ’) rather than straight (" ", ' ').	On
Show Invisibles	When selected, symbols for formatting characters such as paragraph returns, spaces, and tabs show with normal text characters such as letters and numbers.	Off
Fractional Character Widths	When selected, it provides finer spacing on LaserWriter printouts. You may also notice that characters appear closer together on the screen. Leave this option off when printing on an ImageWriter.	Off
Auto Number Footnotes	When selected, ClarisWorks numbers footnotes automatically starting at the number you type in the Starting Footnote text box. To change the starting number, leave the option selected and enter another number.	On
	When deselected, you must specify an identifying character to mark the footnote in the text of your document.	1
Date Format options	Select how the current date is formatted when you choose Insert Date from the Edit menu.	Short format (example: “3/31/93”)

About Graphics Preferences

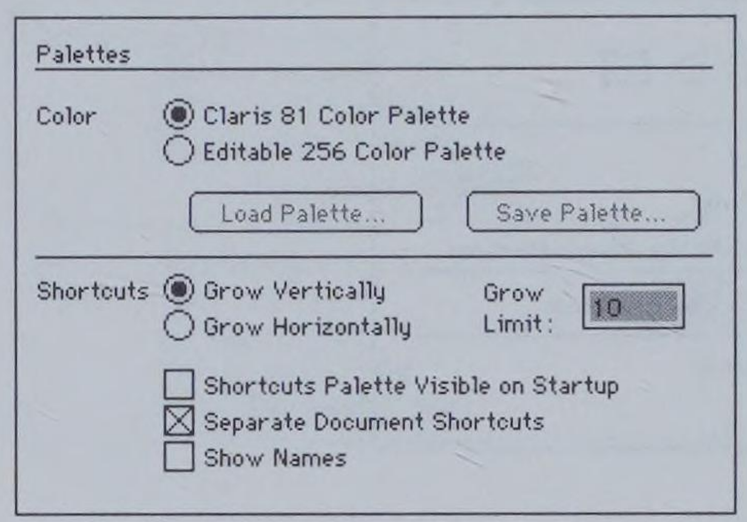
Graphics preferences affect your work in the draw and paint environments.



Option	Description	Preset
Object Selection	Set how many handles show when you select a frame or an object in the draw environment. More handles give you more precise control when reshaping objects.	One handle at each corner
Polygon Closing	Manual lets you draw or paint open objects. Automatic closes the gap, if any, between the starting point of a polygon and the last point you add.	Manual
Automatically Smooth Freehand	When selected, any curved lines you draw smooth out when you release the mouse button.	On
Mouse	When you hold down the Shift key while drawing a line, you can constrain, or limit, the line to a certain angle. You can enter a custom angle in the text box.	45 degrees
Gradients	Faster Gradients speeds up the process of displaying gradients by temporarily showing less refined color transitions in the filled object or image. Colors and shades may appear in bands rather than blending into one another. Otherwise, ClarisWorks blends colors and shades evenly for a smooth, refined appearance.	Off

About Palettes Preferences

Palettes preferences give you options for working with color palettes and the Shortcuts palette in a ClarisWorks document.

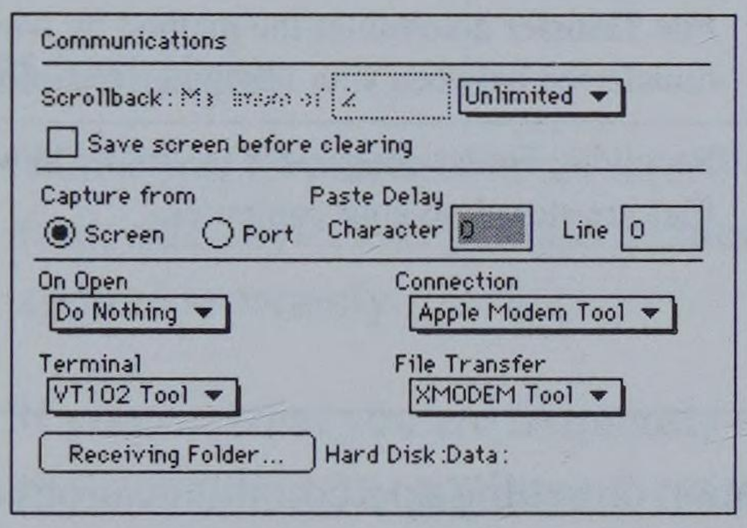


Option	Description	Preset
Color	Drawing and Text Colors is a collection of 81 standard colors for fill and pen. The Editable 256 Color Palette can be customized. Click Load Palette to use a custom color palette you've saved from another application, such as MacDraw Pro. Click Save Palette to save the editable 256-color palette as a separate file for use with another document or application.	81 Color palette
Shortcuts	Grow Vertically adds buttons from left to right in rows. Grow Horizontally adds buttons from top to bottom in columns. Enter a value in Grow Limit to determine the maximum width of a Shortcuts palette that grows vertically, or the maximum height of a Shortcuts palette that grows horizontally.	Grow Vertically, maximum 10 buttons across
Shortcuts Palette Visible on Startup	When selected, the Shortcuts palette shows when you start up ClarisWorks.	Off
Separate Document Shortcuts	When selected, the buttons that are available only in the current document are separated from buttons that are available in all ClarisWorks documents.	On
Show Names	When selected, the Shortcuts palette lists shortcuts by name instead of representing each shortcut by a button with a picture.	Off

- **Note** The 81-color palette does not show in the paint environment. Instead, you see the 256-color palette. For more information, see "In a New Paint Document" in chapter 5.

About Communications Preferences

Communications preferences affect the way you work during a communications session.



Option	Description	Preset
Scrollback	Scrollback determines how much data is stored in temporary memory during a communications session, up to a maximum of about 32,000 lines.	Unlimited
Save screen before clearing	Some information services send a full screen of information and then clear the screen before sending the next one. When selected, ClarisWorks saves what you can see on the screen when you receive a clear screen character from the remote computer or when you choose Clear Screen from the Session menu.	Off
Capture from	Select Screen to save data without formatting characters when you choose Capture to File from the Session menu. Select Port to save data with all characters intact when you choose Capture to File from the Session menu.	Screen
Paste Delay	Paste Delay slows the transmission of data from your computer to another computer, if that computer cannot receive the data fast enough. Set a value in 60ths of a second for a delay between sent characters or lines.	0 0

Option	Description	Preset
On Open	On Open determines whether you Connect, Wait for Connection, or Do Nothing after opening a communications document.	Do Nothing
Connection	Connection determines the method by which your computer connects to another computer.	Apple Modem Tool
Terminal	Terminal determines which terminal type your computer emulates.	VT102
File Transfer	File Transfer determines the method by which files are transferred between your computer and another computer.	XMODEM Tool
Receiving Folder	Receiving Folder determines the folder in which incoming files are stored on your computer.	The folder in which the ClarisWorks application is stored

For more information on setting up a communications document and conducting an online session, see chapter 9, "Working with Communications."

Resetting Default Preferences

The preset values shown in the previous tables are stored in the ClarisWorks Preferences file (in the Claris folder in your System Folder). Each time you create a document, the settings in the Preferences dialog box show these values.

You can change the preset values in the Preferences dialog box to a custom set of options. Changing the preset values updates the ClarisWorks Preferences file, so you see your custom settings whenever you create a document thereafter.

◆ **Note** If you open a ClarisWorks stationery document, ClarisWorks uses the preferences set for the stationery document rather than the preferences saved as defaults in the ClarisWorks Preferences file. For more information on stationery, see "Using Stationery to Automate Your Work" on page 2-20.

To change the preset values in the Preferences dialog box:

1. **Choose Preferences from the Edit menu.**

   You see the Preferences dialog box.

2. **Set the desired options.**

   If you need help navigating in the Preferences dialog box, see "Using the Preferences Dialog Box" on page 2-53. For more information on individual options, see the tables for each set of options earlier in this section.

3. **When you're finished setting options, click Make Default.**

   ClarisWorks resets the values in the ClarisWorks Preferences file.

4. **Click OK.**

Using Custom Text Styles

When you format text in a ClarisWorks document, you typically choose a font, size, style, and perhaps a color or shade of gray. Each format must be applied separately.

If you find that you are frequently using certain combinations of text formats in a document, try applying them with a single command. A **custom style** is a combination of text formats (font, size, style, color) that you set up as a single style.

Custom styles are especially useful for formatting long text documents like reports, where you can have several types of headings, captions for illustrations, or other special text you want to have a unique appearance.

- **Tip** Custom styles exist in the current document only. If you plan to reuse a particular text design more than once, try saving the custom styles in a stationery document. Doing so makes the custom styles available whenever you open a copy of the stationery. For more information on setting up stationery, see "Using Stationery to Automate Your Work" on page 2-20.

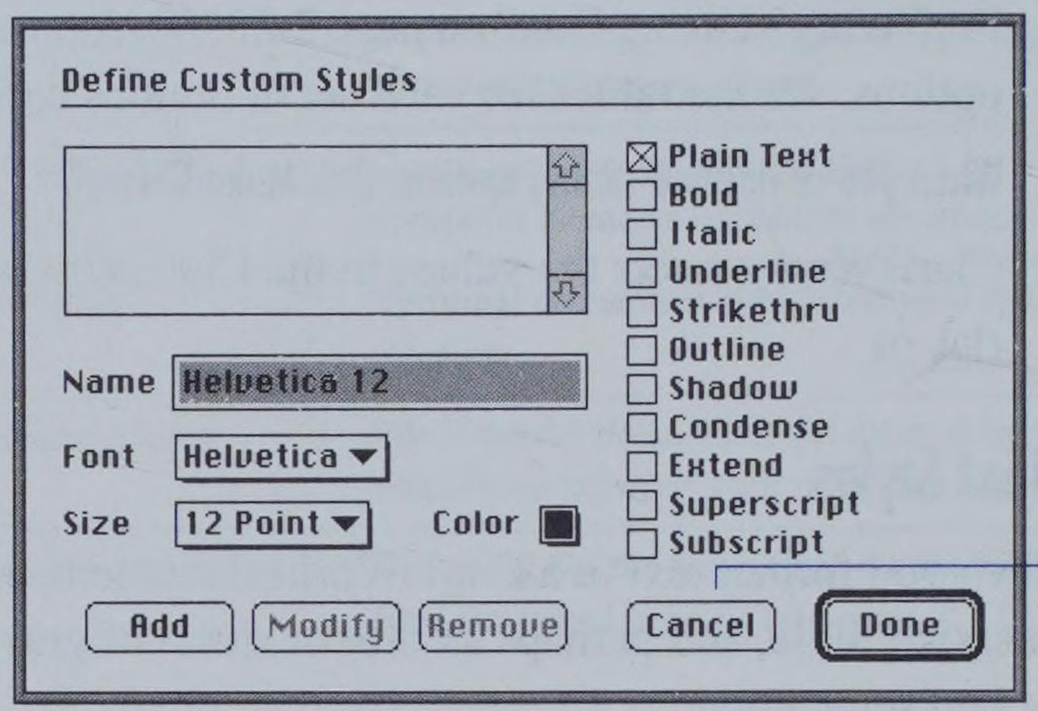
Adding a Custom Style

Before you can use a custom style, you must define it and add it to the list of available styles for the document.

To add a custom style:

1. **If you want to add a custom style that matches text you've already styled in the document, select the text.**
2. **From a word processing document or text frame, choose Define Styles from the Style menu. From another environment, choose Style from the Format menu, and Define Styles from the submenu.**

You see the Define Custom Styles dialog box.



3. **Type a name for the style in the Name text box.**

   If you don't type a new name, ClarisWorks uses the preset name (the current font and size) for the new custom style.

4. **If you are defining a new style, set formatting attributes for the custom style. If you are defining a custom style based on selected text, skip to the next step.**

   Choose a font and size from the Font and Size pop-up menus. Select one or more styles by clicking the appropriate checkboxes, or select Plain Text for unstyled text. Choose a color from the color palette.

5. **Click Add.**

   You see the name of the style in the scrolling list of styles. New styles are added to the bottom of the list.

6. **If you want to add more styles, repeat steps 3 through 5. If you are finished adding custom styles, go to the next step.**

7. **Click Done to close the Custom Styles dialog box.**

   The style (or styles) you defined are added to the bottom of the Style menu. The first nine styles are assigned Command-key equivalents so you can apply them from the keyboard.

For information on using a custom style after you've added it, see "Applying a Custom Style" on page 2-61.

Modifying a Custom Style

You can change a custom style after you've added it. You may find a change necessary if you are following special formatting requirements and they change, or if you don't like the way a custom style looks in your document.

- **Important** The changes you make to an existing custom style don't affect text you've already formatted in that style. To change styled text to the new custom style, you must select the text and reapply the modified style.

To modify a custom style:

1. From a word processing document or text frame, choose Define Styles from the Style menu. From another environment, choose Style from the Format menu, and Define Styles from the submenu.

   You see the Define Custom Styles dialog box (shown in the previous section).
2. From the list of custom styles, select the name of the style you want to change.

   Custom styles are arranged in the order in which they were defined.
3. Make the changes you want to make.

   You can choose a new font and size from the pop-up menus, a color from the palette, and a different combination of styles.
4. Click Modify to accept the changes.
5. If you want to modify another style, repeat steps 2 through 4. If you are finished modifying custom styles, go to the next step.
6. Click Done to close the Define Styles dialog box.

Applying a Custom Style

Applying a custom style reformats selected text using the settings that make up the custom style. You can apply only one custom style to selected text at a time; you cannot combine custom styles by applying one and then another to the same text.

To apply a custom style:

1. In the document or frame, select the text to which you want to apply a custom style.
2. Choose the custom style you want to use from the Style menu (or type its Command-key equivalent).

   ClarisWorks reformats the text.

Removing a Custom Style

Removing a custom style clears its name from the list of styles in the Define Styles dialog box and takes it off the Style menu.

To remove a custom style:

1. From a word processing document or text frame, choose Define Styles from the Style menu. From another environment, choose Style from the Format menu, and Define Styles from the submenu.

   You see the Define Custom Styles dialog box.

2. From the scrolling list of styles, select the name of the custom style you want to remove.
3. Click Remove.
4. Repeat steps 2 and 3 to continue removing custom styles.
5. When you are finished removing styles, click Done.

Setting the Color Palette

ClarisWorks comes with a standard 81-color palette and an editable 256-color palette. You can also share custom color palettes with other applications, such as MacDraw Pro.

The color palette you set affects the current document only. If you set a color palette when no documents are open, it becomes the preset color palette for all new ClarisWorks documents. You see the same set of colors when you use the Fill and Pen color palettes in a document.

This section explains how to set, load, and save 256-color palettes. For more information on editing the 256-color palette, see "Using the Color Editor" in chapter 4.

Setting the Color Palette Size

ClarisWorks is preset to use the 81-color palette in all environments except paint. If you need more colors, and you are running ClarisWorks on a system that supports at least 256 colors, you can reset the application to use an editable 256-color palette.

To set the color palette:

1. Open the document in which you want to use the custom color palette.

2. **Choose Preferences from the Edit menu and select the Palettes icon from the scrolling list.**

   If you need more information on using the Preferences dialog box, see "Setting Preferences" on page 2-52.

3. **Select Editable 256 Color Palette in the Color area.**
4. **Click OK.**

Sharing Color Palettes with Other Documents

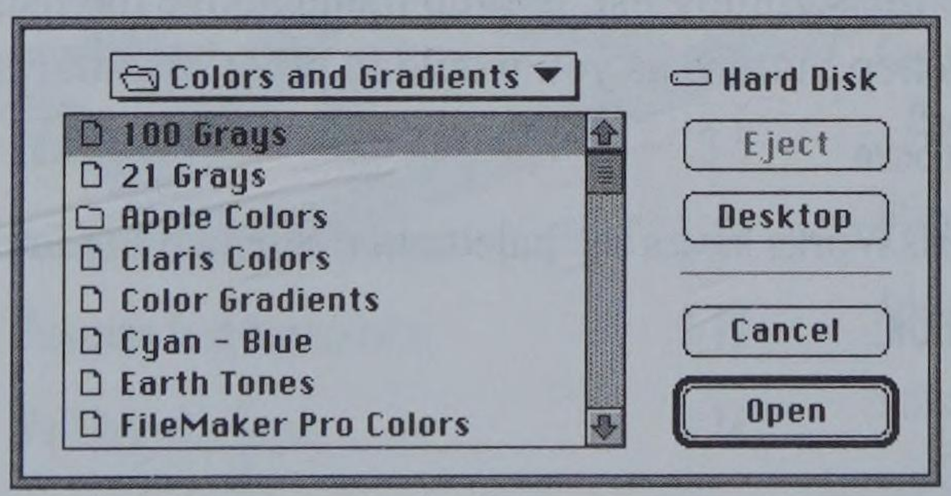
If you've customized a color palette in another document or application, you can load that custom palette into the current ClarisWorks document. You can also save a 256-color palette you've customized in ClarisWorks as a separate file so you can use it in another application.

Loading a Color Palette

To load a color palette:

1. **Choose Preferences from the Edit menu and select the Palettes icon from the scrolling list.**
2. **If necessary, select Editable 256 Color Palette.**
3. **Click Load Palette.**

   You see the Load Palette dialog box.



4. **Select the name of the color palette you want to use and click Open, or double-click the palette's name.**

   Use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons as you would in other Macintosh Open dialog boxes.

5. **Click OK.**

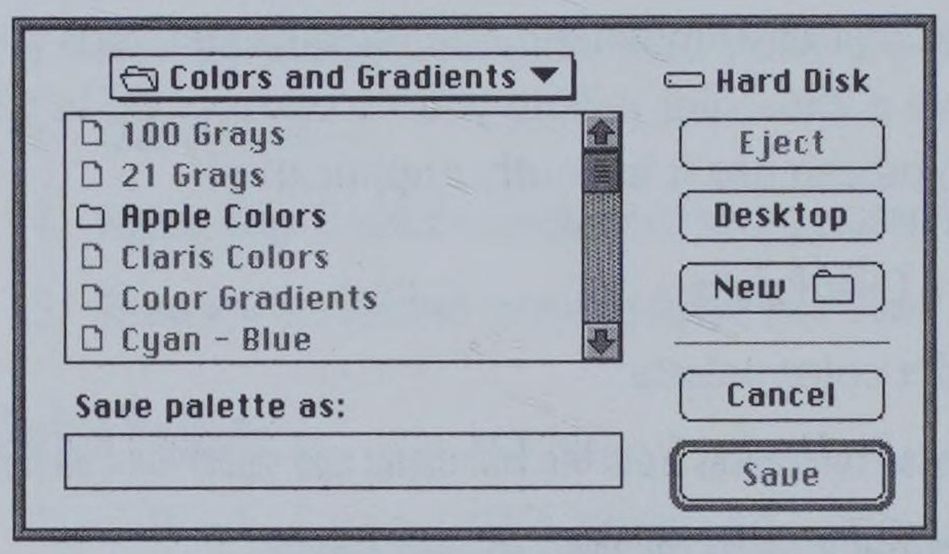
   The palette you selected becomes the color palette you see when you open a Fill or Pen color palette.

Saving a Color Palette

To save a color palette as a separate file:

1. Choose Preferences from the Edit menu and select the Palettes icon from the scrolling list.
2. If necessary, select Editable 256 Color Palette.
3. Click Save Palette.

   You see the Save Palette As dialog box.



4. Type a new name for the palette.
5. Open the folder in which you want to keep the palette.

   Use the scrolling list, pop-up menu above the list, and the Eject and Desktop buttons as you would in other Macintosh Save As dialog boxes.

6. Click Save.

   ClarisWorks saves the palette in a separate file in the location you specified.

7. Click OK.

Chapter 3

Working with Text

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Chapter 3

Working with Text

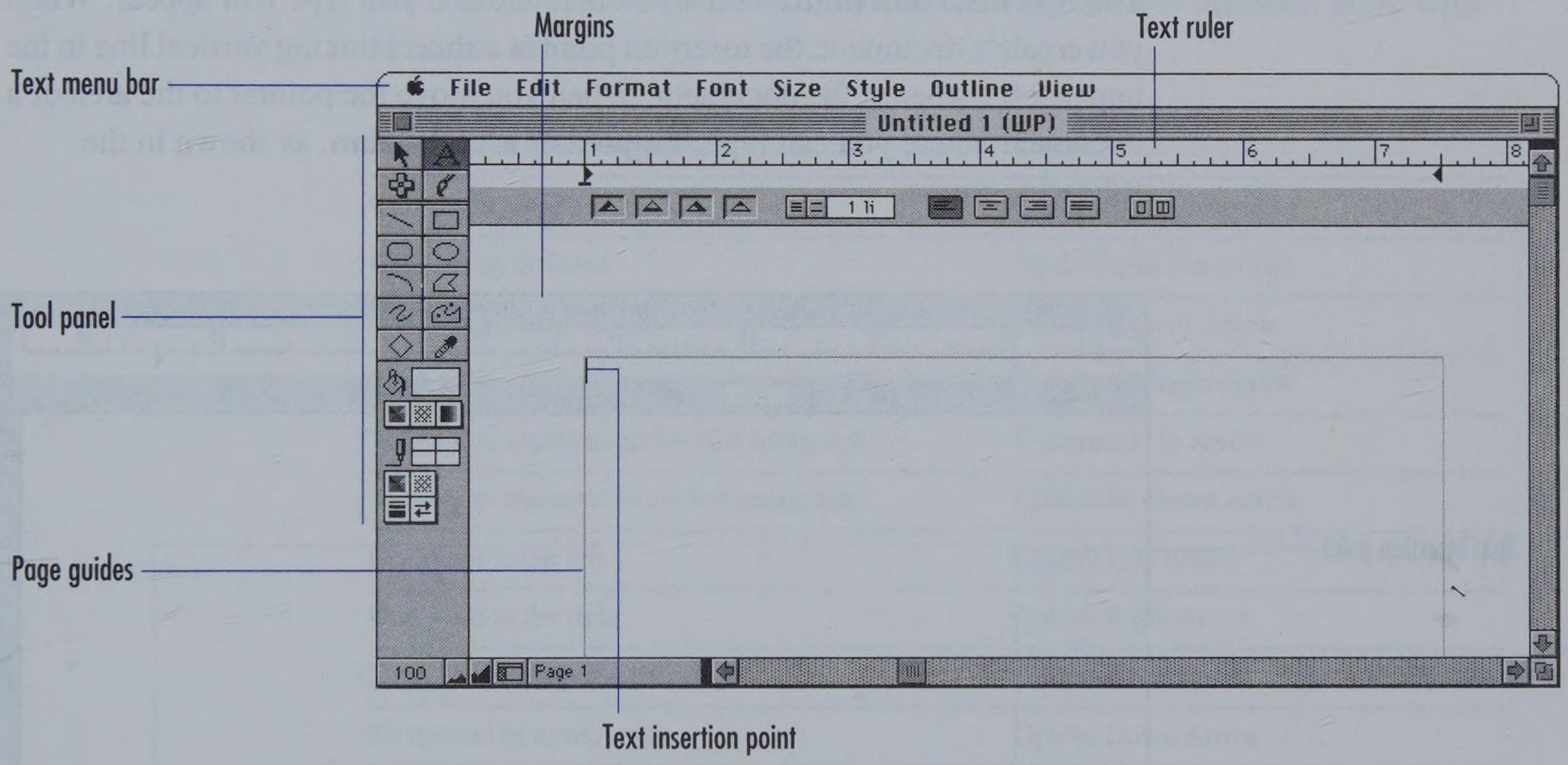
This chapter describes how to work with text in a ClarisWorks word processing document or text frame. The text environment has all the features you need to produce attractive, accurate, and professional documents—letters, academic papers, outlines, reports, articles, and other text-intensive pieces.

When you work with text, the page looks the same on the screen as it does when you print, except for screen elements such as page guides. When you change the size or style of type, you see the effects immediately. You don't have to guess how headings or tabs will look, or where lines or pages end.

- **Note** To learn how to create documents, see "Creating a Document" in chapter 2.

In a New Word Processing Document

When you first open a word processing document, you see the text insertion point in the upper-left corner of a blank page. See the following figure for an example of a new text window with the tool panel showing. The text menu bar shows the menus you can use in the word processing environment.



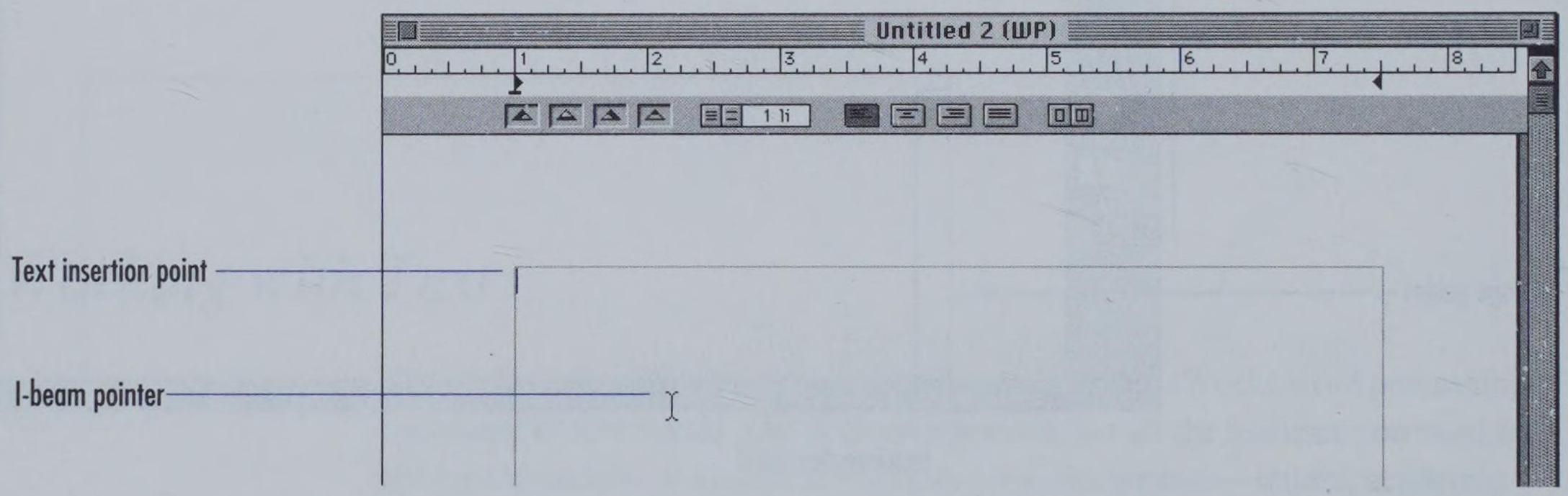
New ClarisWorks word processing documents have the following settings.

Document element	Setting
Page size	8.5 by 11 inches
Margins	1 inch from the top, bottom, left, and right sides
Line spacing	Single spacing
Font	12-point, plain Helvetica
Alignment	Left
Ruler measurement units	Inches

You can change these settings for a single document using the information in this chapter. You can also create stationery templates for documents that you use frequently. For more information on using stationery, see "Using Stationery to Automate Your Work" in chapter 2.

Entering Text

The **text insertion point** indicates where the text you type will appear. When you create a document, the insertion point is a short blinking vertical line in the upper-left corner of the document. When you move the pointer to the area of a document where you can type, the pointer is an **I-beam**, as shown in the following figure.



To create a paragraph, start typing at the insertion point. You don't need to press the Return key to end a line and begin a new one. When you reach the end of a line, the insertion point moves to the next line. This is called **word wrap**.

To end one paragraph and start another, press the Return key once to end the paragraph, and then once more to insert a blank line.

- **Important** When you press Return to start a new paragraph, the new paragraph uses the same formats (fonts, sizes, styles, and so forth) as the previous paragraph. See "Changing Text Appearance" on page 3-12 for more information.

Moving the Text Insertion Point

To edit or insert text in different parts of a window, you move the text insertion point with the mouse or the arrow keys. To type at a different spot in the text, click the mouse over some text, or use the arrow keys to position the insertion point. When you do this, the insertion point blinks at that spot in the text.

The following table shows shortcuts for moving the text insertion point with the arrow keys.

To move the insertion point...	Press...
One character left or right	Left or Right Arrow key
One line up or down	Up or Down Arrow key
To the beginning of a line	Command-Left Arrow
To the end of a line	Command-Right Arrow
To the first character in the first paragraph	Command-Up Arrow
To the last character in the last paragraph	Command-Down Arrow
One word to the left	Option-Left Arrow
One word to the right	Option-Right Arrow
To the beginning of a paragraph	Option-Up Arrow
To the end of a paragraph	Option-Down Arrow
Through a document continuously	Up or Down Arrow key

Revising Text

Revising a document with ClarisWorks is much easier than editing with a typewriter. For example, you can move an entire paragraph from one spot to another without retyping. If you find that you've moved the wrong paragraph, you can quickly undo your action.

Whenever you make a typing mistake, you can correct it by pressing the Delete key or the Backspace key. Each time you press one of these keys, you erase the last character you typed. After deleting, you can retype the text to correct the error.

- **Note** When you press the Delete or Backspace key, you remove text permanently, without placing a copy on the Clipboard. To put a copy of selected text on the Clipboard, select the text and choose Cut or Copy from the Edit menu. Keep in mind that when you use Cut or Copy, whatever you last placed on the Clipboard is replaced by the new selection that you cut or copy.

To undo an action, choose Undo from the Edit menu immediately after the mistaken action—before you type anything else. To go back to the original version, choose Redo from the Edit menu. Both the Undo and Redo commands reverse only your most recent action.

For other editing actions, first select the text you want to change, and then choose a command from the Edit menu or use a keyboard shortcut. For information on selecting text, see the next section, "Selecting Text."

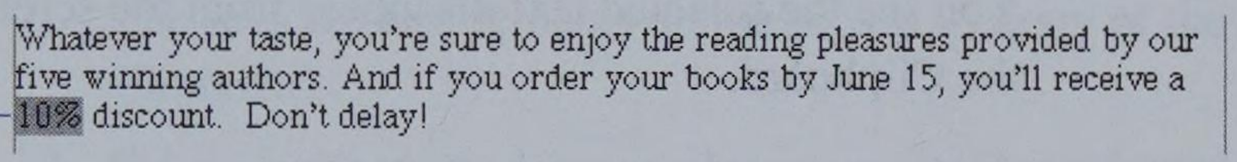
The following table summarizes the keyboard shortcuts you can use for editing a document.

To do this...	Press...	Or, on an extended keyboard, press...
Delete the previous character	Delete or Backspace	
Delete the next character		Del
Undo or redo your last action	Command-Z	F1
Cut a selection	Command-X	F2
Clear, or erase, a selection		Clear
Copy a selection	Command-C	F3
Paste a copy of a selection	Command-V	F4

Selecting Text

To make corrections or changes in your text, first select a block of text to identify what you want to change.

To select text, position the I-beam pointer next to the text you want to select and drag across it. You see the selected text highlighted, as shown in the following figure. You can now retype the text, or choose a command to change the text. If you press any key, you replace the selection.



Selected text ready for editing

The following table shows some shortcuts you can use to select text elements by clicking the mouse.

To select...	Do this...
A word	Double-click the word.
A line	Click three times in the line.
A paragraph	Click four times in the paragraph.
All the text in the current document or frame	Choose Select All from the Edit menu, or press Command-A.
An extended area of text	Place the insertion point, and then hold down the Shift key while pressing the Up or Down Arrow key.

◆ **Tip** To select a large block of text quickly, you can use a mouse technique called **shift-clicking**. To do this, click to place the insertion point at the start or end of the text you want to select. Hold down the Shift key, and then click at the other end of the text block.

Moving Text

You can select text and move it to another location in the document. Use the Cut and Paste commands or press the Command and Option keys and click in the new location.

To move text by cutting and pasting:

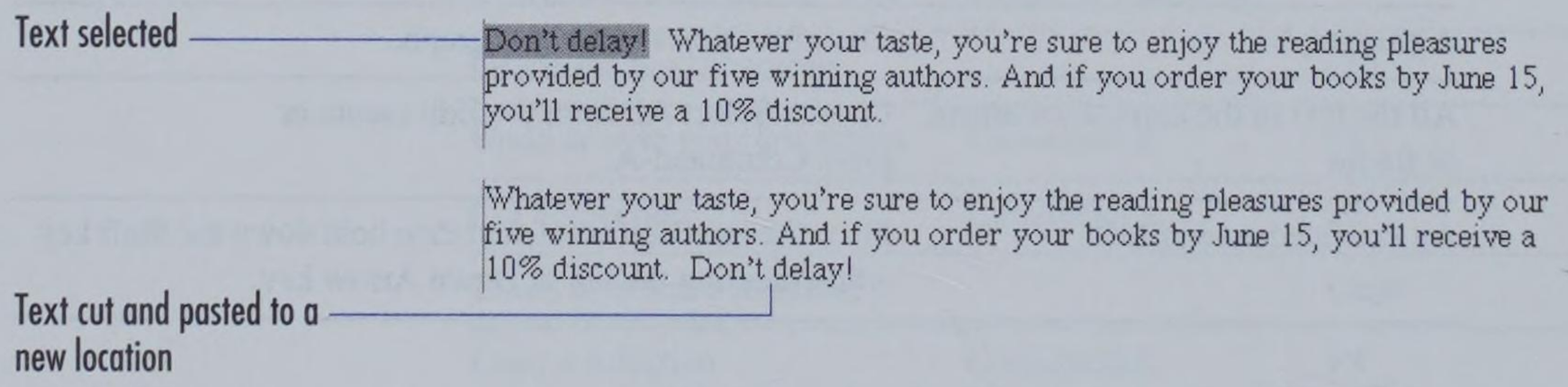
1. **Select the text you want to move.**
2. **Choose Cut from the Edit menu, or press Command-X.**

   You see the selected text disappear from the screen while it moves to the Clipboard.

   ◆ **Tip** If you want to check the contents of the Clipboard, choose Show Clipboard from the Edit menu. To close the Clipboard, click its close box.

3. **Set the insertion point where you want to move the text.**
4. **Choose Paste from the Edit menu or press Command-V.**

   The text appears in its new position at the insertion point, as shown in the following figure.



To move text directly:

1. **Select the text you want to move.**
2. **Place the pointer over the location where you want to move the text, and press the Command and Option keys while clicking the new location.**

   The text appears in its new position at the insertion point.

Copying Text

You can copy selected text and place as many copies as you want in different locations in the document or in another document. Each time you use the Copy command, the new selection replaces the previous contents of the Clipboard.

To copy text:

1. Select the text you want to copy.
2. Choose Copy from the Edit menu, or press Command-C.

   The selected text remains on the screen. A copy of the text moves to the Clipboard.
3. Click the location in the document where you want to insert the text.
4. Choose Paste from the Edit menu, or press Command-V.

   You see a copy of the contents of the Clipboard at the insertion point.

Deleting Text

When you delete text, you can either remove it permanently, or place a copy on the Clipboard to paste elsewhere in a document.

To remove text permanently:

1. Select the text you want to delete.
2. Press Delete or Backspace, or choose Clear from the Edit menu.

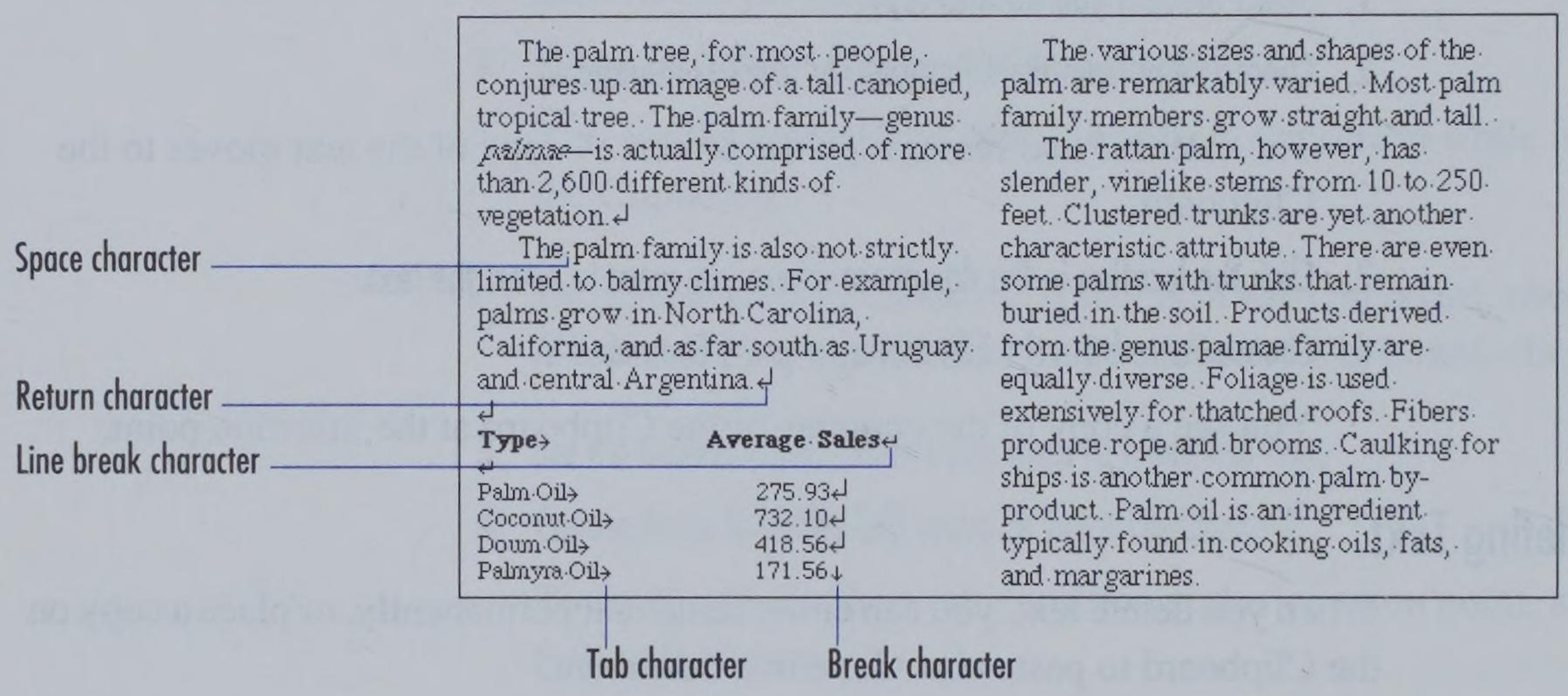
To remove text and retain a copy to paste elsewhere:

1. Select the text you want to remove.
2. Choose Cut from the Edit menu, or press Command-X.

   A copy of your selection moves to the Clipboard. You can now paste the text somewhere else.

Using Formatting Characters

Formatting characters are non-printing, "invisible" characters that change the format of your document. For example, when you press the Return key at the end of a paragraph, you insert a return character that moves the insertion point to the next line.



In a new ClarisWorks document, the formatting characters are invisible. You can view the characters for more precise control while editing. For example, if you accidentally insert an extra tab in numeric data, you can see the extra tab character and delete it.

The following table lists the ClarisWorks formatting characters, as well as the keys you press to enter each character. The table also lists the symbols you see if you have selected Show Invisibles in the Preferences dialog box.

To enter this formatting character...	Press...	You see this symbol...
Space	Space bar	·
Non-breaking space	Option-Space bar	·
Tab	Tab	→
Paragraph return	Return	↵
Line break (soft return)	Shift-Return	↵
Break (column or page)	Enter	↓

A space separates words and sentences from each other. A non-breaking space keeps two consecutive words on the same line. For example, you can keep a person's first and last name on the same line by typing a non-breaking space between the two words.

Paragraph returns separate one paragraph from another. You can end one line and start another line in the middle of a paragraph by inserting a **line break**, also called a **soft return**. For example, you can prevent a person's first and last names from splitting between two lines by inserting a line break before the first name. This moves both names to the beginning of the next line.

When you create a column or page break, you see a break formatting character. For more information on breaks, see "Setting Page and Column Breaks" on page 3-15. You can use tabs to format text in columns or tables. For more information on tabs, see "Working with Tab Markers" on page 3-28.

You can search for formatting characters in your document using the Find/Change dialog box. For example, you can search your text for places where you mistakenly typed two spaces after a period, and then replace the spaces with one space. For information about using Find/Change, see "Finding and Changing Information" in chapter 2. For information on setting preferences and showing formatting characters, see "Displaying Formatting Characters" in chapter 2.

To view formatting characters on your screen:

1. Choose Preferences from the Edit menu.
2. Click Show Invisibles in the Text area of the Preferences dialog box.
3. Accept the setting and close the dialog box by clicking OK.

You see the formatting characters in your document.

- **Tip** You can also press Command-; (semicolon) or click the Show/Hide Invisibles shortcut button to switch the display of formatting characters on or off. For more information on shortcuts see "About ClarisWorks Shortcuts" in chapter 8.

Changing Text Appearance

ClarisWorks text documents are preset to use the Helvetica font in a 12-point size and Plain Text style. You can create a format for your text, either before or after typing, by making choices from the Font, Size, and Style menus.

- **Tip** If you frequently use certain combinations of text formats, you can create custom styles. With custom styles, you can apply several formats at the same time. If you plan to use the same styles in several documents, you can save the styles in a stationery document. For information about text styles or stationery, see "Using Custom Text Styles" and "Using Stationery to Automate Your Work" in chapter 2.

About Fonts

A **font** is a collection of letters, numbers, punctuation marks, and other typographical symbols with a consistent appearance. Here are two examples.

The Helvetica font looks like this.

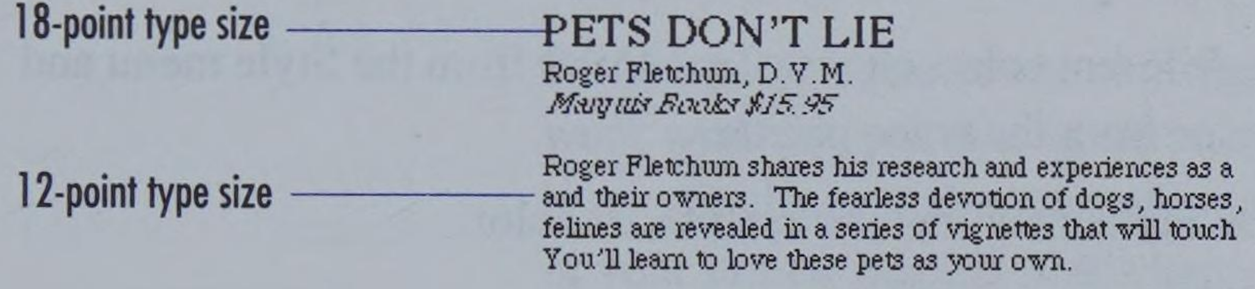
The Times font looks like this.

You can change fonts by selecting text, and then choosing a font in the Font menu. For instructions on installing additional fonts, see the documentation that came with your Macintosh.

About Type Sizes

Type **size** is measured in units called **points**. A point is a typographic unit of measure, equal to about 1/72 inch. To apply a type size to your text, select the text and either choose a size from the Size menu, or specify a custom size by choosing Other from the Size menu and typing the size you want.

Your document can have different type sizes for different purposes. For example, you can use an 18-point headline and 12-point body text as shown in the following figure.



About Type Styles

You can apply one or more type **styles** to your text to change the way text appears. After selecting text, you can choose from the styles in the Style menu, including Plain Text, Bold, Italic, Underline, Strike Thru, Outline, Shadow, Condense, Extend, Superscript, and Subscript. See the following figure for several examples of these styles.

The Italic style looks like this.
The Bold style looks like this.
~~The Strike Thru style looks like this.~~
The Outline style looks like this.

You can combine several styles to create special effects. For example, you can make text both bold and italic, and then add an underline. When you do this, checkmarks appear by the names of each of these styles in the Style menu. If you change the styles, the checkmark moves to reflect the new setting. To remove several styles at once, you can select the text, and then choose the Plain Text style.

You can also apply color to text. If you make presentations using a Macintosh with a color monitor, changing the text color—using red for headlines, for example—can make a dramatic impact. To print text in color, you need a color printer. For more information on printing, see "Printing Your Work" in chapter 2.

To change the font, size, style, or color of text:

1. Select the text you want to change, or position the insertion point and click where you want to begin typing text with the new settings.
2. Choose the new text settings from the Font, Size, or Style menu.

   To make text a different color, choose Text Color from the Style menu and then select a color from the color palette.

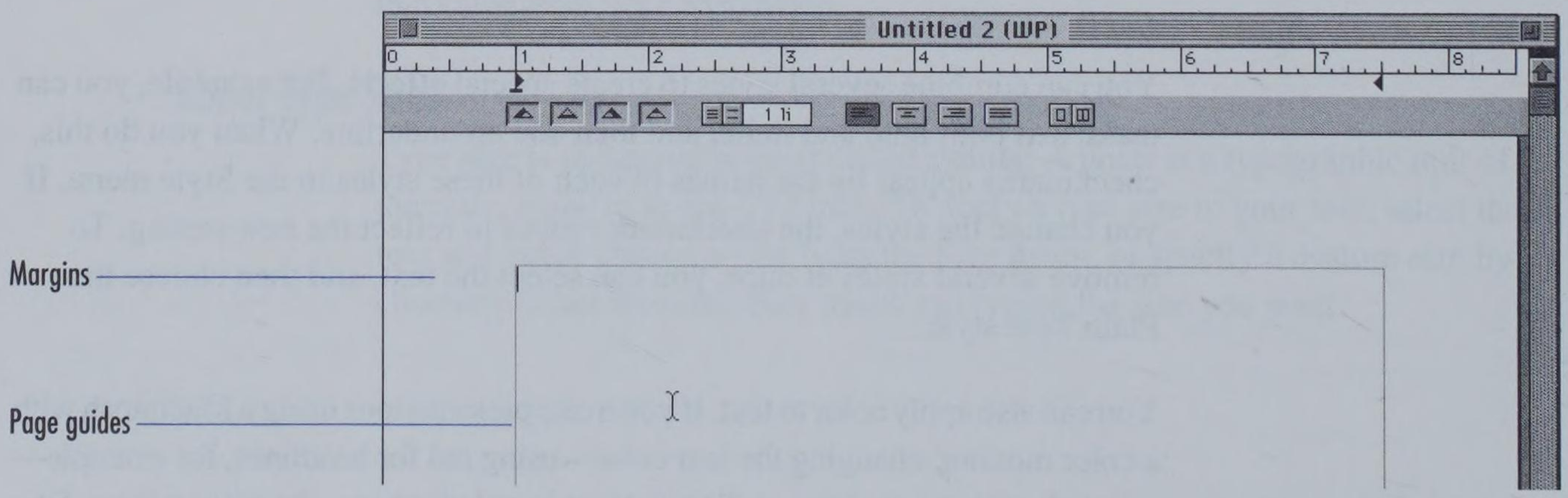
   You see the text in the new font, size, style, or color.

Working with Pages

Working with pages in the text environment is similar to working with pages in other ClarisWorks environments. You can find general information on setting margins, indentation, and breaks in "Working with Pages" in chapter 2. See the following paragraphs for information that applies only to working with pages of text.

Understanding Margins

ClarisWorks documents are preset to show a border around the printable area of the page, as shown in the next figure. The border, called a **page guide,** appears on the screen, but doesn't print. Around the gray page guides you see the **margins**—the blank edges of the page.



If you're working on a small-screen Macintosh, you can hide margins to see more of a document. Or, you can hide page guides to get a preview of the printed document. Showing or hiding margins and page guides changes the way the page looks on the screen, but not the way the page prints.

By changing the positions of margins, you can change the size of the page you work with. It's possible to set margins so that some information on your page is outside the printable area of your printer. Check the built-in margin settings in your printer manual if this happens. For more information on changing margins or the printable area, see "Changing Page Settings" in chapter 2.

Viewing and Printing Pages

With ClarisWorks, you can view your text from different perspectives. To see how facing pages will look when printed, you can view two pages next to each other. Or, you can use the zoom controls to see an entire page or to enlarge details. For more information on working with pages, see "Working with Document Windows" in chapter 2.

If you have a very large document, you can divide it into several smaller documents. When you print the small documents, you can number pages sequentially by changing the starting page number. You can also set up a title page without headers or footers. For information about page numbering and headers and footers, see "Changing Page Settings" and "Adding Headers and Footers" in chapter 2.

Setting Page and Column Breaks

ClarisWorks creates page or column breaks whenever text reaches the bottom of a column or page. If you want to end the page or column before it fills up, you can create your own break at the insertion point.

When you do so, ClarisWorks inserts an "invisible" formatting character for the break. If your page contains only one column of text, the insertion point moves to the top of the next page. If your page has two or more columns, the insertion point moves to the top of the next column. For more information about using columns, see the next section, "Working with Columns."

To set a page or column break:

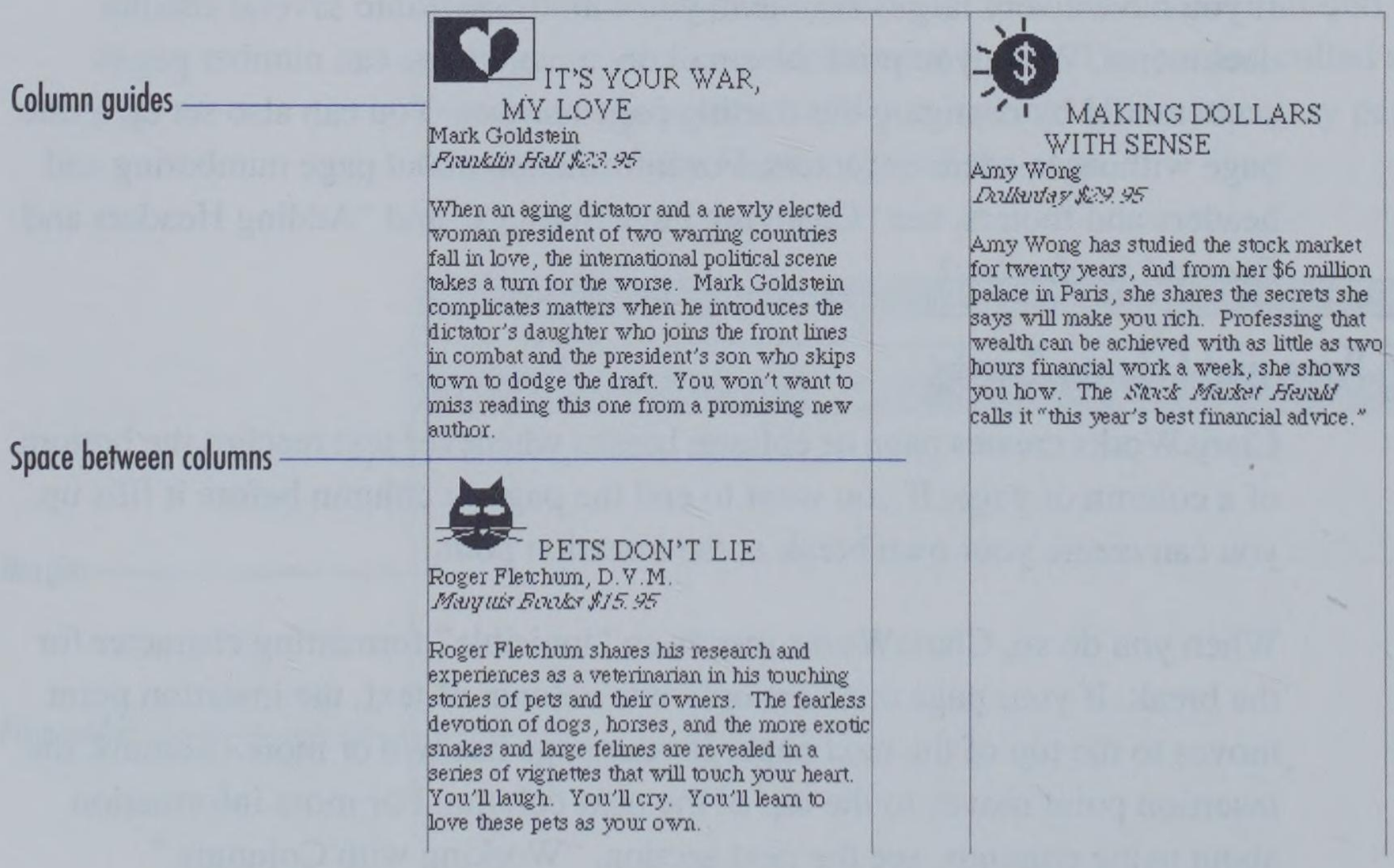
1. Set the insertion point where you want the break to occur.
2. Choose Insert Break from the Format menu or press the Enter key.

   The insertion point moves to the top of the next column or page.

You can remove a break by deleting its formatting character. To do so, set the insertion point in front of the line following the break, and then press the Delete or Backspace key. Or, you can select the break character and delete it. For more information about working with formatting characters, see "Using Formatting Characters" on page 3-10 and "Displaying Formatting Characters" in chapter 2.

Working with Columns

When you open a ClarisWorks document, the page contains a single text column. You can add more columns throughout your document using either the column controls in the ruler or the Columns dialog box. The following figure shows an example of two columns.

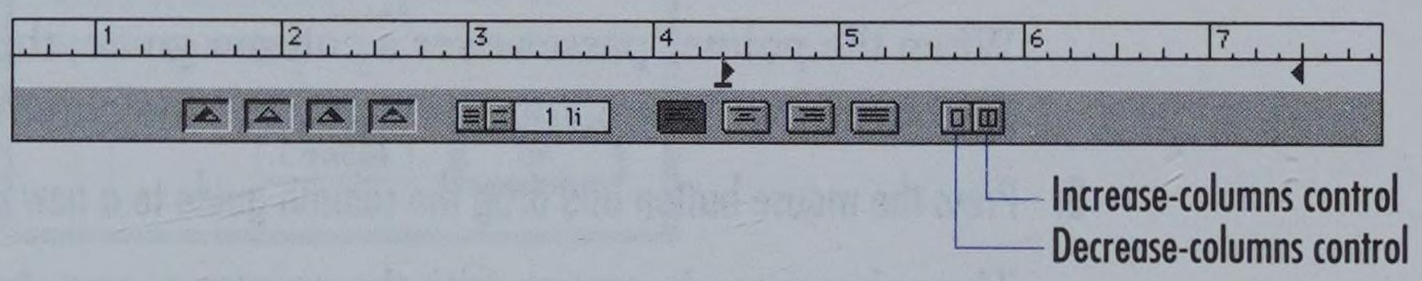


When your text contains multiple columns, you can change column width and the distance between columns either using the mouse or the Columns dialog box.

- **Tip** If you want a varied column layout in your document, you can use linked text frames instead of regular columns. By linking text frames, you can vary the height as well as the width of columns. For more information, see "Working with Frames" in chapter 8.

Adding Columns Using the Ruler

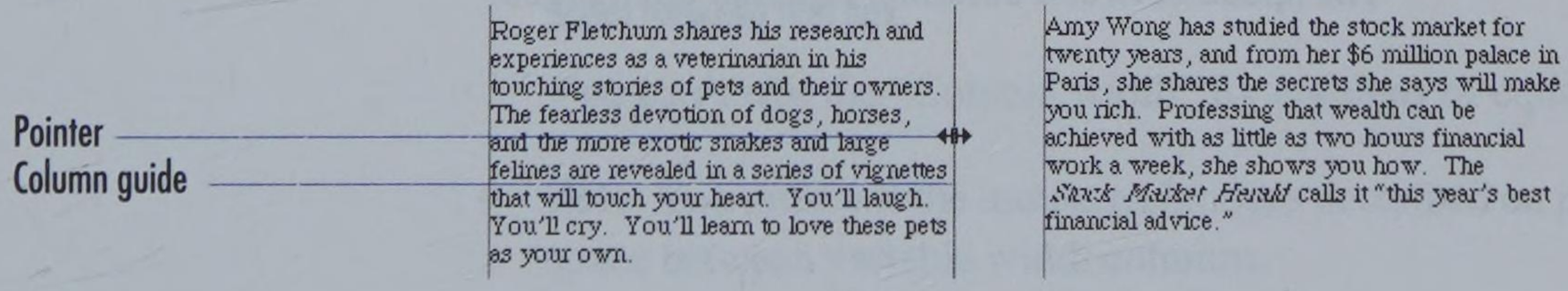
You can use the column controls on the right side of the ruler to add or subtract columns of equal width. To add a column, click the increase-columns control on the ruler. To remove a column, click the decrease-columns control on the ruler. See the following figure.



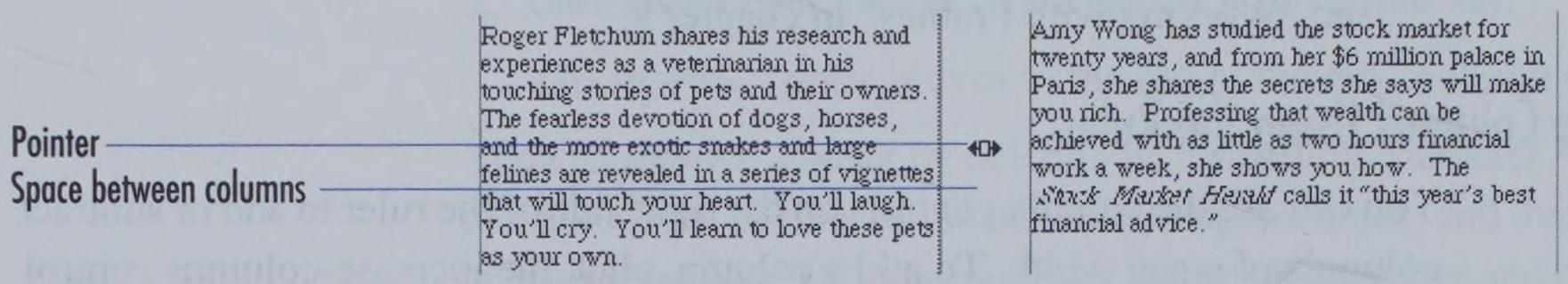
- **Important** If your document already contains columns of variable width, clicking the increase- or decrease-columns control changes all existing columns to equal width.

Modifying Columns Using the Mouse

You can use the mouse to drag the column borders, called **column guides**, to change a column's width as well as the space between two columns.



You can also drag the space between two column guides to resize more than one column. See the following figure.



To change a column's width:

1. **Press the Option key and click on the inside edge of a column guide.**

   When the pointer passes over a column guide, the I-beam changes to a double arrow. When you click, you see the column guide highlighted.

2. **Press the mouse button and drag the column guide to a new position on the page.**

   The column guide moves with the pointer as you drag. When you release the mouse button, you see the resized column and the new space between columns.

To change the width of two columns at once:

1. **Press the Option key and place the pointer over the space between two columns.**

   The pointer changes to a double arrow.

2. **Press the mouse button and drag the pointer to the right or left.**

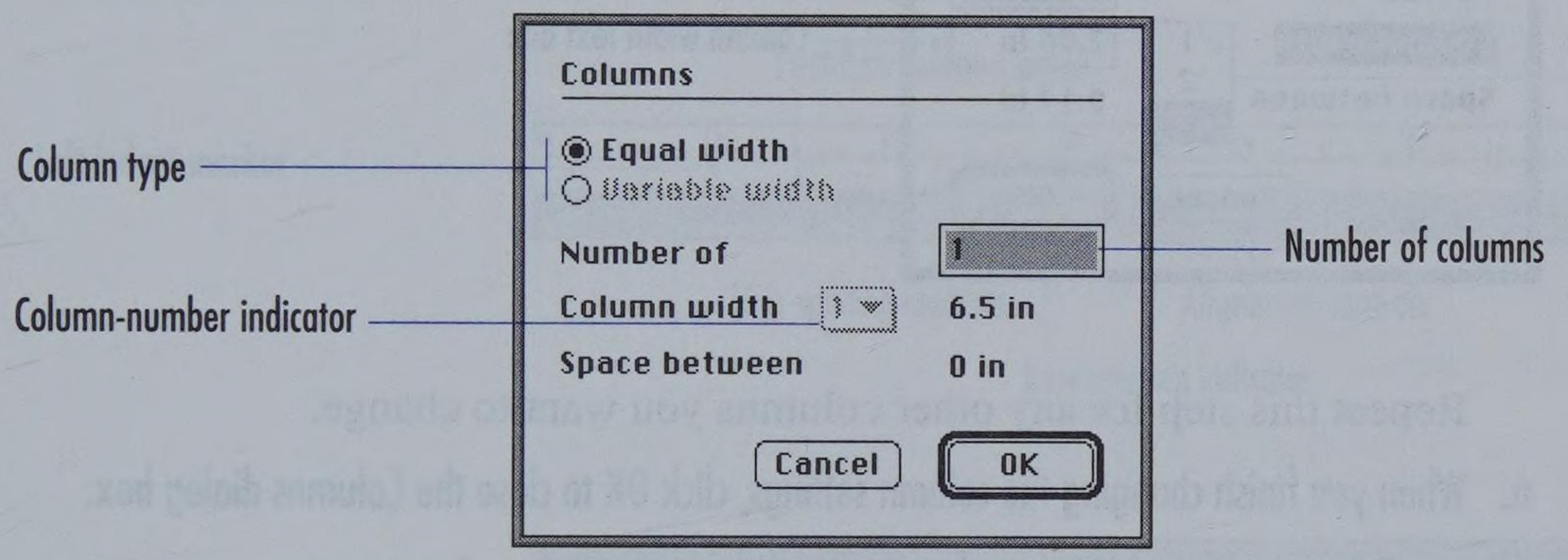
   The space between the columns moves with the pointer as you drag. When you release the mouse button, you see the resized columns. The space between columns remains unchanged.

Adding and Modifying Columns Using the Columns Dialog Box

To add columns with the Columns dialog box:

1. **Choose Columns from the Format menu.**

   You see the Columns dialog box.



2. **Type the number of columns you want (from 1 to 9).**
3. **Click OK.**

   To use columns with variable widths or change the space between columns use the following procedure.

To modify columns with the Columns dialog box:

1. **If necessary, choose Columns from the Format menu to open the Columns dialog box.**
2. **To change the amount of space between columns of equal width, type a number in the Space between text box.**

   You can't edit the "Column width" for columns of equal width.

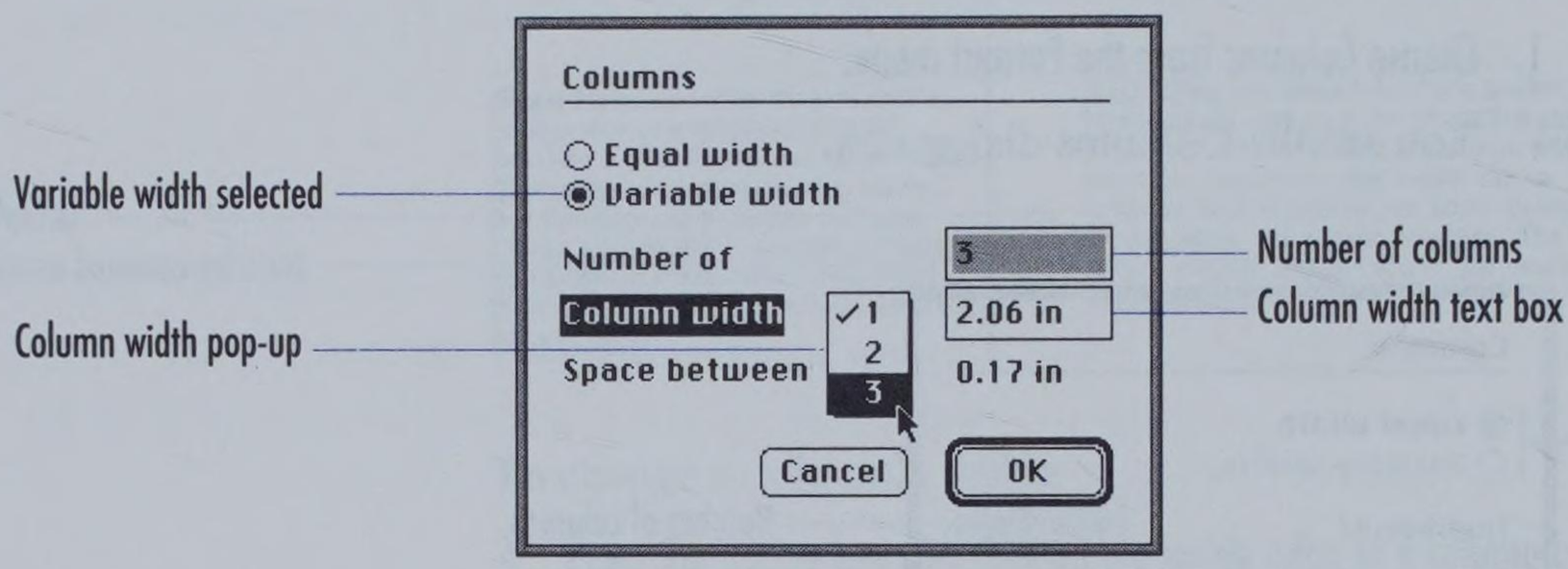
   ◆ **Note** You must use the mouse techniques described on page 3-17 to set the space between variable width columns.

3. **If you want columns of different widths, click Variable width.**

   You see the Number of text box selected.

4. **From the Column width pop-up menu, choose the number of the column you want to change.**

5. Type a width for that column in the Column width text box.



Repeat this step for any other columns you want to change.

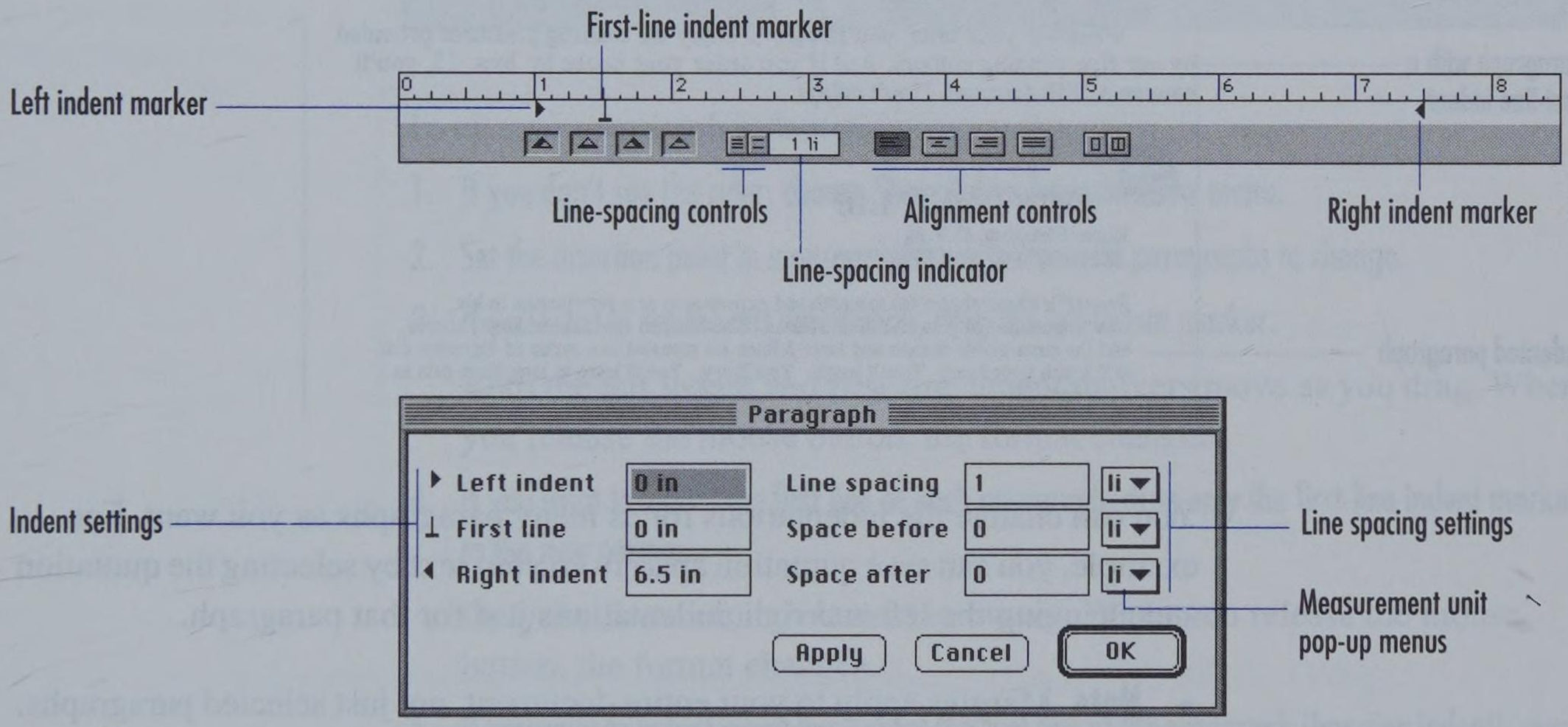
6. When you finish changing the column settings, click OK to close the Columns dialog box.

You see the new column settings throughout your document.

- **Note** The easiest way to set variable width columns is to use the mouse. To set the space between columns you must use the mouse. See the mouse techniques described in "Modifying Columns Using the Mouse" on page 3-17.

Working with Paragraphs

ClarisWorks gives you control over several kinds of paragraph formatting, including indentation, tabs, text alignment, spacing between lines—also called **leading**—and spacing between paragraphs. You can use two different tools for formatting paragraphs: the text ruler and the Paragraph dialog box.

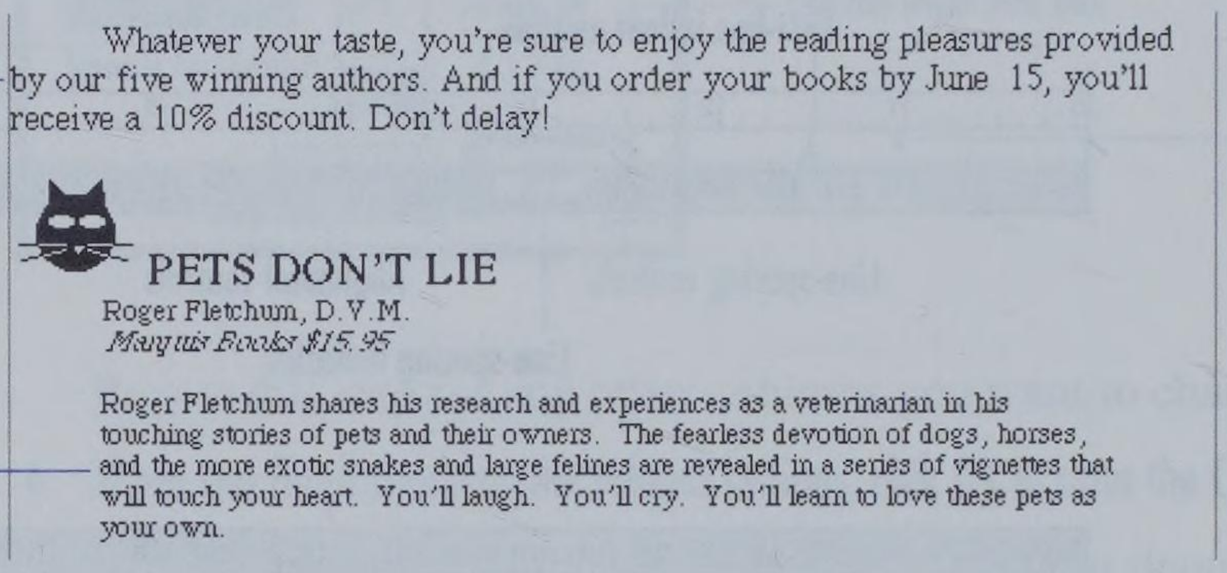


You can use either method for most paragraph formatting. However, some tasks can only be done either with the ruler or with the Paragraph dialog box, as shown in the following table.

For this task...	...Use the ruler	...Use the Paragraph dialog box
Set left indent, first-line indent, and right indent.	√	√
Increase or decrease line spacing.	√	√
Adjust paragraph alignment.	√	
Set the amount of space before and after a paragraph.		√
Change the measurement unit for line spacing.	√	√
Change the measurement unit for the space before and after a paragraph.		√

Indenting Paragraphs

You can quickly adjust left and right paragraph indentations using either the text ruler or the Paragraph dialog box. If you want to indent only the first line of a paragraph, you can also create a **first-line indent**. You can also indent the entire paragraph, as shown in the following figure.



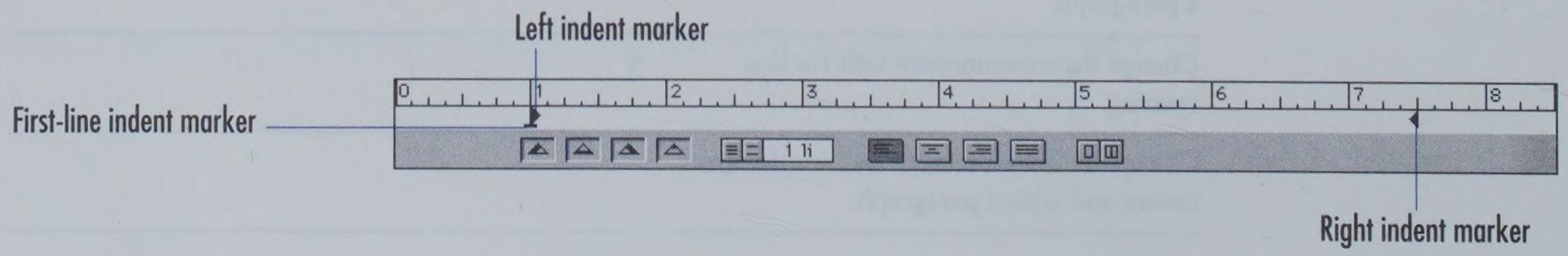
You can change the indentations for as many paragraphs as you want. For example, you can set a quotation apart from your text by selecting the quotation and changing the left and right indentations just for that paragraph.

- **Note** Margins apply to your entire document, not just selected paragraphs. For information on setting margins, see "Changing Page Settings" in chapter 2.

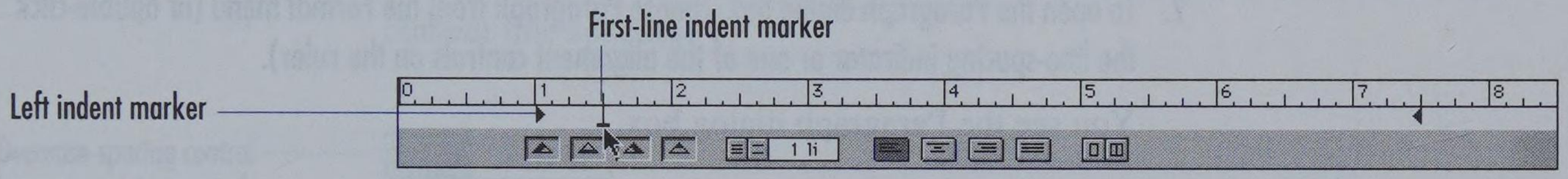
With the Ruler

By dragging the indent markers on the ruler, you can change the paragraph indentation for selected text. The first-line indent marker (an inverted "T") and the left indent marker (a right-pointing arrowhead) are preset to have the same position on the left side of the text ruler.

The right indent marker (a left-pointing arrowhead) appears on the right side of the ruler, as shown in the following figure.



To indent a paragraph, drag the first-line and left indent markers together. To create a first-line indent, drag only the first-line indent marker, as shown in the following figure.



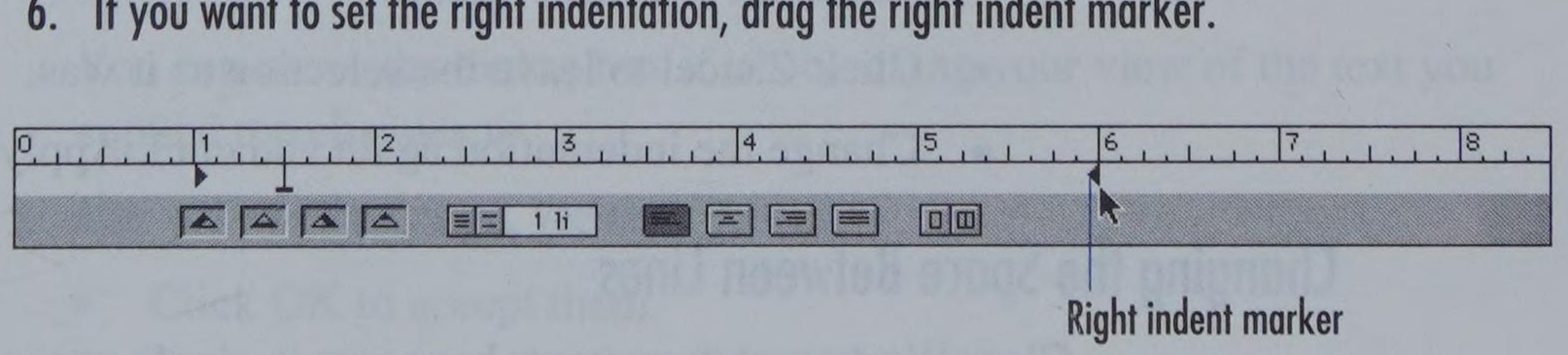
To change paragraph indentations using the ruler:

1. If you don't see the ruler, choose Show Rulers from the View menu.
2. Set the insertion point in a paragraph or select several paragraphs to change.
3. If you want to set the left indentation, drag the left indent marker.

   Both the left indent and first-line indent markers move as you drag. When you release the mouse button, the format changes.
4. If you want to indent the first line of each paragraph, drag only the first-line indent marker to the new position.

   Only the first-line indent marker moves. When you release the mouse button, the format changes.
5. If you want to indent every line except the first line of the paragraph (hanging indent), press and hold the Option key while you drag the left indent marker to the new position.

   Pressing the Option key lets you drag the left indent marker independently of the first-line indent marker. The left indent marker must be to the right of the first-line indent marker for a hanging indent.
6. If you want to set the right indentation, drag the right indent marker.



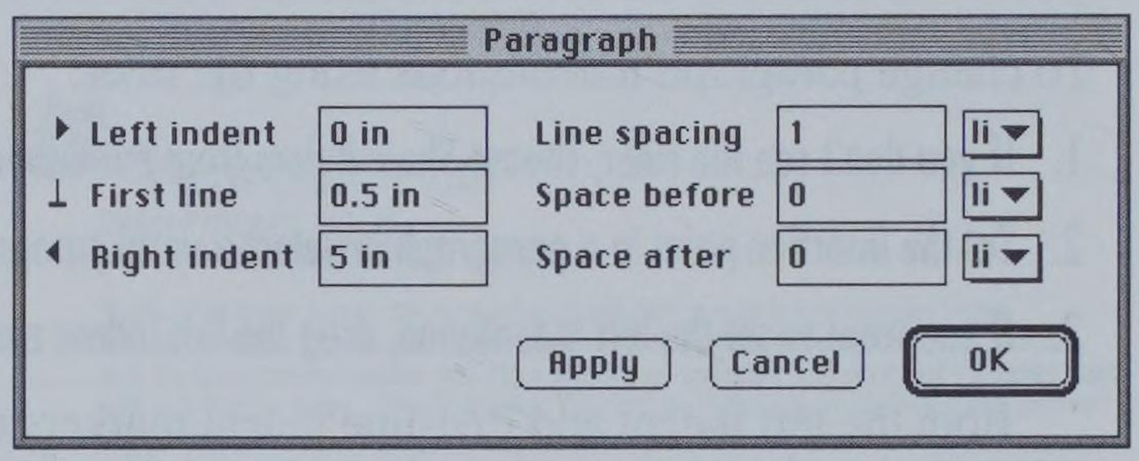
When you release the mouse button, the paragraph format changes.

With the Paragraph Dialog Box

To change paragraph indentation with the Paragraph dialog box:

1. Set the insertion point in a paragraph or select several paragraphs to change.
2. To open the Paragraph dialog box, choose Paragraph from the Format menu (or double-click the line-spacing indicator or one of the alignment controls on the ruler).

   You see the Paragraph dialog box.



3. If you want to change the left indentation, type the measurement in Left indent.
4. If you want a different indentation for the first line of the paragraph, type the measurement in First Line.
5. If you want to change the right indentation, type a number in Right indent.
6. When you finish, click Apply to see the new indentation for your selection.

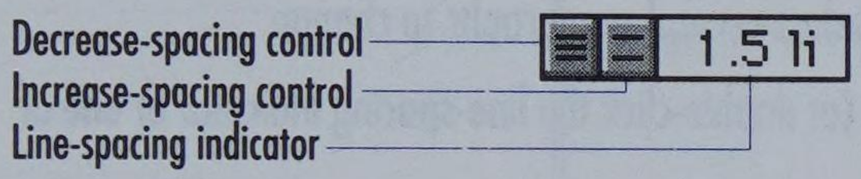
   You can move the dialog box by dragging its title bar if it's blocking your view of the text you applied the changes to.
7. After you view the changes, you can:
   - Click OK to accept them.
   - Click Cancel to leave the selection as it was.
   - Change the indentation again and click Apply to see the effect.

Changing the Space Between Lines

ClarisWorks text documents have preset, single-spaced lines. You can increase line spacing for one or more selected paragraphs either using the ruler or the Paragraph dialog box.

With the Ruler

To change spacing with the ruler, click the line-spacing controls. Each time you click, the space between lines changes in half-line increments to a maximum of 10 lines. The line-spacing indicator, to the right of the controls, shows the current line spacing.



To change line spacing with the ruler:

1. If the ruler isn't showing, choose Show Rulers from the View menu.
2. Set the insertion point in a paragraph, or select several paragraphs to change.
3. Click the line-spacing controls to change the spacing.

   You see the new line spacing for the selected text.

With the Paragraph Dialog Box

To change line spacing with the Paragraph dialog box:

1. Set the insertion point in a paragraph, or select several paragraphs to change.
2. Choose Paragraph from the Format menu (or double-click the line-spacing indicator or one of the alignment controls on the text ruler).

   You see the Paragraph dialog box.
3. Type a number in Line Spacing.
4. When you finish, click Apply to see the new line spacing for your selection.

   You can move the dialog box if it's blocking your view of the text you applied the changes to.
5. After you view the changes, you can:
   - Click OK to accept them.
   - Click Cancel to leave the selection as it was.
   - Change the line spacing again and click Apply to see the effect.

Changing Paragraph Spacing

Using the Paragraph dialog box, you can change the spacing between paragraphs. For example, you can emphasize a note by adding extra space before and after the text.

To change paragraph spacing:

1. Set the insertion point in a paragraph or select several paragraphs to change.
2. Choose Paragraph from the Format menu (or double-click the line-spacing indicator or one of the alignment controls on the text ruler).
3. Type the amount of space you want before each paragraph in Space Before.
4. Type the amount of space you want after each paragraph in Space After.
5. When you finish, click Apply to see the new paragraph spacing for your selection.

   You can move the dialog box if it's blocking your view of the text you applied the changes to.
6. After you view the changes, you can:
   - Click OK to accept them.
   - Click Cancel to leave the selection as it was.
   - Change the paragraph spacing again and click Apply to see the effect.

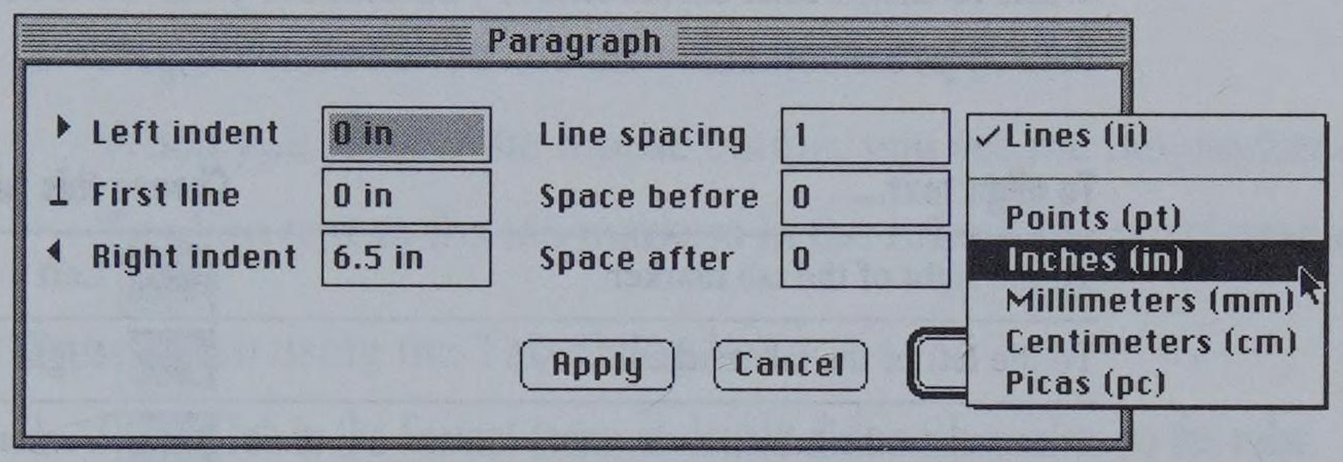
Changing the Measurement Unit for Spacing

The preset measurement unit for line spacing and space before and after a paragraph is lines. In the Paragraph dialog box, you can change the measurement unit to points, inches, millimeters, centimeters, or picas.

To change the measurement unit for spacing:

1. Set the insertion point in a paragraph, or select several paragraphs to change.
2. Choose Paragraph from the Format menu (or double-click the line-spacing indicator or one of the alignment controls on the text ruler).

3. Click a spacing unit indicator, and then drag the pointer to choose a new unit from the pop-up menu.



4. Click Apply to see the new unit of measurement in the spacing unit indicator and the effect of the changes on your selection.

   You can move the dialog box if it's blocking your view of the text you applied the changes to.

5. After you view the changes, you can:
   - Click OK to accept them.
   - Click Cancel to leave the selection as it was.
   - Change the units again and click Apply to see the effect.

Changing Text Alignment

You can use the ruler to align text within a paragraph in the following ways:

To align text to...	Choose this alignment...
The left margin	Left
The right margin	Right
The middle of the working area	Centered
Both the left and right margins	Justified

To align text:

1. Set the insertion point in a paragraph or select several paragraphs to change.
2. If the text ruler isn't visible, choose Show Rulers from the View menu.
3. Click one of the alignment controls on the ruler.

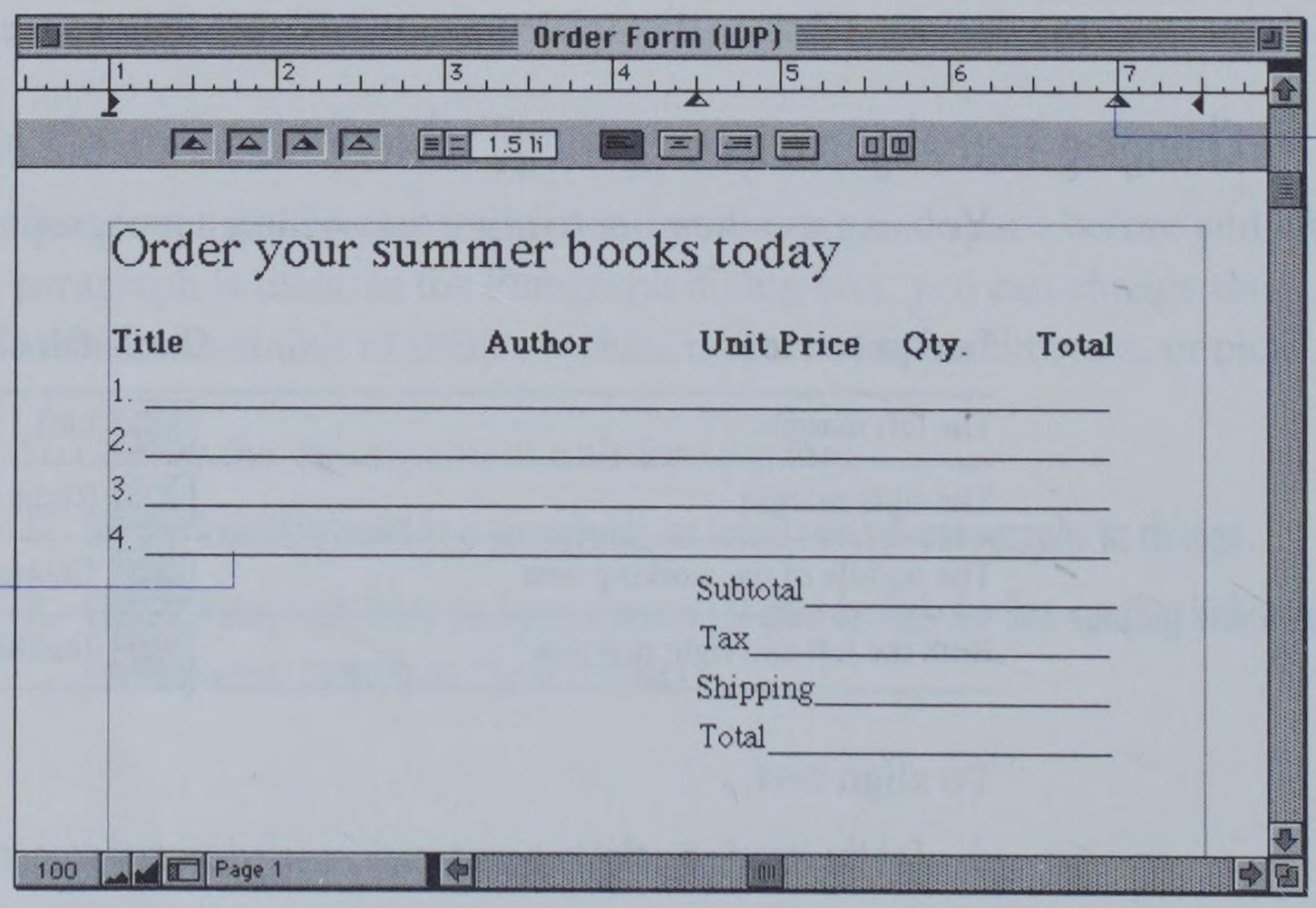
   You see the new alignment for the selected text.

Working with Tab Markers

ClarisWorks documents have preset, left-aligned tabs every half inch. If you want to align text differently, you can set your own tabs. You can choose from four types of tabs, as shown in the following table.

To align text...	Choose this tab marker...
To the right of the tab marker	Left
To the left of the tab marker	Right
Centered on the tab marker	Center
On a decimal character	Align On

You can set tabs with the text ruler or the Tab dialog box. Using the ruler, you can drag a tab marker onto the ruler to set a tab quickly. Using the Tab dialog box, you can set a precise tab position and specify a **fill character**—a character that repeats to fill the space between the tab and any text. For example, you can create "blank" lines on a form by using a right-aligned tab with an underscore as a fill character.



To set a tab using the ruler:

1. Select the text you want to change.
2. If the text ruler isn't visible, choose Show Rulers from the View menu.
3. Drag one of the tab markers to a position on the ruler.

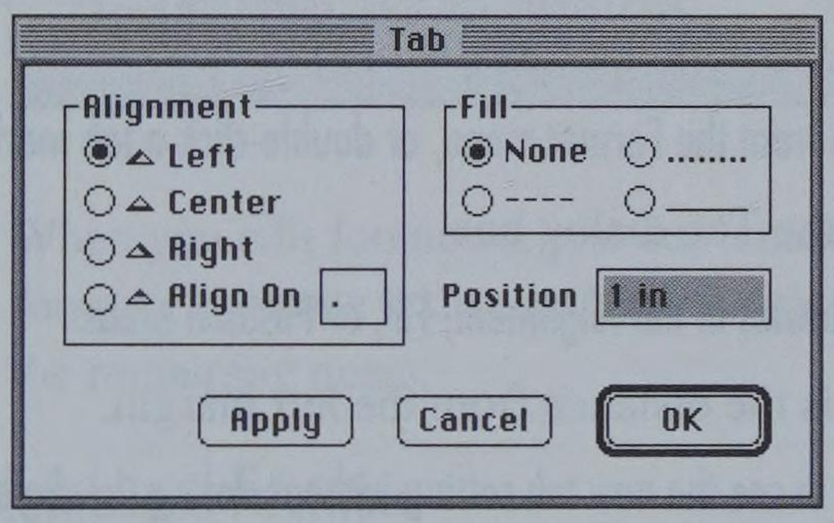
   When you release the mouse button, you see the tab marker on the ruler.

   To align text to the tab markers in the ruler, type tab characters in the text.

To set a tab using the Tab dialog box:

1. Choose Tab in the Format menu or double-click a tab marker on the ruler.

   You see the Tab dialog box.



2. In the Alignment area, select an alignment.

- **Note** If you choose Align On, you can either align text on the preset character (a period), or type a different character in the box.

3. If you want a fill character, select one of the characters in the Fill area.
4. Type a number in the Position text box to specify where you want the new tab to appear.
5. Click Apply to see the new tab setting without closing the dialog box or click OK to accept the setting and close the dialog box.

   You see the new tab marker on the ruler.

Adding, Removing, and Changing Tabs

To add a tab in your text, press the Tab key. The text aligns to the next tab marker or preset tab position.

To remove a tab, click immediately to the right of the tab and press the Delete or Backspace key, or select the tab and delete it. Tabs are "invisible" formatting characters. To make them visible, choose Preferences from the Edit menu, select Show Invisibles, and click OK. For more information about formatting characters, see "Using Formatting Characters" on page 3-10 or "Displaying Formatting Characters" in chapter 2.

You can change a tab's position by dragging it to the right or left on the ruler. To change a tab's alignment, enter the new information in the Tab dialog box.

To change a tab with the Tab dialog box:

1. **Choose Tab from the Format menu, or double-click a tab marker on the ruler.**

   You see the Tab dialog box.

2. **Type new entries in the Alignment, Fill, or Position areas.**

   Position is the distance from the left margin.

3. **Click Apply to see the new tab setting without closing the dialog box or click OK to accept the settings and close the dialog box.**

   Any changes you make affect all tabs set to this tab marker.

Copying and Applying Tab and Paragraph Formats

After setting the formats for one paragraph, you can easily apply these settings to other paragraphs. You can use the Copy Ruler command in the Format menu to copy a paragraph's settings—indentation, spacing, alignment, and tabs. You can use the Apply Ruler command to apply these settings to another paragraph.

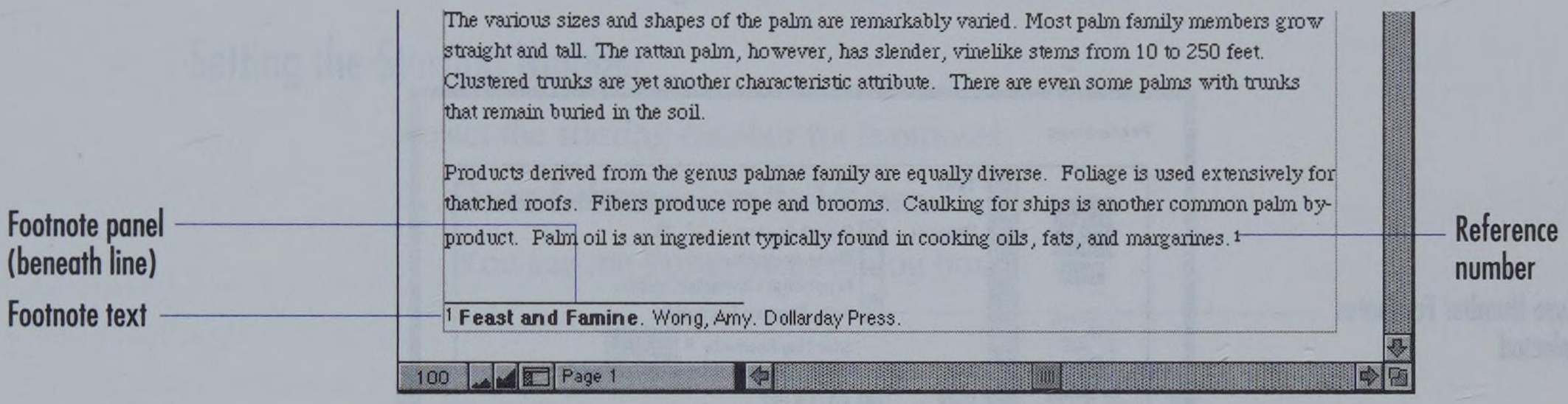
To copy and apply paragraph formats:

1. **Place the insertion point in the paragraph with the format you want to copy.**
2. **Choose Copy Ruler from the Format menu or press Command-Shift-C.**
3. **Place the insertion point in a paragraph or select several paragraphs to change.**
4. **Choose Apply Ruler from the Format menu or press Command-Shift-V.**

   You see the text with its new paragraph format. You may need to enter tab characters to align the text to the ruler.

Using Footnotes

You can use footnotes to add a comment to text or cite a source document. With ClarisWorks footnotes, you can either use numbers or custom characters, such as * or †. You can choose any starting number for the footnotes in a document. See the following figure for an example of a footnote.



When you edit footnotes, you don't need to retype your text. If you delete a footnote or move text containing footnote references, ClarisWorks renumbers the remaining notes.

Inserting a Numbered Footnote

To insert a numbered footnote:

1. **Click at the end of the word where you want the footnote number to appear.**
2. **Choose Insert Footnote from the Format menu or press Command-Shift-F.**

   You see the footnote number in superscript above the insertion point. The insertion point moves into the footnote panel, to the right of the footnote number.
3. **In the footnote panel, type the text of the footnote.**

   You can edit text in the footnote panel using any of the commands and keyboard shortcuts in the Edit menu.
4. **After typing the footnote, press Enter to reposition the insertion point in your document.**

   The insertion point moves one character to the right of the footnote number. You can begin typing again where you left off.

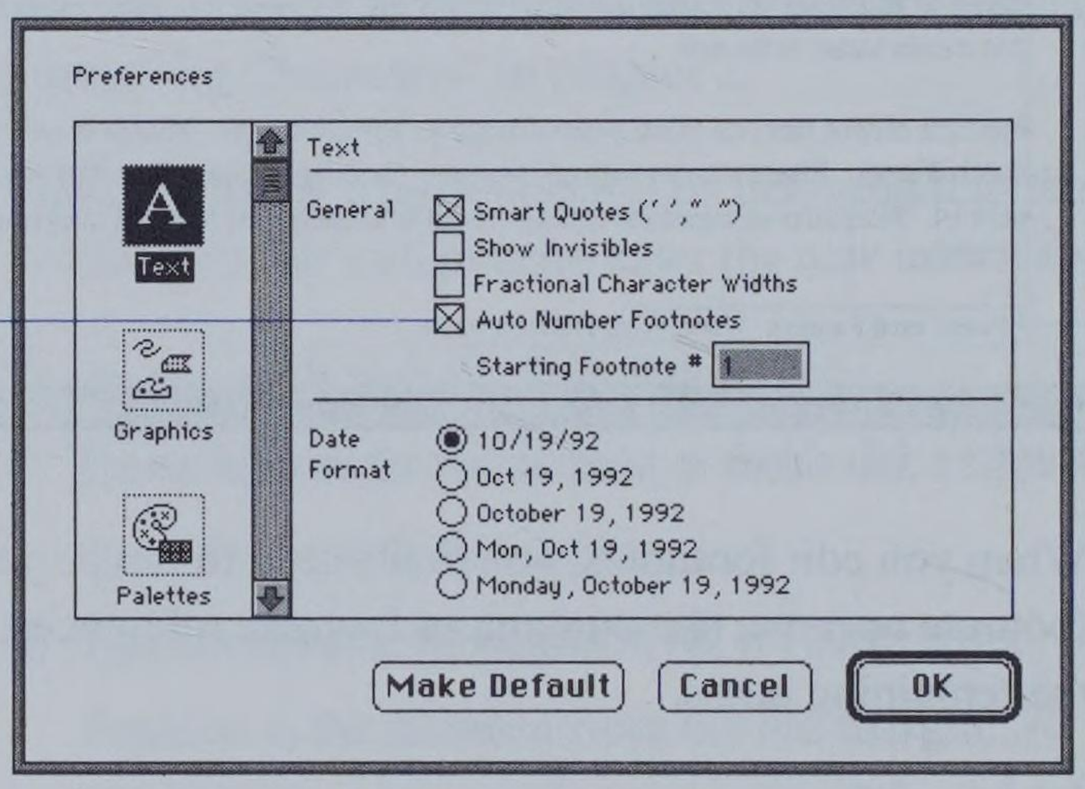
Inserting a Footnote with a Custom Character

Before you insert a footnote with a custom character, you must deselect auto numbering for footnotes.

To insert a footnote with a custom character:

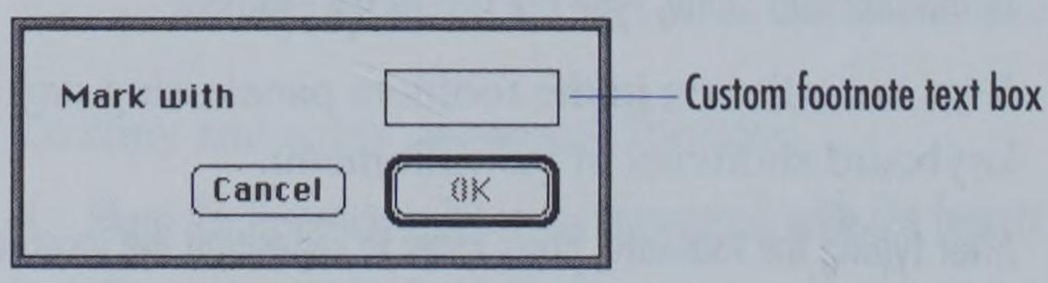
1. **Choose Preferences from the Edit menu.**

   You see the Preferences dialog box.



2. Deselect Auto Number Footnotes.
3. Click OK to close the dialog box.
4. Position the insertion point in your text where you want to place a footnote.
5. Choose Insert Footnote from the Format menu, or press Command-Shift-F.

   You see the Mark With dialog box.



6. **Type the character you want to use as a footnote and press OK to close the dialog box.**

   You see the footnote character in superscript above the insertion point. The insertion point moves into the footnote panel, to the right of the footnote character.

7. In the footnote panel, type the text of the footnote.
8. After typing the footnote, press Enter to reposition the insertion point in your document.

   The insertion point moves one character to the right of the footnote you entered. You can begin typing again where you left off.

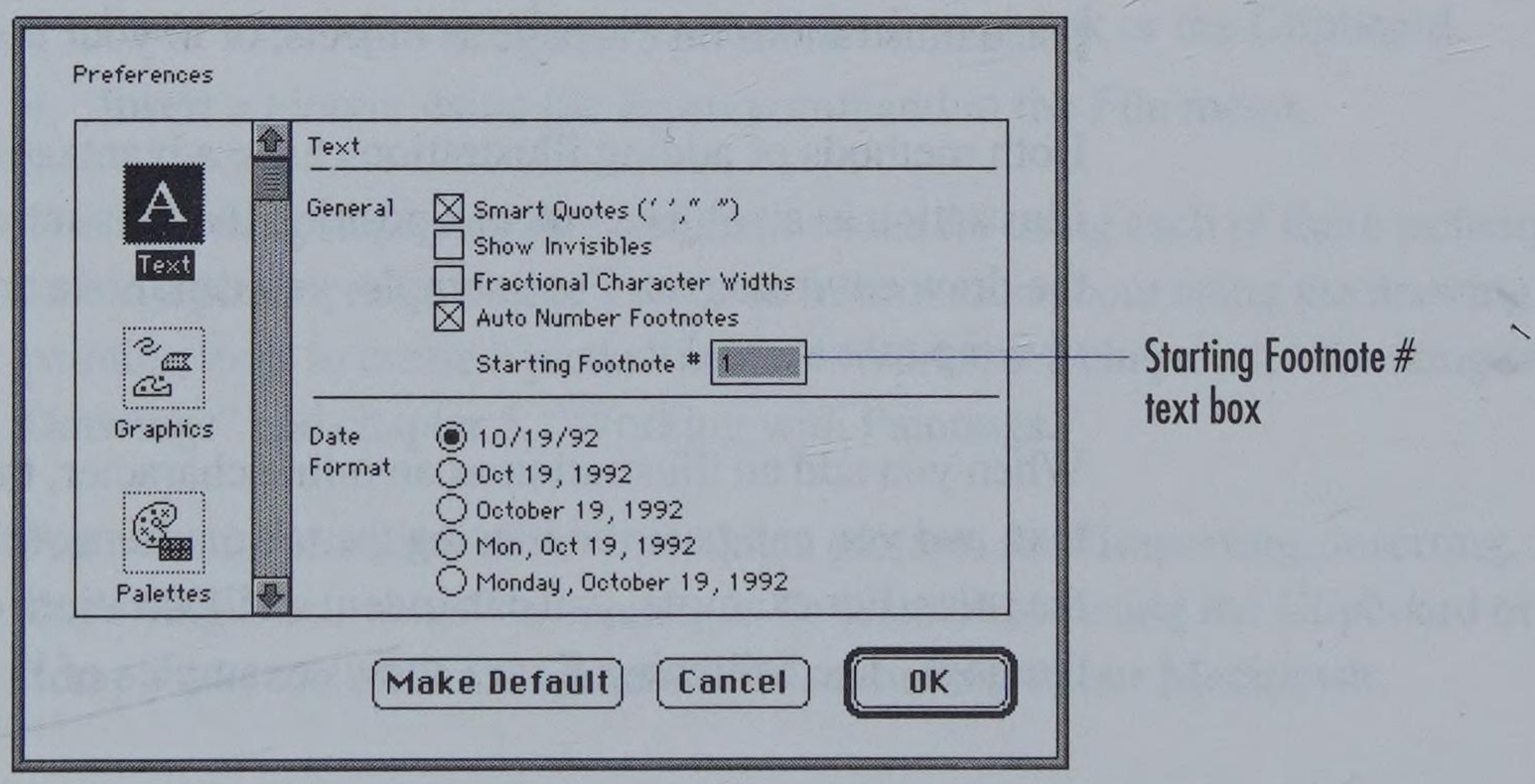
   For information about working with the Preferences dialog box, see "Setting Preferences" in chapter 2.

Setting the Starting Number

To set the starting number for footnotes:

1. Choose Preferences from the Edit menu.

   You see the Preferences dialog box.



2. Make sure the Auto Number Footnotes checkbox is selected and then type the number of the first footnote in the Starting Footnote # text box.
3. Click OK to close the dialog box.
4. Position the insertion point in your text where you want to place a footnote.
5. Choose Insert Footnote from the Format menu, or press Command-Shift-F.

   The footnote has the number you typed in the Preferences dialog box.

Removing a Footnote

To remove a footnote:

1. In your text, select the reference number of the footnote you want to remove.
2. Press the Delete or Backspace key or choose Cut from the Edit menu.

   ClarisWorks removes the note, rearranges the page, and renumbers any remaining notes in the text and in the footnote panel.

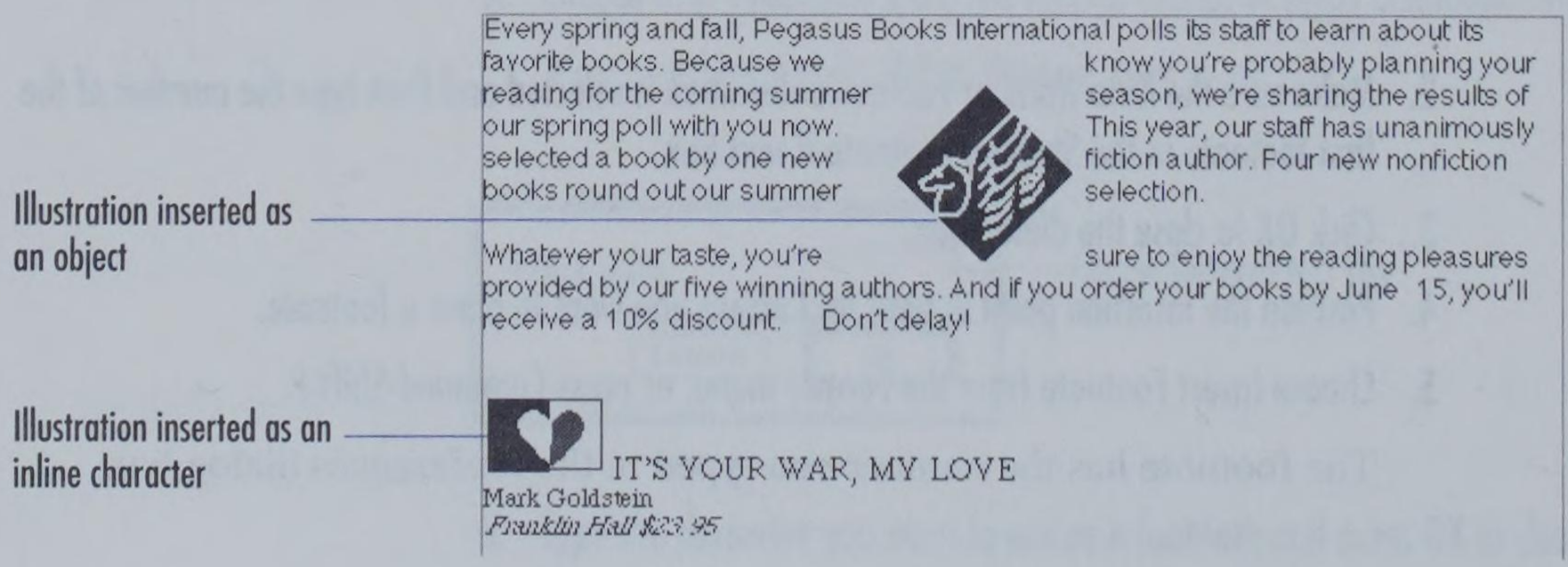
   For information about working with the Preferences dialog box, see "Setting Preferences" in chapter 2.

Adding Illustrations to Text

You can easily add illustrations to a ClarisWorks document, such as ClarisWorks drawings and paintings, and pictures created in other programs. You can either place illustrations on the page as objects, or in your text as **inline** characters.

Both methods of adding illustrations have advantages. When you add an illustration as an object, you can position the illustration using commands from the draw environment. For example, you can move an illustration behind text, or wrap text around it.

When you add an illustration as an inline character, the picture stays with your text, and you can position it using the tab markers or the alignment controls on the ruler. For example, you can indent an illustration, or align it to the center of the page. The following figure shows examples of both kinds of illustrations.



For detailed information about creating illustrations and working in the ClarisWorks draw and paint environments, see chapter 4, "Working with Drawings" and chapter 5, "Working with Paintings." For information about using frames, see "Working with Frames" in chapter 8.

Adding Pictures as Objects

When you add a picture to your document as an object, you can drag it anywhere on the page and use the Arrange and Text Wrap commands in the draw environment menus. To add a picture to your text as an object, you can use any of the following techniques.

- Draw directly on the page using any of the drawing tools in the tool panel.
- Create a painting in a paint frame on the page using the painting tools in the tool panel.
- Paste a picture onto the page from the Scrapbook or the Clipboard.
- Insert a picture using the Insert command in the File menu.

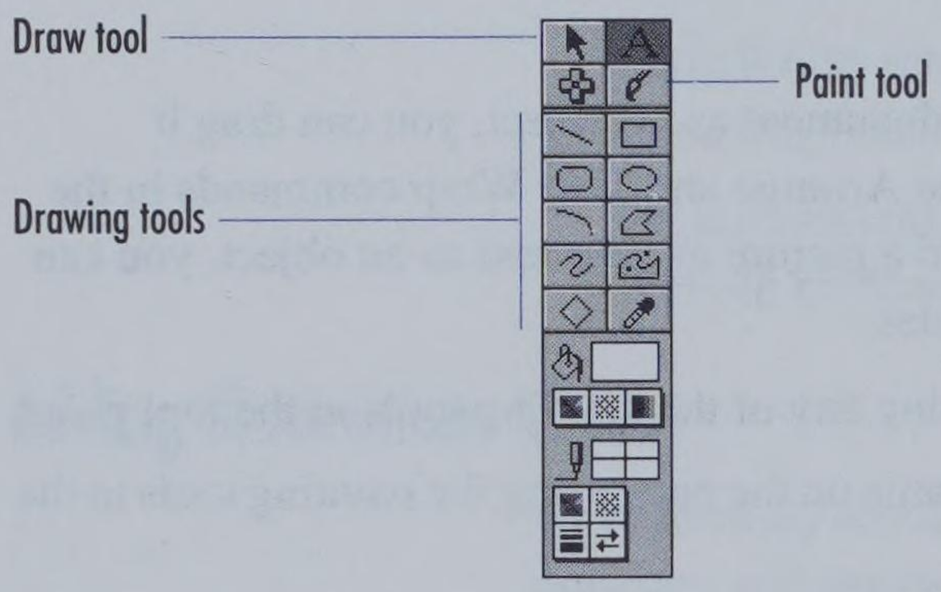
The following steps contain brief instructions for using each of these techniques to add a picture as an object. For more information about using the drawing or painting tools to create a picture in ClarisWorks, see chapter 4, "Working with Drawings" and chapter 5, "Working with Paintings."

For more information about inserting a picture, see "Importing, Inserting, and Exporting Documents" in chapter 2. To learn about using the Clipboard or the Scrapbook, see the documentation that came with your Macintosh.

To draw a picture directly on the page:

1. If necessary, choose Show Tools from the View menu to display the tool panel.

   You see the tool panel on the left side of your document.



2. Choose any of the drawing tools and then position the pointer on the page.
3. Drag the pointer to create a drawing directly on the page.

   For more information about using the drawing tools, see "Using the Tool Panel" and "Drawing Objects" in chapter 4.

To paint a picture on the page:

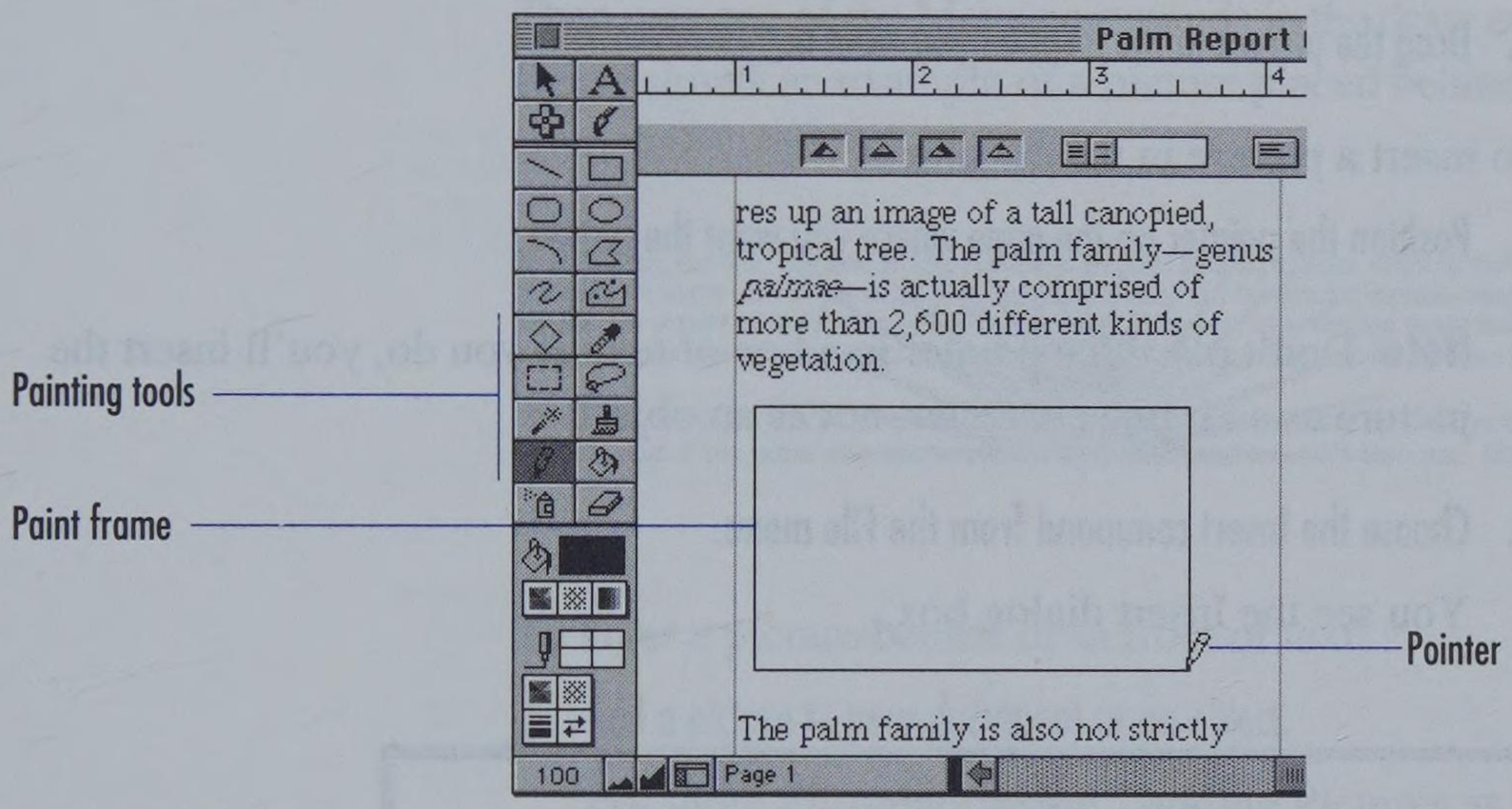
1. If necessary, choose Show Tools from the View menu to display the tool panel.

   You see the tool panel on the left side of your document.
2. Select the paint tool in the tool panel and then position the pointer on the page.

   The pointer changes to a paintbrush.

3. **Drag the pointer down and to the right to draw a paint frame.**

   After creating the frame and releasing the mouse button, you see the painting tools on the tool panel. The pointer changes to a pencil.



4. **Select any of the painting tools and then place the insertion point in the paint frame. Drag the pointer to create a painting inside the frame.**

   For more information about using the painting tools, see "Using the Tool Panel" and "Painting Images" in chapter 5.

To paste a picture onto the page from the Clipboard or Scrapbook:

1. **In another document or application, copy a picture onto the Clipboard or the Scrapbook.**
2. **Open your ClarisWorks text document. If necessary, choose Show Tools from the View menu to display the tool panel.**

   You see the tool panel on the left side of your page.

3. **Click the draw tool in the tool panel and then position the pointer on the page where you want to place the picture—drag just a little so that you're still in draw mode.**

   You can also paste the picture into a paint frame. Make sure the paint frame is large enough to contain the part of the picture that you want visible in your document.

◆ **Note** Don't place the pointer in a line of text. If you do, you'll paste the picture as an inline character, not as an object.

4. **Paste a picture onto the page from the Clipboard or the Scrapbook.**

   You see the picture on the page.

   For more information about using the Clipboard or the Scrapbook, see the documentation that came with your Macintosh.

5. **Drag the picture to the location you want it.**

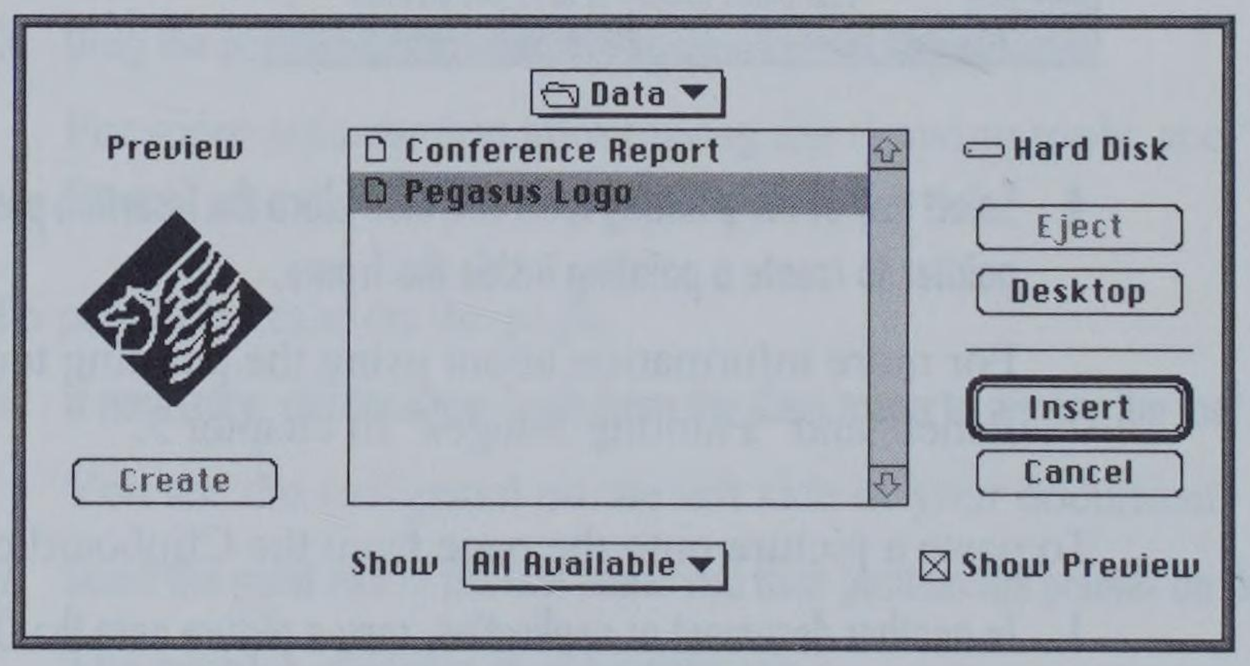
To insert a picture in the document:

1. **Position the pointer on the page where you want the picture.**

- **Note** Don't place the pointer in a line of text. If you do, you'll insert the picture as an inline character, not as an object.

2. **Choose the Insert command from the File menu.**

   You see the Insert dialog box.



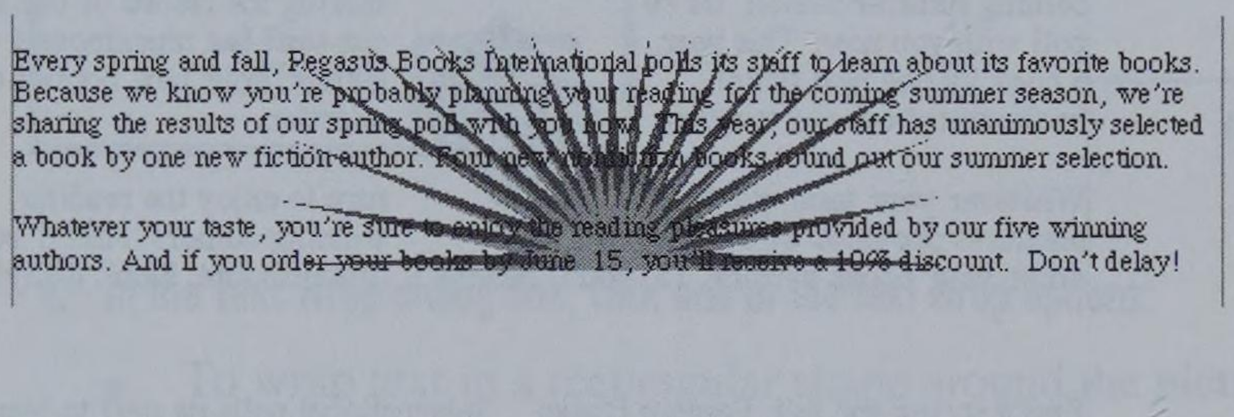
3. **Choose the name of the document you want to insert and click Insert.**

   You see the picture at the insertion point.

   For more information on inserting a picture, see "Inserting a Document" in chapter 2.

Layering Pictures with Text

You can create interesting visual effects in your document by placing a picture behind text or in front of text. To do this, first add a picture to your document using one of the procedures in "Adding Pictures as Objects" on page 3-35. Then, use one of the Move commands in the draw environment. The following figure shows an example of a picture placed behind text.



To layer a picture behind or in front of text:

1. **Add a picture to your document as an object.**

   For more information, see "Adding Pictures as Objects" on page 3-35.

2. **Click the picture to select it.**

   You see square handles on the corners of the picture. The Arrange menu appears in the draw environment menu bar.

3. **Drag the picture to the new location.**

4. **From the Arrange menu, choose an arrangement for the picture:**

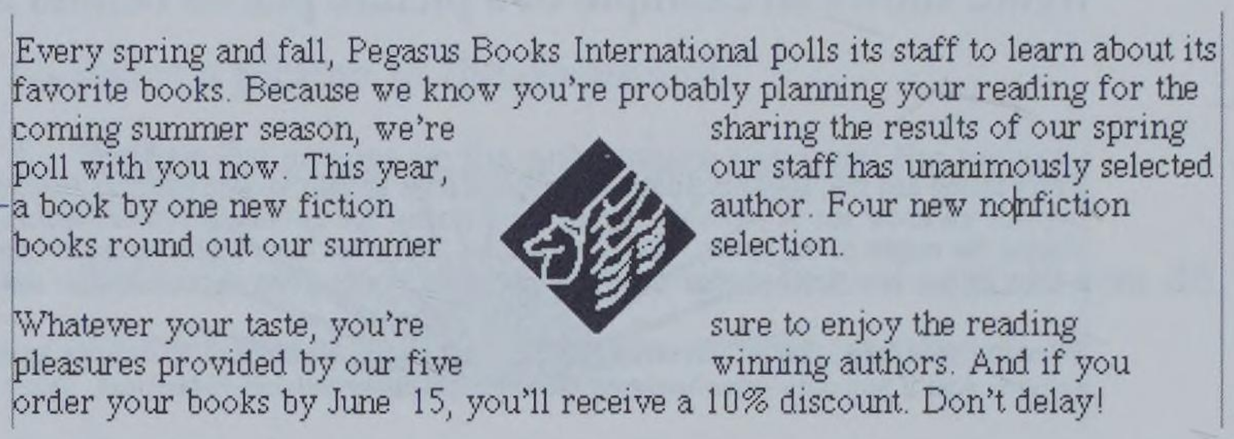
   - To move the picture behind text, choose Move To Back or Move Backward.
   - To move the picture in front of text, choose Move To Front or Move Forward.

   After making your choice, you see the picture in its new position.

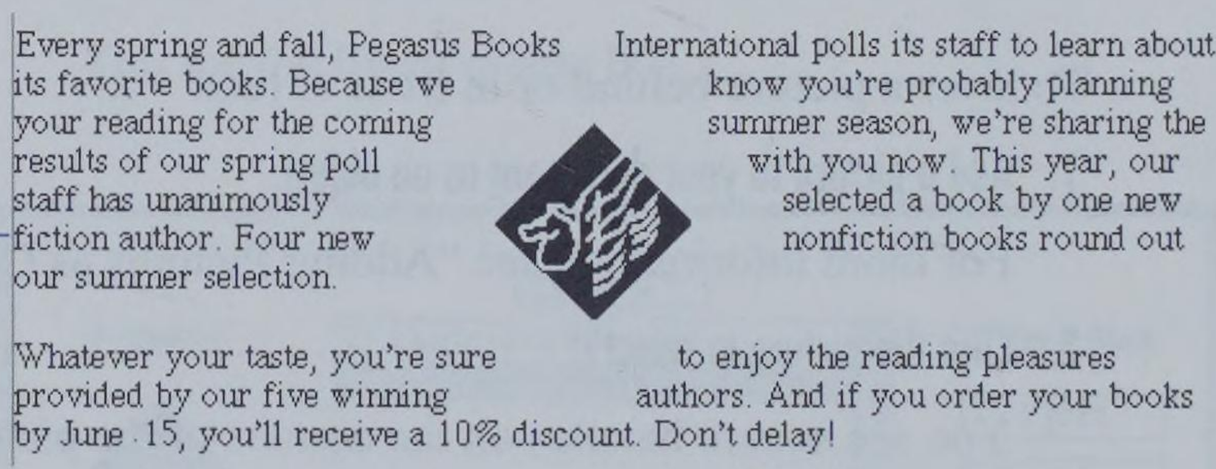
Wrapping Text Around Pictures

For variety, you can wrap text around the pictures in your document. First add a picture using one of the procedures in "Adding Pictures as Objects" on page 3-35. Then choose Text Wrap in the draw environment Options menu.

Regular text wrap (text wraps in a rectangle shape)



Irregular text wrap (text wraps in the shape of the object)



You can also wrap text around linked frames. For more information about linked frames, see "Working with Linked Frames" in chapter 8.

To wrap text around a picture:

1. **Add a picture to your document as an object.**

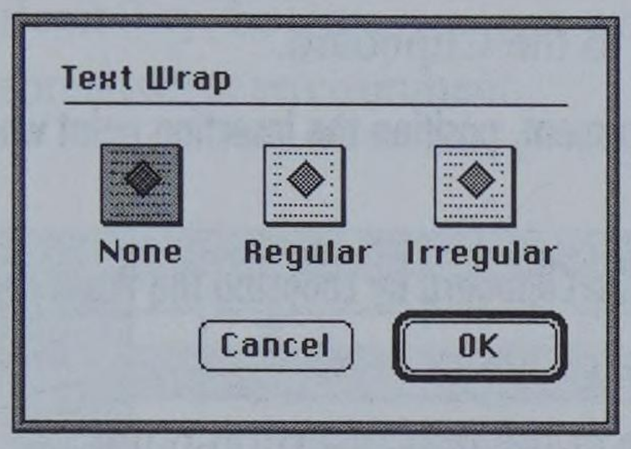
   For more information, see "Adding Pictures as Objects" on page 3-35.

2. **Click the picture to select it.**

   You see square handles on the corners of the picture. The Arrange menu appears in the draw environment menu bar.

3. **With the picture selected, choose Text Wrap in the Options menu.**

   You see the Text Wrap dialog box.



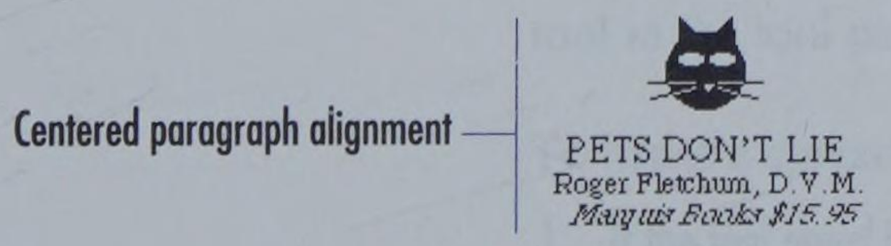
4. **In the Text Wrap dialog box, click one of the text wrap options:**
   - To wrap text in a rectangular shape around the picture, click Regular.
   - To wrap text around the picture itself, click Irregular.

   If you have previously wrapped text around a picture, you can remove text wrap by clicking None.
5. **Click OK.**

   You see the text wrap around the picture.

Adding Pictures as Inline Characters

When you paste a picture into your text as an inline character, you can align the picture just as you would align text. For example, you can use the centered alignment control to position a picture in the middle of a line, as shown in the following figure. An inline picture remains in a line of text, so you can't drag the picture around the page, move it behind text, or wrap text around it.



- **Note** You can use this method to insert a spreadsheet frame in your document. For more information about adding spreadsheet frames to text, see the next section, "Setting Up a Table."

To add a picture as a character:

1. Create a picture in the ClarisWorks draw or paint environment, or in another application.
2. Copy the picture to the Clipboard.

   The picture moves to the Clipboard.
3. In your ClarisWorks document, position the insertion point where you want to place the picture.
4. Paste the picture from the Clipboard by choosing the Paste command in the Edit menu or pressing Command-V.

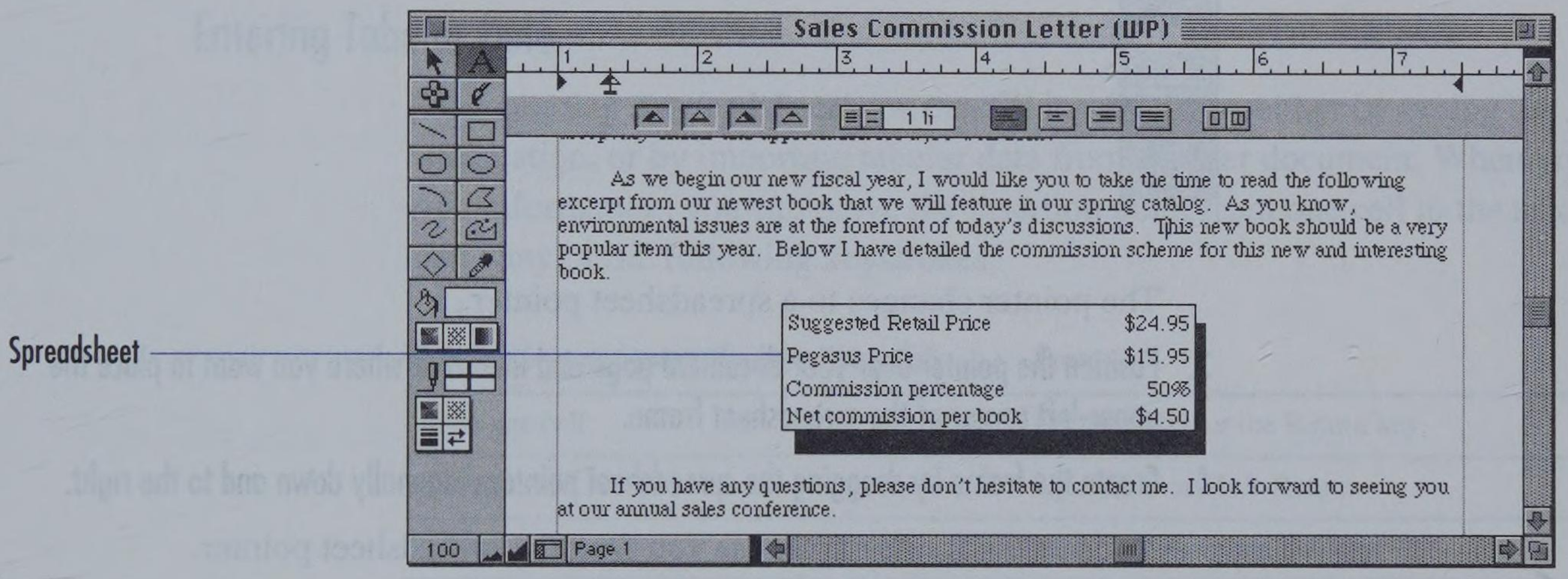
   You see the picture at the text insertion point.

- **Note** You can also choose Insert from the File menu to select a picture file and insert it as an inline character in a document. This also works for QuickTime movies.

Once a picture is pasted or inserted in your document, you can align it using the ruler or the Tab and Paragraph dialog boxes. For more information about working with tabs or paragraphs, see "Working with Tab Markers" on page 3-28 or "Working with Paragraphs" on page 3-21.

Setting Up a Table

You can set up a table in a text document either by adding tabs or by creating a spreadsheet frame. Using spreadsheet frames gives you much more flexibility, because you can work with your data using commands from the spreadsheet environment.



To set up a spreadsheet table, first create a spreadsheet frame with the spreadsheet tool, and then enter tabular data in the spreadsheet environment. You can then position the spreadsheet in your text in the word processing environment.

For information about spreadsheets, see chapter 6, "Working with Spreadsheets." For information about using frames, see "Working with Frames" in chapter 8.

Adding a Spreadsheet Frame

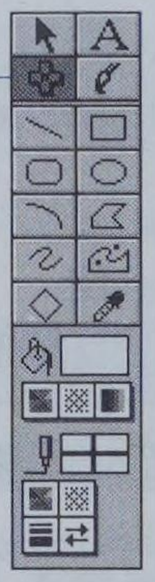
You can create a spreadsheet frame in your text document with the spreadsheet tool in the tool panel.

To insert a spreadsheet frame as a table:

1. **If the tool panel isn't showing, choose Show Tools in the View menu.**

   You see the tool panel to the left of the page.

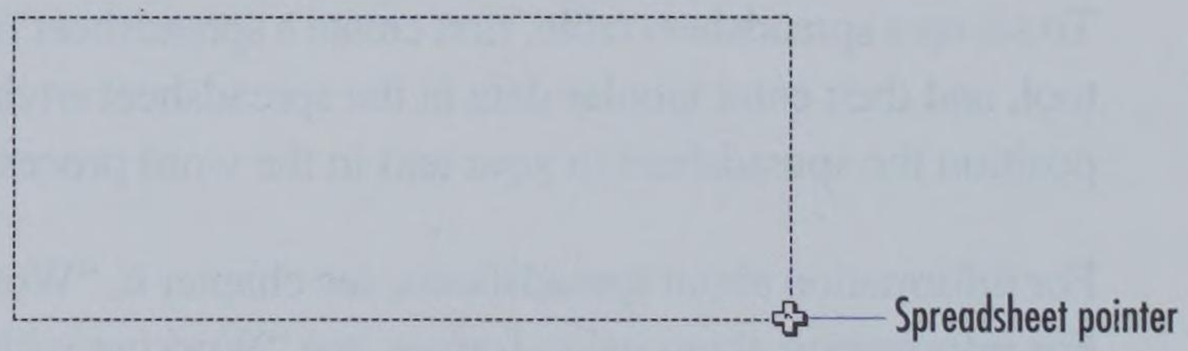
2. Select the spreadsheet tool in the tool panel.



The pointer changes to a spreadsheet pointer.

3. Position the pointer over your document page and then click where you want to place the upper-left corner of the spreadsheet frame.
4. Create the frame by dragging the spreadsheet pointer diagonally down and to the right.

You see the frame expand as you drag the spreadsheet pointer.



When you release the mouse button, you see the spreadsheet cells.

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				

5. **If necessary, adjust the size of the spreadsheet frame by clicking its border and dragging one of its handles.**

   For information about changing the number of columns or rows in the spreadsheet, see "Inserting and Deleting Cells, Rows, and Columns" in chapter 6. For information on changing the spreadsheet format, see "Choosing Display Options" in chapter 6.

Entering Tabular Data

After creating a spreadsheet, you can fill it with data—either by typing the information, or by importing tabular data from another document. When you type information, you can move the insertion point from one cell to the next using any of the following keystrokes.

To enter data and move the insertion point...	Press...
Down one cell	Down Arrow or the Return key
Up one cell	Up Arrow or Shift-Return
One cell to the right	Right Arrow or the Tab key
One cell to the left	Left Arrow or Shift-Tab

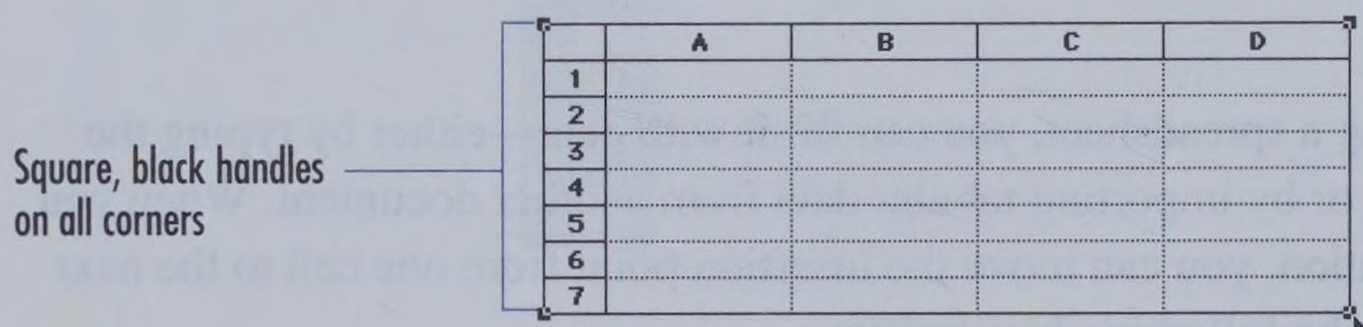
- **Note** Pressing Return after you type the data for a cell places that data in the cell and highlights the cell below it. When an entry is larger than the cell boundaries, the data extends over adjacent empty cells, depending on the alignment option you select for the cell.

For more information on typing spreadsheet data, see "Entering Data" in chapter 6. For information about inserting tabular data created in another application, see "Importing, Inserting, and Exporting Documents" in chapter 2.

To enter tabular data in a spreadsheet frame:

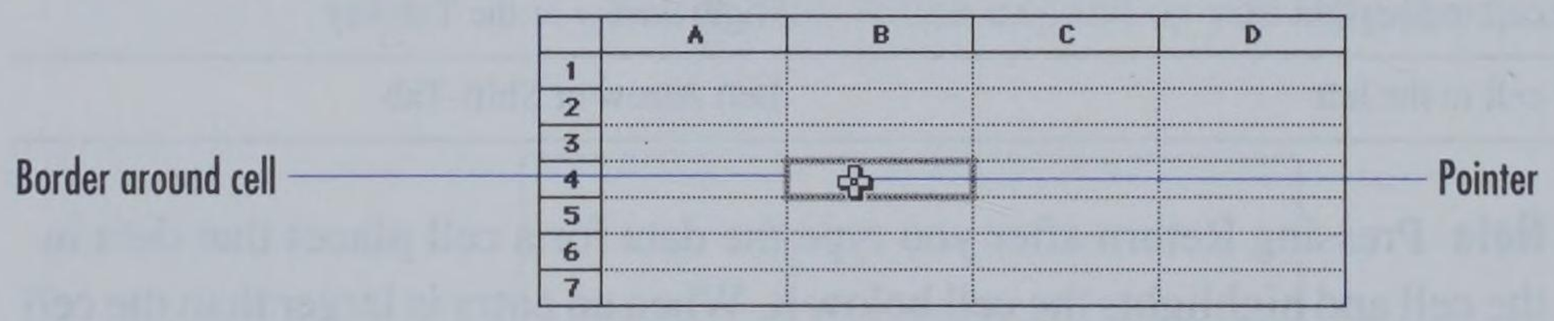
1. If you've been working outside the spreadsheet frame, select the spreadsheet frame by clicking in it.

   After you select the frame, you see black handles on each of the frame's corners.



2. Select the cell in which you want to enter data.

   You see the spreadsheet pointer and the cell you selected highlighted.



3. Type the information you want in the cell.

   As you type, you see the text on the spreadsheet entry bar, just under the document's title bar.

   If you need to retype text, select the cell that contains the text, and then position the insertion point in the entry bar. When the pointer changes to an I-beam, you can use the commands or keyboard shortcuts in the Edit menu to edit your text.

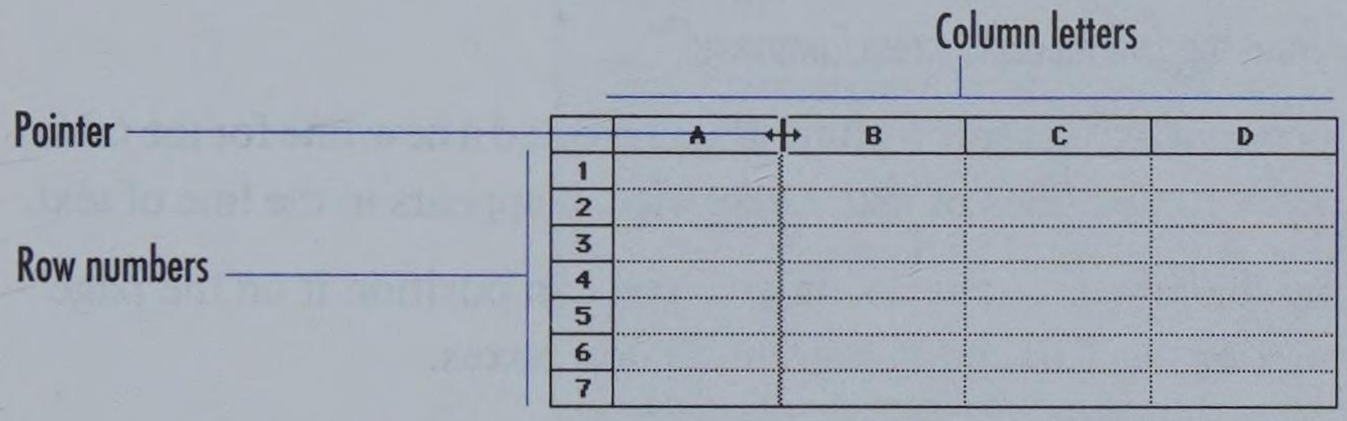
4. After typing the data, press Return to place the data in the cell and move to the cell below it. Or click in the next cell you want to type data in.

   If the adjacent cell (or cells) aren't empty, you see only as much of the text as the cell boundaries permit.

5. To see more of your text, you can change the size of the row or column.

   To change row height, drag the line between two row numbers on the left side of the table. To change column width, drag the line between two column letters on the top of the table.

   When the pointer changes to a double arrow, you can drag the line in the direction of the arrows until you see the rest of your text.



6. To wrap text in a cell, choose Alignment from the Format menu and then choose Wrap.

   You may have to increase the row height to see the wrapped text. For more information, see "Wrapping a Cell Entry" in chapter 6.

7. Continue entering data in the rest of the spreadsheet cells.

◆ **Tip** In a spreadsheet frame, you can hide column and row headers and grid lines by selecting Display or Modify Frame from the Options menu.

Positioning the Table

After you create a table, you can paste it into a paragraph—either within a line of text, or on its own line. To position the table, you can use tab and paragraph formatting tools. For example, you can center the table by clicking the centered alignment control on the ruler. Or, you can increase the line spacing before and after the table by clicking the increase-spacing control on the ruler.

To position the table:

1. If you've been working outside the spreadsheet frame, click anywhere in the spreadsheet frame to select it. If you've been working in the spreadsheet frame, click the pointer and then click anywhere in the spreadsheet frame.

   You see black handles on the four corners of the frame.

2. Choose Cut in the Edit menu or press Command-X.

   The table moves temporarily onto the Clipboard.

3. Set the insertion point where you want to paste the table.

◆ **Note** If you want to place the table on its own line, press the Return key to create a line before pasting the table. By doing so, you can use paragraph formatting for the table without changing the text around it.

4. Choose Paste from the Edit menu or press Command-V.

   The table appears at the insertion point. If you created a new line for the table, it appears between two lines of text. Otherwise, it appears in the line of text.

   After pasting the table in your document, you can position it on the page using the ruler or the Tab and Paragraph dialog boxes.

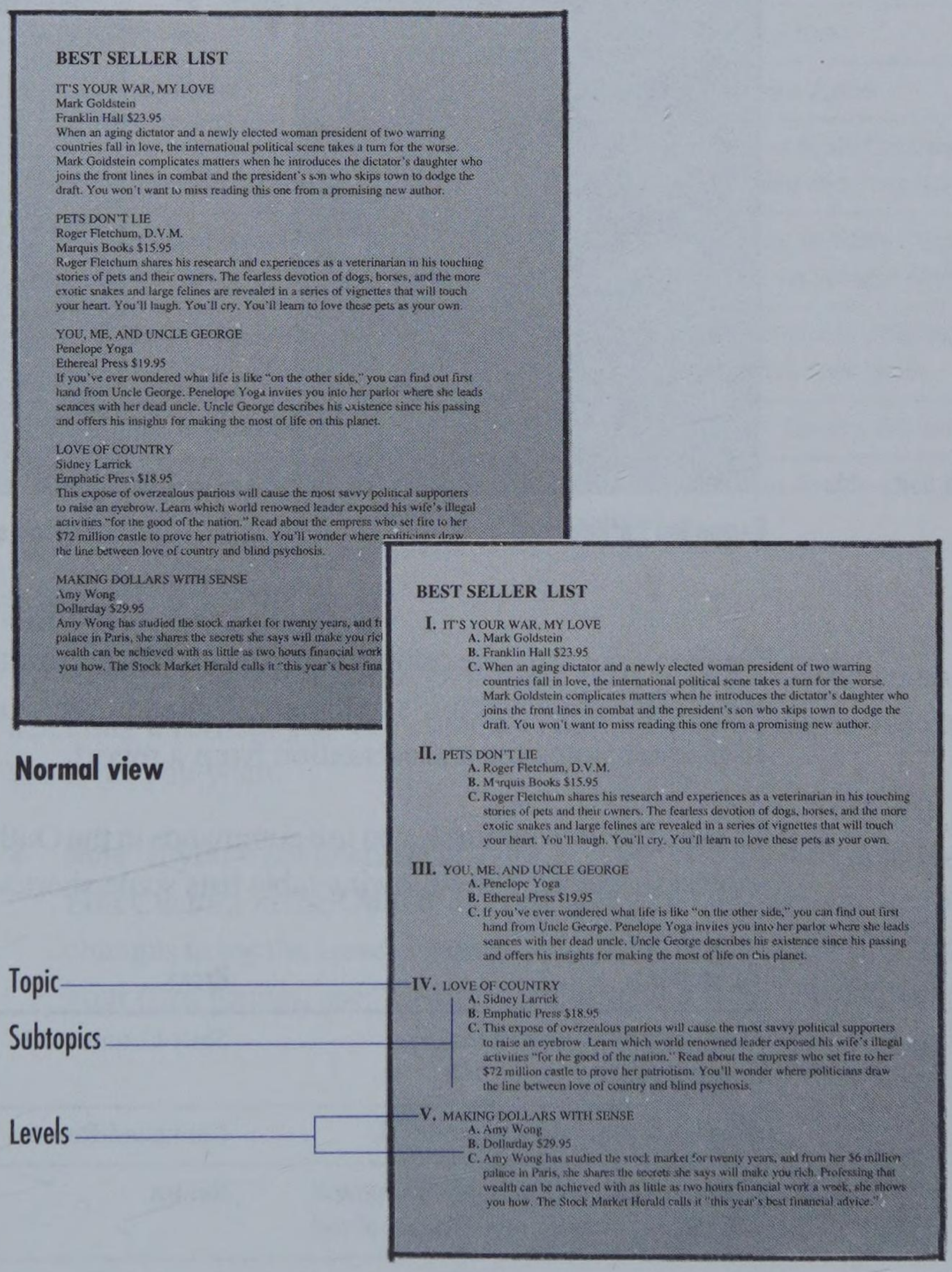
   For more information about working with tabs or paragraphs, see "Working with Tab Markers" on page 3-28 or "Working with Paragraphs" on page 3-21.

Working with Outlines

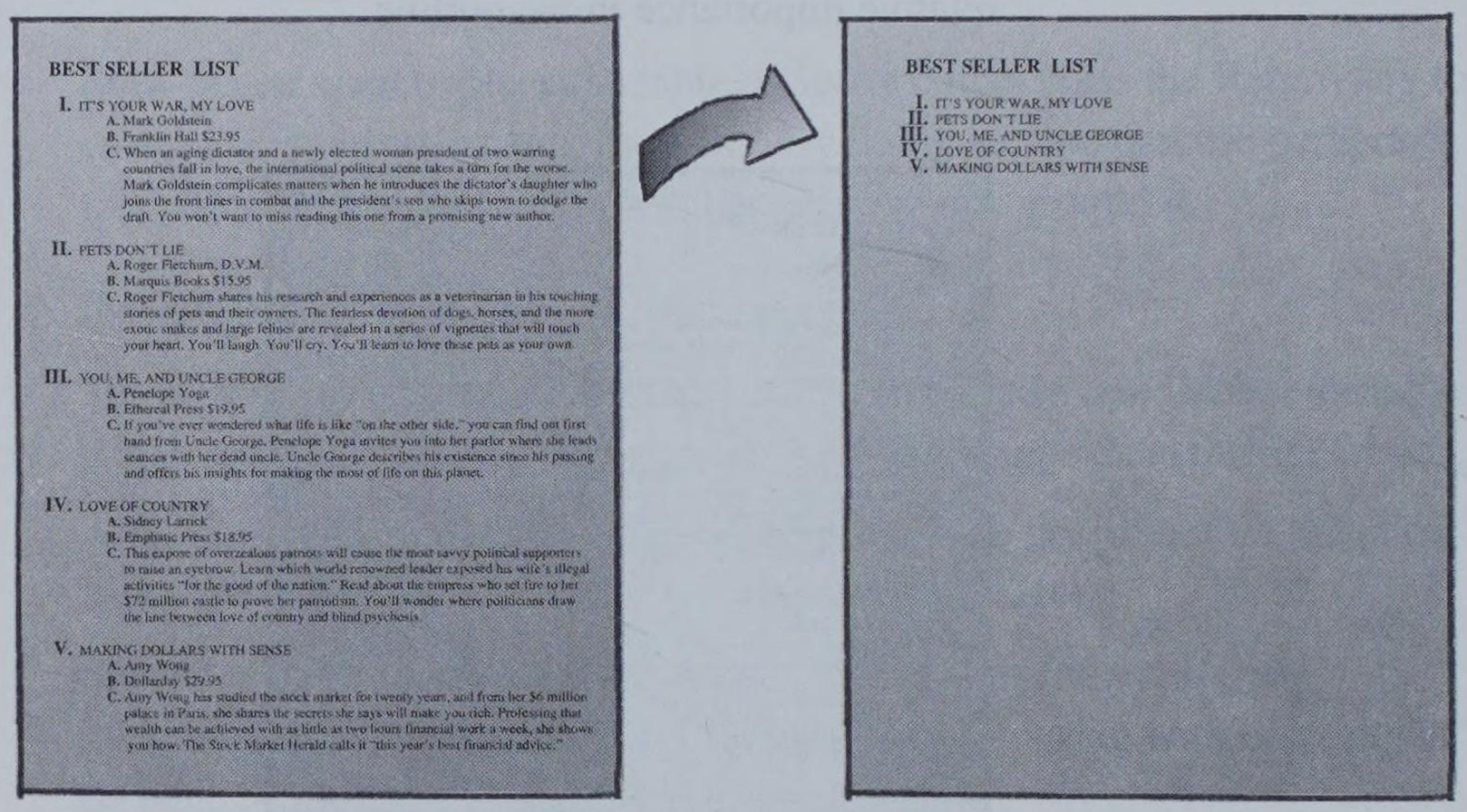
An outline summarizes the major ideas of a written work in topics and subtopics. You can use a ClarisWorks outline to organize and prioritize your ideas before you begin writing. For example, you can use an outline to lay out the ideas for a complex research report. Later, you can edit the report by changing the outline topics.

Whenever you use a ClarisWorks outline, you see your document in **outline view**. You can work on a document either in outline view or in **normal view**.

An outline contains major headings, called **topics**, which express the main ideas of your document. You place subordinate ideas, called **subtopics**, under these topics. You can indent these subtopics at different **levels** to show their relative importance in the outline.



To get an overview of the ideas in your document, you can **collapse** the outline (or portions of it), hiding the subtopics from view.



Expanded outline **Collapsed outline**

To see your complete outline again, you can **expand** the outline. You can print the outline even when it's collapsed. For example, you can collapse an outline to prepare notes for a presentation from a report.

In working with outlines, you use commands in the Outline menu or keyboard and mouse shortcuts. The following table lists some shortcuts for outline commands.

To do this...	Press...
Go to outline view or return to normal view.	Shift-Command-I
Create a topic at the current level.	Command-Return
Create a topic with the same paragraph formats as the topic immediately above.	Return
Create a topic one level left.	Command-L
Create a topic one level right.	Command-R
Move a topic left.	Shift-Command-L or Option-Control-Left Arrow

To do this...	Press...
Move a topic right.	Shift-Command-R or Option-Control-Right Arrow
Move a topic and its subtopics left.	Control-Left Arrow or Shift-Command-L
Move a topic and its subtopics right.	Control-Right Arrow or Shift-Command-R
Move a topic up.	Option-Control-Up Arrow
Move a topic down.	Option-Control-Down Arrow
Move a topic and its subtopics above the previous topic.	Control-Up Arrow or Shift-Command-A, or click a topic's label and drag it up
Move a topic and its subtopics below the following topic.	Control-Down Arrow or Shift-Command-B, or click a topic's label and drag it down
Select all the text of a topic.	Click three times in the text if the topic is only one line. If it's more, click four times.
Select a topic with its subtopics.	Control-Shift-Space bar or click the topic's label
Collapse or expand a topic.	Control-Space bar or double-click the topic label

Creating an Outline

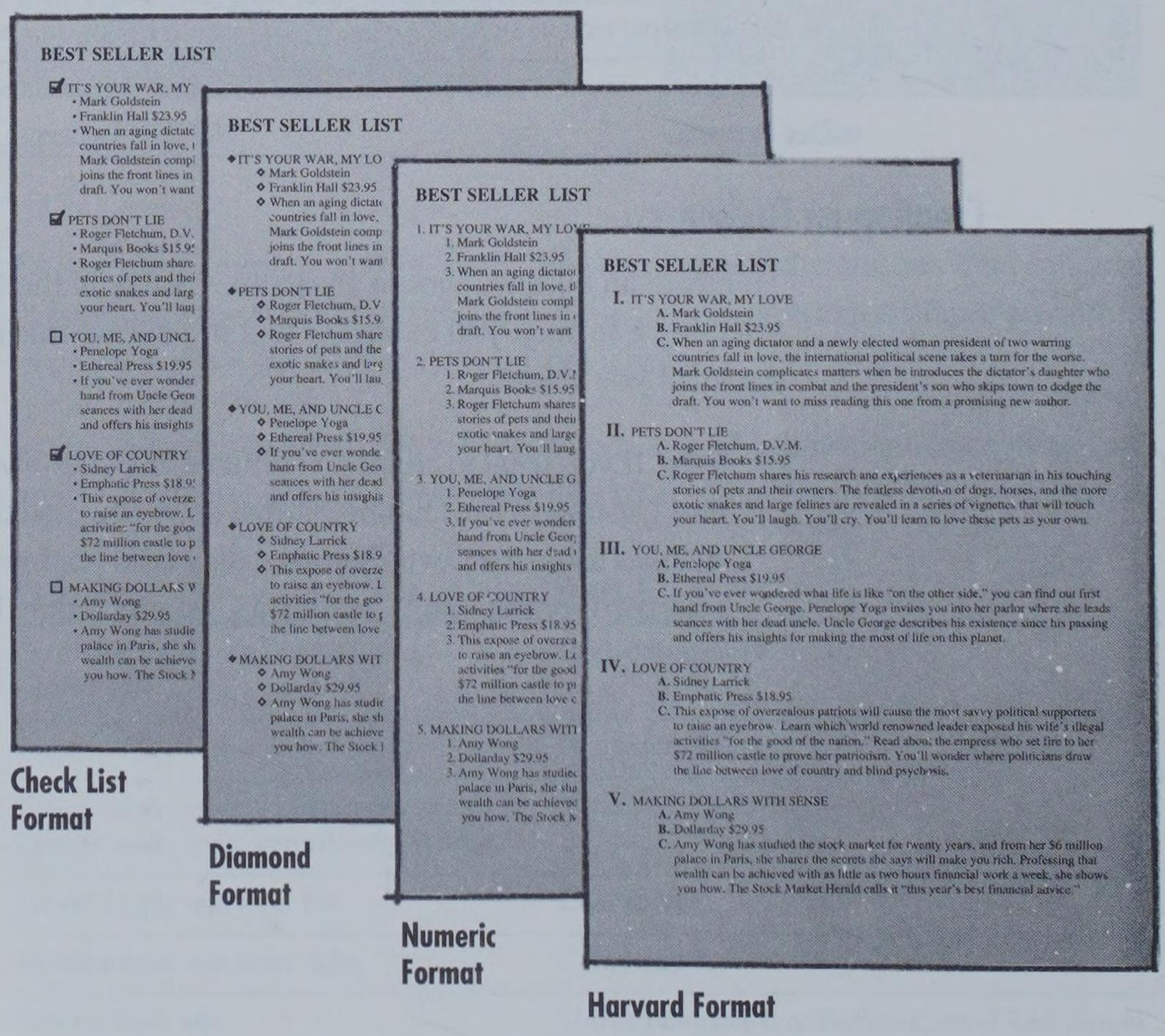
To create an outline, choose an outline format in the Outline menu. After selecting a format, you can enter text in your outline and move each topic to the level you want.

- **Note** If you want to create an outline using your own format, you can choose Edit Custom in the Outline Format submenu, and then make formatting changes using the Level Format dialog box. For more information on making your own format, see "Creating a Custom Outline Format" on page 3-59.

Choosing an Outline Format

To begin an outline, you can choose from seven preset outline formats. The following predefined formats appear in the Outline Format submenu of the Outline menu:

- Diamond Format
- Numeric Format
- Harvard Format
- Legal Format
- Bulleted List
- Check List
- Custom Format

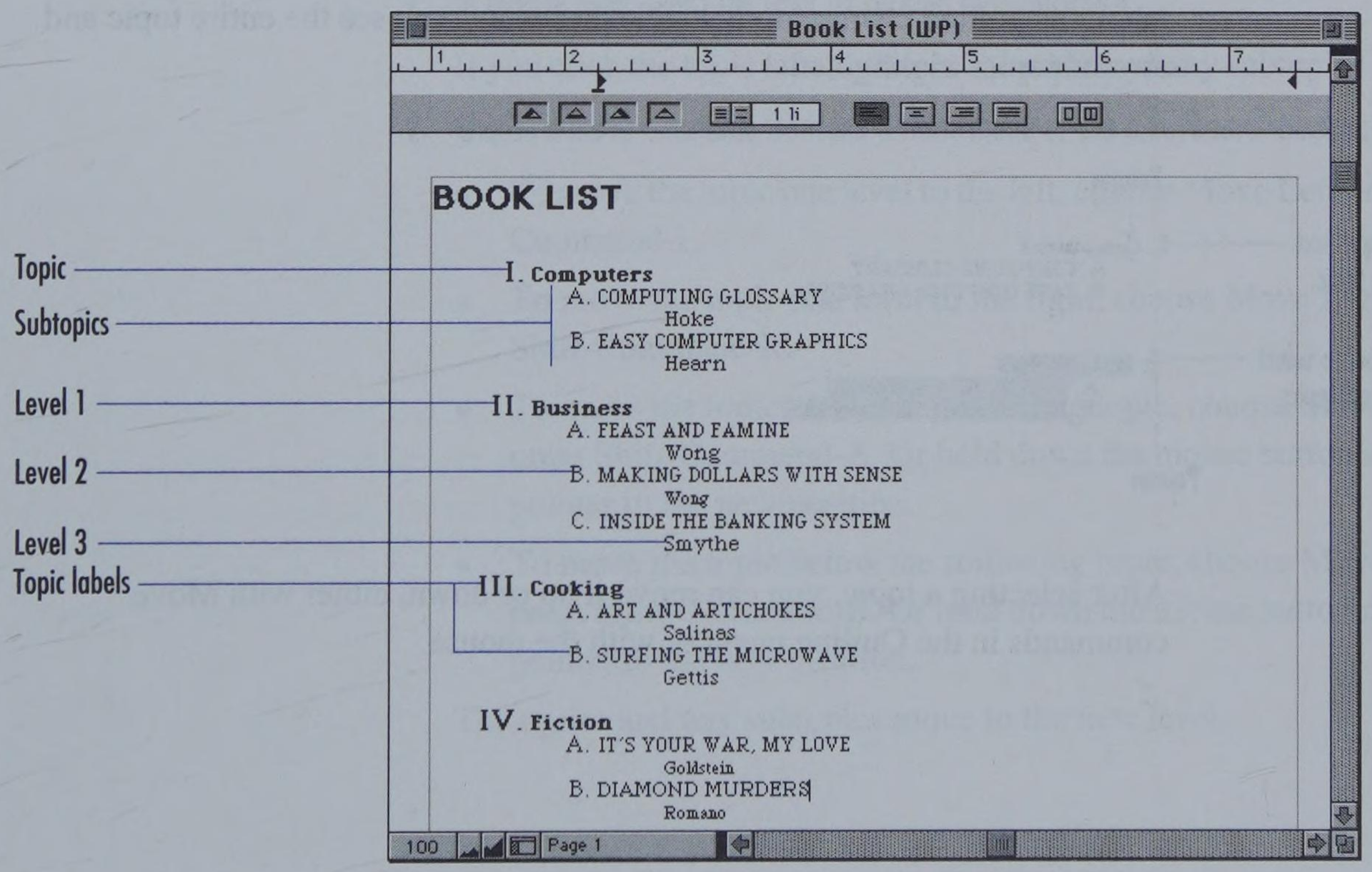


To select an outline format, choose Outline Format from the Outline menu and then choose a format from the submenu. You see a checkmark in the Outline Format submenu next to the selected format. Once you choose an outline format, your document automatically appears in outline view.

Entering Topics

After selecting an outline format, you can enter the topics for the outline. Each outline format has 16 preset, indented levels. You can enter topics at the current level or one level to the left or right. To enter a new topic, choose one of the new topic commands from the Outline menu or use a keyboard shortcut.

- **Note** Each outline format has preset styles for the text in its levels. If you want to change the appearance of a topic or subtopic, you can apply a new **topic label** to your text, or create your own style for a level. For more information on creating your own style, see "Using Outline Topic Labels" on page 3-58 or "Creating a Custom Outline Format" on page 3-59.



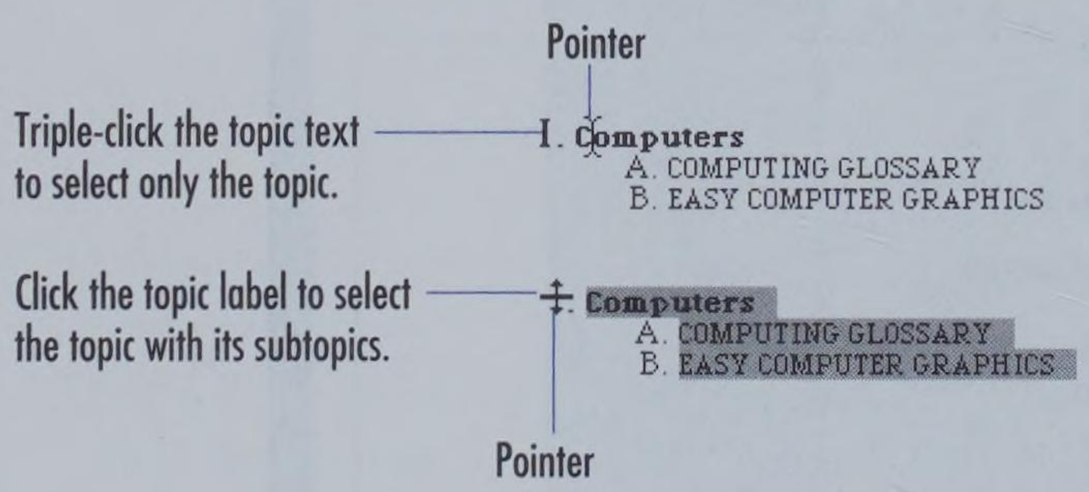
To enter a topic:

1. If necessary, choose an outline format from the Outline Format submenu in the Outline menu.
2. Press Command-Return to enter a topic at the current level or choose one of the new topic commands in the Outline menu:
   - To enter a topic at the current level, choose New Topic.
   - To enter a topic one level to the left, unless the current level is level 1, choose New Topic Left or press Command-L.
   - To enter a topic one level to the right, unless the current level is level 16, choose New Topic Right or press Command-R.
3. Type the text for your topic.

You see your topic at the level you selected.

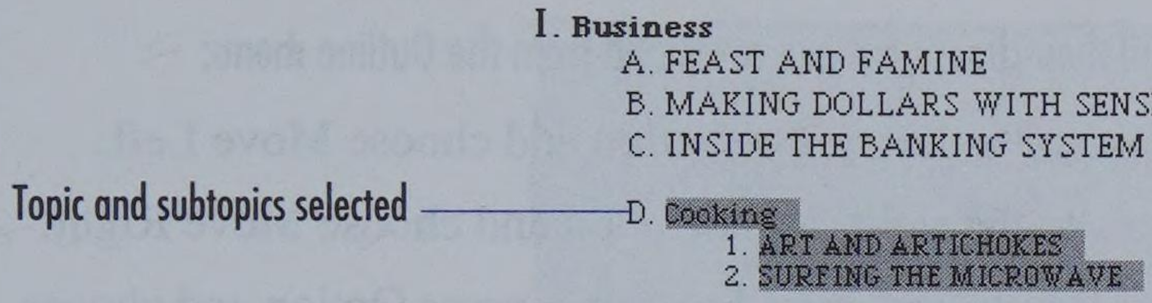
Arranging Topics in an Outline

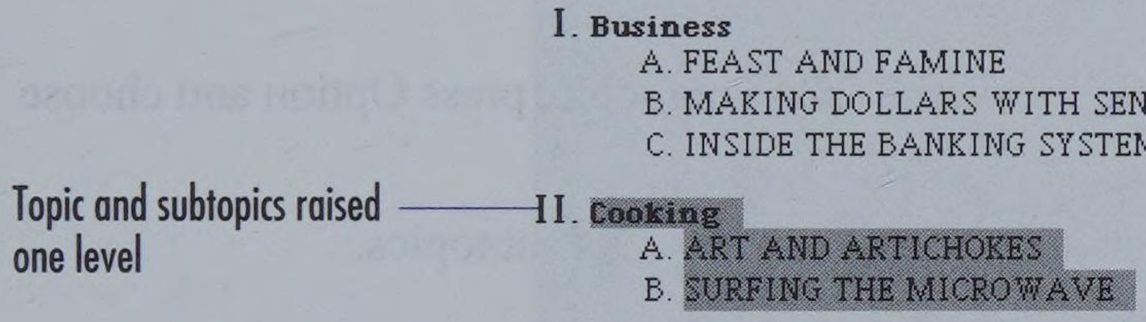
Once you've entered outline topics, you can move them to different levels in the outline. To move a topic, click the topic to select it. If you click the topic label, the pointer changes to a double arrow and you see the entire topic and any subtopics highlighted.



After selecting a topic, you can move it up or down, either with Move commands in the Outline menu or with the mouse.

You can also **raise** a topic, or promote it, to a higher rank. Raising a topic moves the topic and any subtopics up one level.





To change the level of a topic and its subtopics:

1. **In outline view, select the topic by clicking anywhere in it.**

   If you click the topic label, you see the topic and any subtopics highlighted.

2. **Choose a move command from the Outline menu or use a keyboard shortcut:**

   - To move the topic one level to the left, choose Move Left or press Shift-Command-L.
   - To move the topic one level to the right, choose Move Right or press Shift-Command-R.
   - To move the topic above the preceding topic, choose Move Above or press Shift-Command-A. Or hold down the mouse button and drag the pointer to the new position.
   - To move the topic below the following topic, choose Move Below or press Shift-Command-B. Or hold down the mouse button and drag the pointer to the new position.

The topics and any subtopics move to the new level.

To change the level of a topic without its subtopics:

1. **In outline view, select the topic by clicking in it anywhere except in the topic label.**

   You see the insertion point blinking in the text of the topic.

2. **Press the Option key, and then choose a move command from the Outline menu:**

   - To move the topic to the left, press Option and choose Move Left.
   - To move the topic to the right, press Option and choose Move Right.
   - To move the topic above the preceding topic, press Option and choose Move Above.
   - To move the topic below the following topic, press Option and choose Move Below.

   The topic moves to its new position without its subtopics.

To raise the level of a topic and its subtopics:

1. **In outline view, select the topic by clicking anywhere in it.**

   If you click the topic label, you see the topic and any subtopics highlighted.

2. **Choose Raise Topic in the Outline menu.**

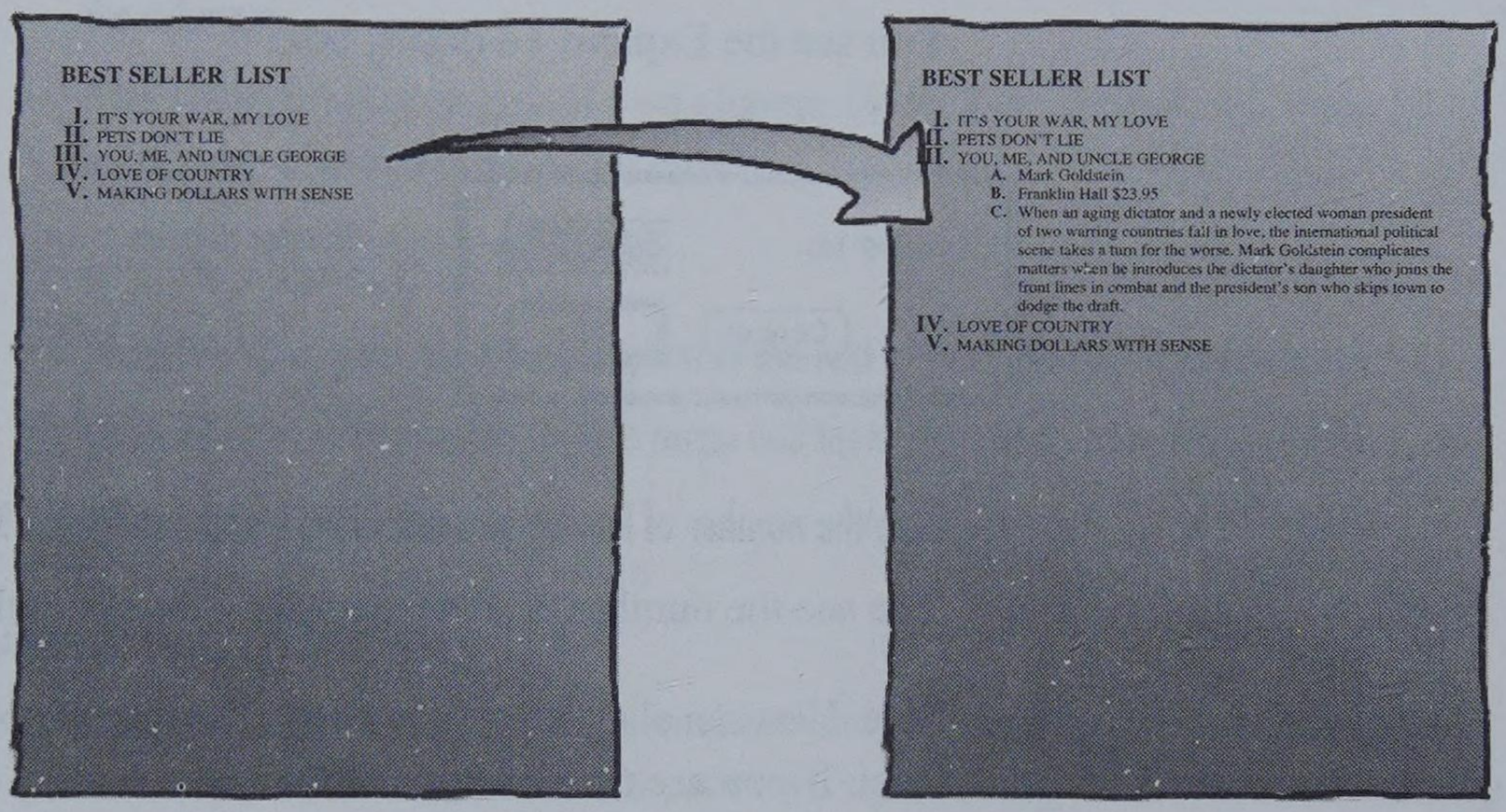
   You see the topic and any subtopics raised one level.

◆ **Note** When you choose the Raise Topic command, you promote the entire section. You can't raise a topic without raising its subtopics.

Viewing an Outline

When you work with an outline, you can choose the number of levels to view. To view fewer levels in an outline, you can collapse the outline (or portions of it) to hide the subtopics. For example, if you give a presentation from the material in a business report, you can create brief speaking notes by collapsing the report to view only the main topics. Later, when you want to see more detail, you can expand it to view the entire report.

To collapse or expand topics in an outline, first select the topics and then choose the Collapse or Expand command from the Outline menu.



Collapsed topics **Expanded topics**

If you want to collapse or expand the topics for an entire outline, you can use the Expand To command. For example, you can choose to view only levels one and two in an outline that contains four levels.

- **Important** If you collapse an outline and return to normal view, the subtopics remain hidden. To display your entire document again, return to outline view, and then use the Expand To command in the Outline menu to expand your document so all topics and subtopics are visible.

To expand or collapse a level's subtopics:

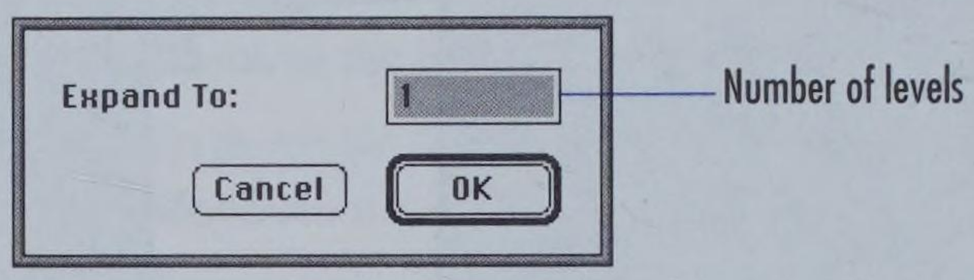
1. In outline view, select the topic or topics you want to expand or collapse.
2. Choose Expand or Collapse from the Outline menu.

   The subtopics expand or collapse, depending on what you chose.

To expand or collapse an entire outline to a specific level:

1. In outline view, click anywhere in the outline.
2. Choose Expand To from the Outline menu.

   You see the Expand To dialog box.



3. Type the number of levels you want to view and then click OK.

   You see the number of levels you set—if your outline contains those levels.

- **Note** You can also collapse or expand topics by double-clicking on a topic's label. If you use the Diamond format, the shading of the diamonds tells you whether a topic is expanded or collapsed.

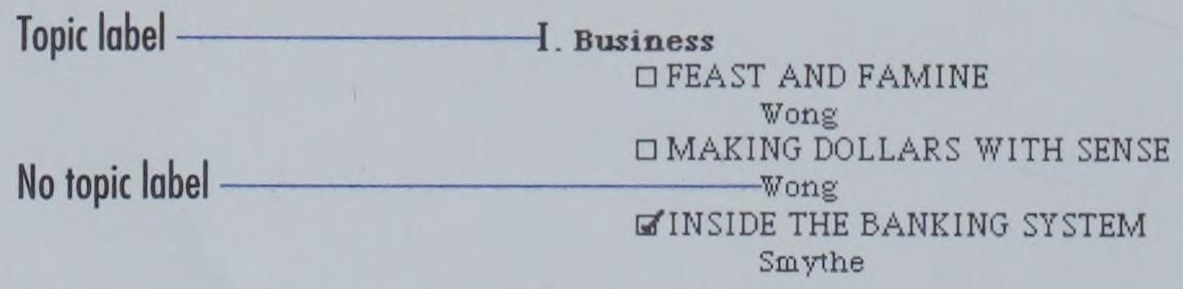
To return to normal view from outline view, choose Outline View in the Outline menu, or press Command-Shift-I.

Using Outline Topic Labels

A topic label appears to the left of an outline topic showing information about the topic's position—a number, a letter, or a symbol. You can change a topic label by choosing a new one from the Topic Label submenu.

You can also create your own format for the text in a topic by selecting the text and applying text format commands from the Font, Size, and Style menus. However, you can save time and ensure consistency by creating a custom format for that level using the Level Format dialog box. To do so, see the next section, "Creating a Custom Outline Format."

You can remove a topic label if you don't want a label for a specific topic. See the following figure for an example of topics with no labels.



To change a topic label:

1. In outline view, place the insertion point in the text of the topic you want to change.
2. Choose Topic Label from the Outline menu and then choose one of the label types from the submenu.

   The topic label changes. If you change the outline format, the topic label keeps the characteristics you chose.

To remove a topic label:

1. In outline view, place the insertion point in the text of the topic you want to change.
2. Choose Topic Label from the Outline menu and then select None from the submenu.

   The topic label disappears.

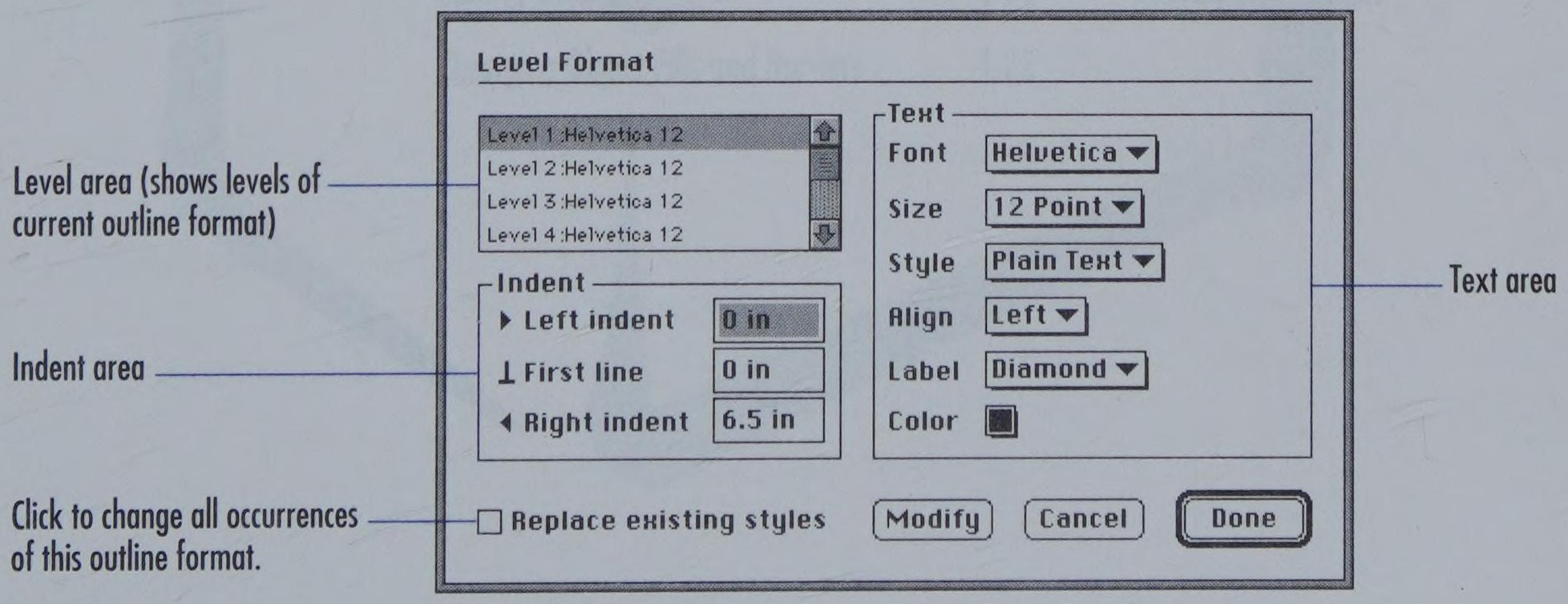
Creating a Custom Outline Format

To format text in an outline, you can either choose from the preset styles in the Outline Format submenu, or create your own style. Using the Level Format dialog box, you can modify the Custom Format, choosing new indent and text settings for any of its 16 levels. For example, you can create a style for "to do" lists by creating a Custom Format with topic labels that combine numbers and checkboxes.

To create a custom outline format:

1. Choose Outline Format from the Outline menu and then choose Edit Custom from the submenu.

   You see the Level Format dialog box.



2. **In the Level area of the dialog box, click the level you want to change.**

   Use the scroll bar to locate it if you need to.

3. **Choose the settings you want for that level:**

   - To change the left, right, or first-line indent, type a number in the appropriate box in the Indent area. You don't need to type the unit.
   - Choose text attributes from the pop-up menus in the Text area.

4. **When you finish making changes for this level, click Modify.**

   You see the changes in the level you just modified.

5. **Continue changing other levels as needed. Click the level, select the new attributes, and then click Modify.**

6. **If you want to change all the current outline topics for the levels you modified so they reflect the new attributes you selected in the Level Format dialog box, select the Replace existing styles box.**

   When you select this checkbox, any attributes that you've applied outside the dialog box (font, size, style and so forth) are lost for the levels that you've modified in the dialog box. The corresponding levels in your outline change to reflect the modified levels exactly as you defined them in the Level Format dialog box.

7. **Click Done to close the dialog box and apply the attributes that you've just selected.**

   Only the levels that you've modified will change in your outline. And any attributes that you've applied (for example, from the Font, Size, or Styles menus) remain.

Chapter 4

Working with Drawings

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Chapter 4

Working with Drawings

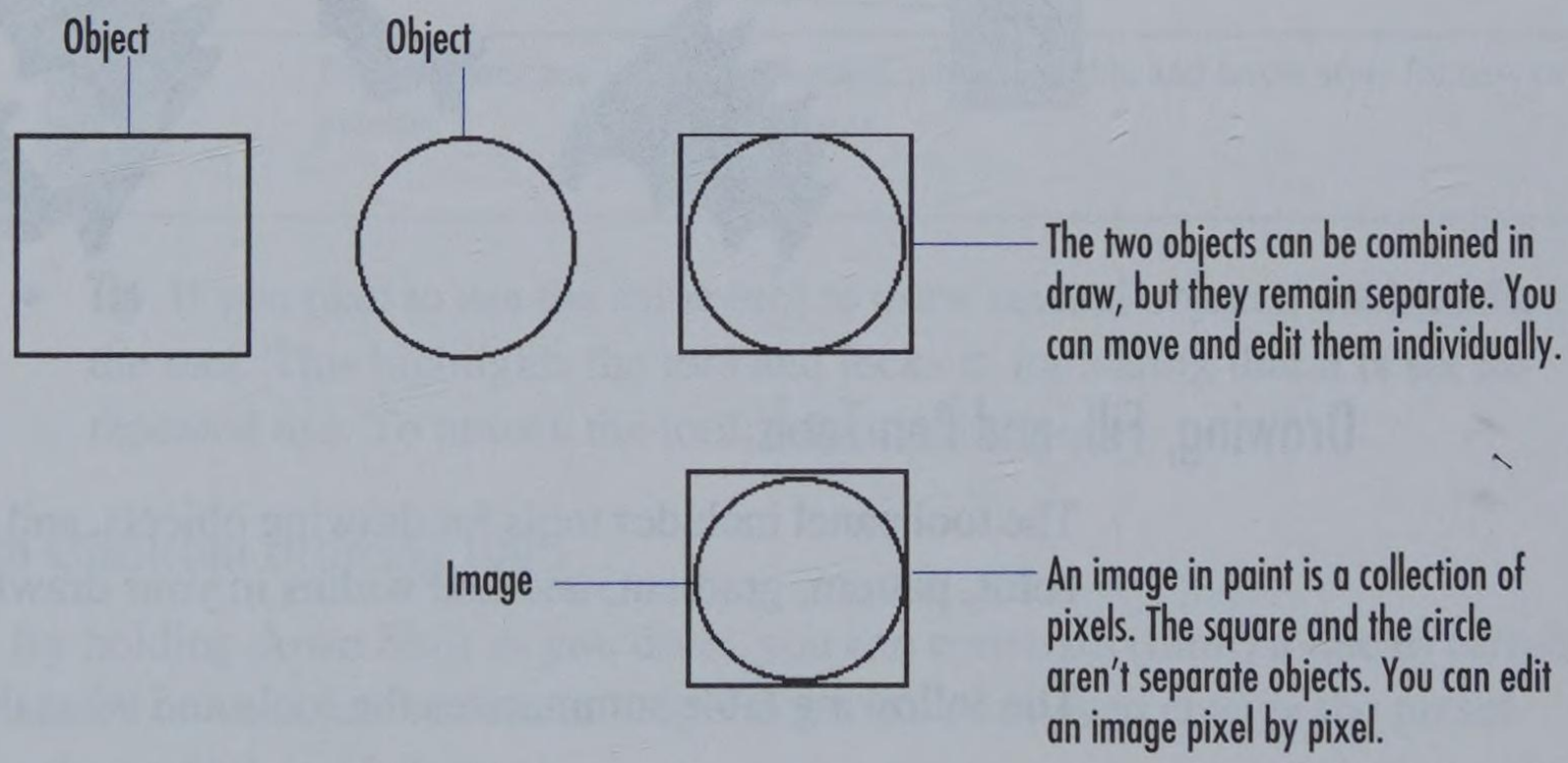
This chapter gives step-by-step instructions for using draw documents and working in the ClarisWorks draw environment.

ClarisWorks has two graphics environments: draw and paint. You use the draw environment for page layout and drawing simple shapes, such as rectangles, circles, lines, and polygons. You use the paint environment for creating artwork, such as illustrations and logos.

ClarisWorks provides a set of tools common to both drawing and painting. You use these tools to create specific shapes or freehand sketches. The paint environment includes more tools and commands for painting and creating visual effects.

In the draw environment, each item you draw is an individual **object**. For example, if you draw a circle inside a square, the circle and square remain two separate objects. This means you can move or change the circle and the square remains intact. You can change the circle's line width, fill color, pattern, or gradient without affecting the square.

In the paint environment, each item you paint is an **image**. An image is made up of individual dots, called **pixels**. If you paint a circle inside a square, the circle and square become part of the same image—a collection of pixels. The circle and square are not separate objects as in draw. You can edit the circle and square pixel by pixel.



In a New Draw Document

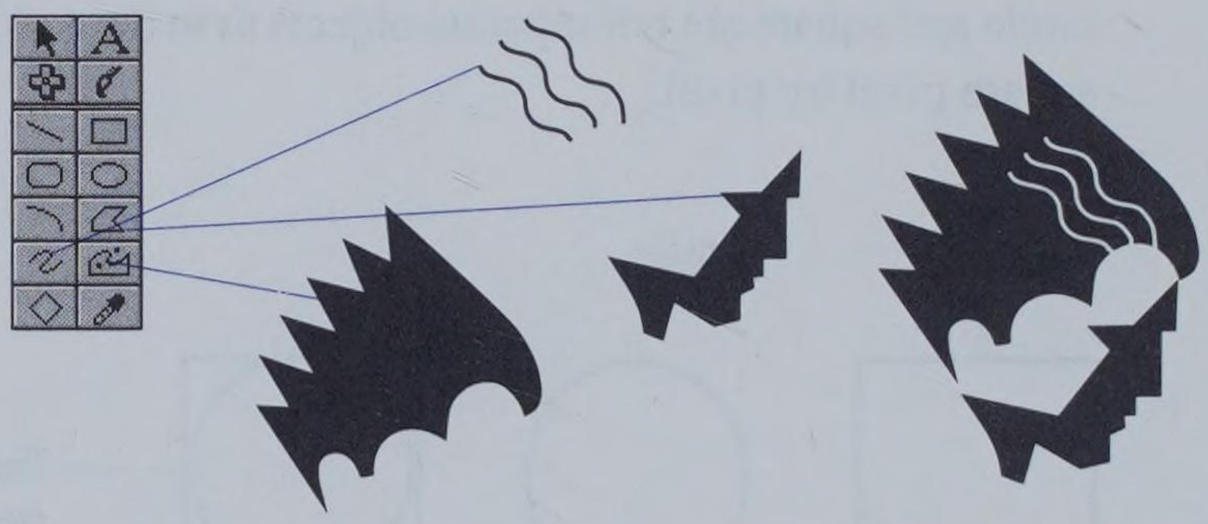
You start a new draw document either from the New Document dialog box when you first start ClarisWorks or from the File menu. For more information, see "Creating a Document" in chapter 2.

In a draw document, margins are preset to the smallest margin allowed by the printer you've chosen. The graphics rulers are preset to inches. For instructions on changing the margins and the ruler settings, see "Changing Page Settings" and "Changing Ruler Settings" in chapter 2.

Using the Tool Panel

The tools you use to create drawings are in the tool panel. To draw an object, you select the drawing tool for the shape you want, and then drag the tool to create the object.

By drawing objects of different shapes and positioning them, you can create intricate drawings.



Drawing, Fill, and Pen Tools

The tool panel includes tools for drawing objects, and palettes for changing the color, pattern, gradient, and line widths in your drawings.

The following table summarizes the tools and what they do.

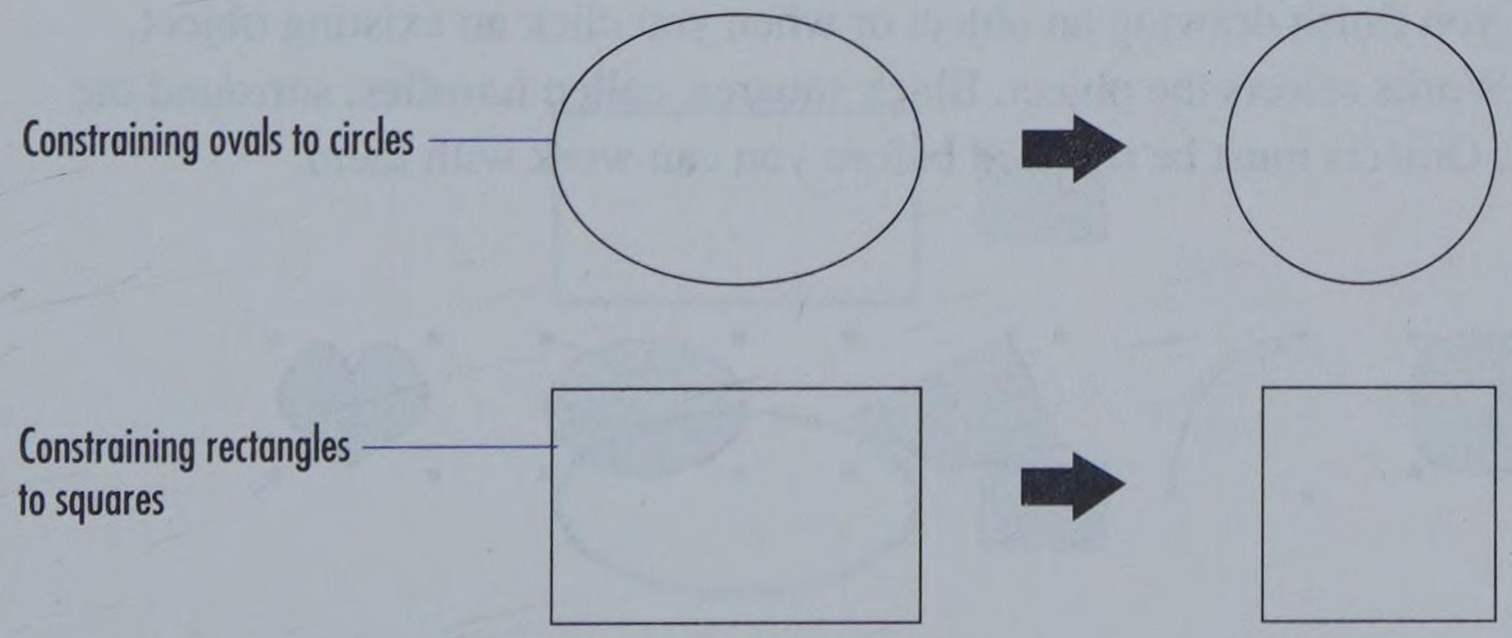
Tool icon	Tool name	Use to...
	Pointer	Select, move, and resize objects.
	Text tool	Draw a text frame or edit an existing text frame.
	Spreadsheet tool	Draw a spreadsheet frame or edit an existing spreadsheet.
	Paint tool	Draw a paint frame or edit an existing paint image.
	Line tool	Draw straight lines.
	Rectangle tool	Draw rectangles and squares.
	Rounded rectangle tool	Draw rectangles and squares with rounded corners.
	Oval tool	Draw ovals and circles.
	Arc tool	Draw an arc that curves between two points.

Tool icon	Tool name	Use to...
	Polygon tool	Draw shapes composed of angles and straight lines, such as triangles, rhomboids, and stars.
	Freehand tool	Draw curving or irregular lines–freehand shapes like those you draw with a pen or pencil.
	Bezigon tool	Draw shapes with Bezier curves or angles.
	Regular polygon tool	Draw polygons with sides of equal length.
	Eyedropper	Pick up colors, patterns, or gradients from an object.
	Fill indicator and palettes	Set the fill color, pattern, or gradient for new or existing objects.
	Pen indicator and palettes	Set the pen color, pattern, width, and arrow style for new or existing objects.

- **Tip** If you plan to use the same tool to draw several objects, double-click the tool. This highlights the tool and locks it, indicating that it is set for repeated use. To unlock the tool, select another one.

Using Shift to Constrain Drawing Tools

By holding down Shift as you draw, you can constrain (limit) a line to certain angles or an object to certain proportions. You can even change the preset value, which is 45 degrees.



The preset Shift constraints limit objects to 45 degrees from the x and y axis. All objects are restricted to drawing at 0, 45, 90, 135, 180, 225, and 270 degrees. For example:

- The rectangle or rounded rectangle tool creates a square or a round-cornered square.
- The regular polygon tool rotates at the specified angle.
- The arc tool creates a quarter circle.

To use a Shift constraint:

1. Select the drawing tool you want to use.
2. Hold down Shift while you draw an object with the tool.

To change the constraint value:

1. Choose Preferences from the Edit menu.

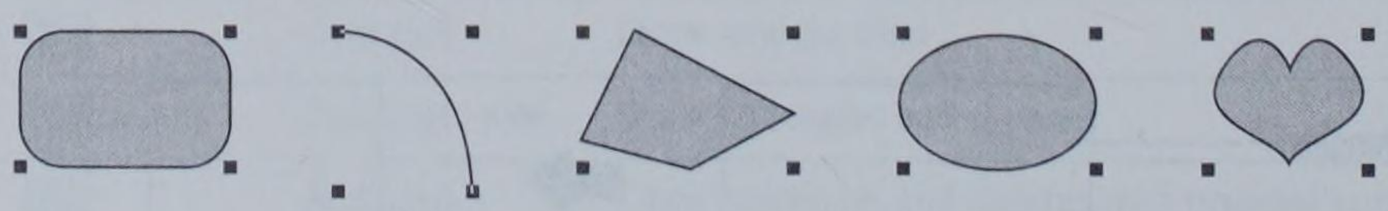
   You see the Preferences dialog box. If you need help using this dialog box, see "Setting Preferences" in chapter 2.

2. Enter a new value in the Shift constraint box.
3. Click OK.

   Using Shift now constrains lines to angles that are multiples of the value you entered. The angle between the base and diagonal of rectangles and rounded rectangles is also constrained to multiples of the value.

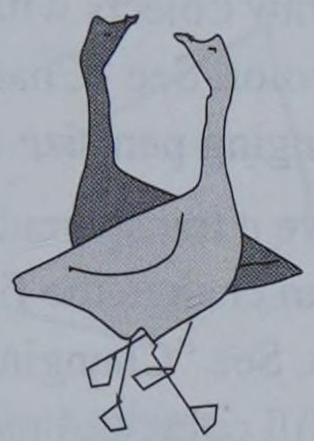
Drawing Objects

When you finish drawing an object or when you click an existing object, ClarisWorks selects the object. Black squares, called **handles**, surround the object. Objects must be selected before you can work with them.



About Object Stacking Order

As you draw, you discover that some objects overlap and block your view of other objects. The blocked object hasn't been erased. You never lose part (or all) of an object because another object covers it.



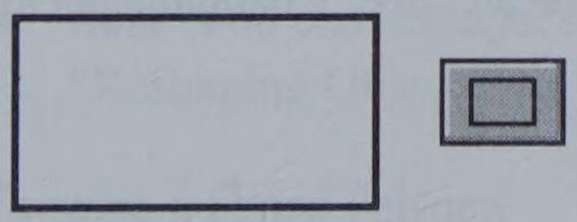
ClarisWorks stacks objects in the order of creation, with the most recent object on top, in an arrangement called the **stacking order.** Methods for changing the stacking order are described in "Changing How Objects Overlap" on page 4-19.

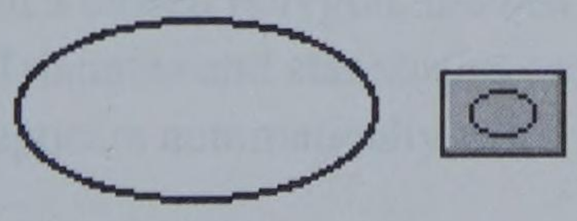
Drawing a Line, Rectangle, or Oval

To draw a line, rectangle, or oval:

1. Select the tool for the shape you want and drag it across the draw document.
2. Release the mouse button when the object is the size you want.







What Else Can You Do?

- As soon as you release the mouse button after drawing an object, ClarisWorks selects the new object and adds selection handles. You can move the selected object by dragging the whole object or change its size by dragging one of the handles.
- ClarisWorks tools are preset to draw objects with solid borders with a 1-point pen size and a black pen color. See "Changing Line Attributes" on page 4-25 for information on changing pen size and color.
- Freehand objects are preset to have a transparent fill; other objects are preset to have a white fill. You can change the fill settings to fill objects with colors, patterns, or gradients. See "Changing an Object's Fill" on page 4-23 for more on changing fill color and pattern or gradient.
- Rounded rectangles are based on a circle with a radius of 1/4 inch. You can fine-tune the curve on the corners of a rounded rectangle by adjusting the radius. For information, see "Adjusting Corners" on page 4-33.

Drawing an Arc



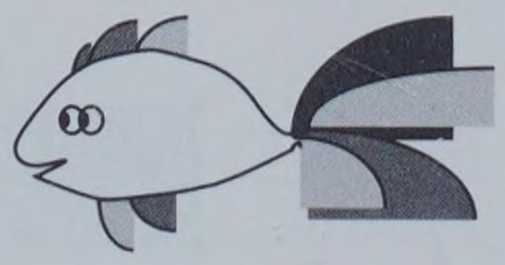
To draw an arc:

1. **Select the arc tool and drag it from one point in the draw document to another.**

   The direction you drag determines the curve of the arc. To create a circular arc, hold down the Shift key as you drag. For information on creating arcs that you can't create with the tool alone, see "Reshaping Arcs" on page 4-34.

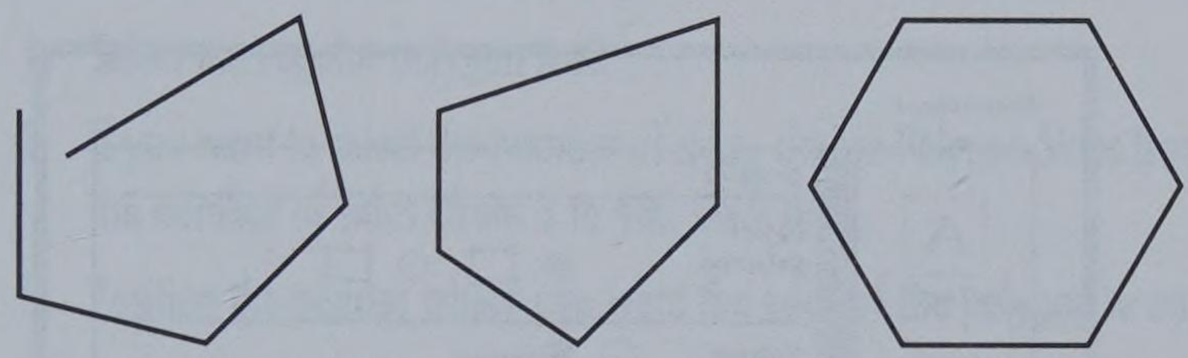
   Release the mouse button when the arc is the size you want.

◆ **Note** You can fill an arc with a gradient, pattern, and color. The fill is based on the concave shape of the arc. See "Changing an Object's Fill" on page 4-23.



Drawing Polygons

Use the polygon tool to draw shapes composed of angles and straight lines, with as many sides or line segments as you want. You can draw open or closed polygons. To draw regular polygons, use the regular polygon tool.



Open polygon **Closed polygon** **Regular polygon**

Drawing an Open Polygon

To draw an open polygon:

1. Select the polygon tool and click once where you want the shape to begin.
2. Move the mouse in the direction you want and click to end the first line segment of the polygon.

   You don't have to hold down the mouse button. A line follows your movement.
3. Continue moving the mouse and clicking to create the angular shape you want.

   To create a curve through a specific point as you draw, hold down Option as you click the point.
4. Double-click to finish the shape or press Enter.

   To close the polygon, click the starting point of the polygon.

- **Note** You can reshape, smooth, and unsmooth an existing polygon. See "Reshaping Objects" on page 4-38.

Drawing a Closed Polygon

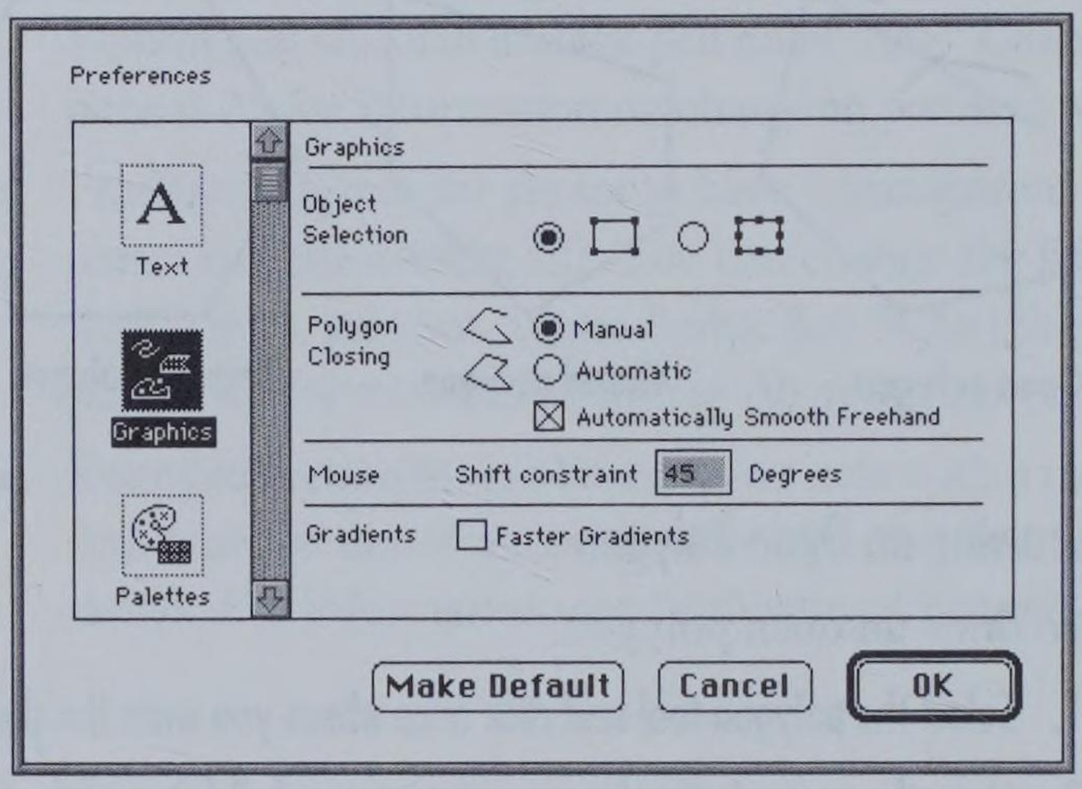
In a closed polygon, the last line ends at the starting point of the polygon. Triangles and star shapes are examples of closed polygons. The last line appears automatically when you double-click.

To draw a closed polygon, you change the Preferences setting for polygons:

1. **Choose Preferences from the Edit menu.**

   You see the Preferences dialog box.

2. **Click Automatic under Polygon Closing and click OK.**



   The setting remains in effect until you choose Manual.

3. **Select the polygon tool and click once where you want the shape to begin.**
4. **Move the mouse in the direction you want.**

   You don't have to hold down the mouse button. A line follows your movement.

5. **To end the first line, click again.**

   Another line begins at that point.

6. **Continue moving the mouse and clicking to create the angular shape you want.**

   There is no practical limit to the number of lines you can add.

7. **Double-click to finish the polygon.**

   ClarisWorks closes the polygon.

◆ **Tip** If you've set the polygon preference to Manual, you can create a closed polygon by clicking the starting point. This closes the polygon.

Drawing a Regular Polygon

Use the regular polygon tool to draw a polygon with a specified number of equal-length sides. ClarisWorks is preset to draw a hexagon—a polygon with six sides.



To draw a regular polygon:

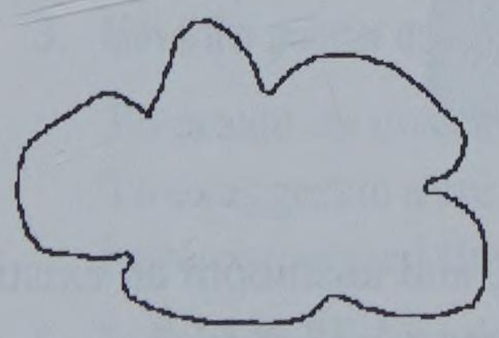
1. Select the regular polygon tool.
2. If you want to select the number of sides, choose Polygon Sides from the Options menu. Type the number of sides (from 3 to 40). Click OK.
3. Position the pointer where you want the edge of the polygon to appear.
4. Drag to a point where you want a corner of the polygon to appear.

   ClarisWorks displays the border of the polygon as you drag.

   You can rotate the polygon as you drag. Pressing Shift as you drag constrains the rotation of the polygon to the current constraining angle set in Preferences. (For more information on setting preferences, see "Setting Preferences" in chapter 2.)
5. Release the mouse button when the polygon is the size you want and in the correct position.

Making a Freehand Drawing

Use the freehand tool to draw a curving or irregular line just as you would with a pencil or pen.





To make a freehand drawing:

1. **Select the freehand tool and drag it to draw the shape you want.**

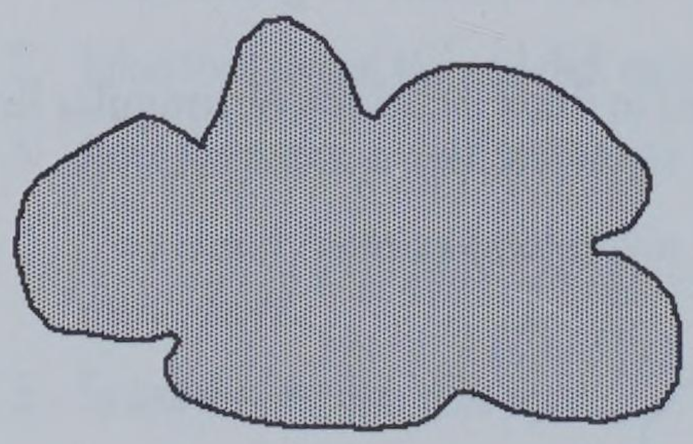
   You can make a freehand line any length.

2. **Release the mouse button when the drawing is the shape and size you want.**

   When you release the mouse button, ClarisWorks smooths the drawing. Handles appear at the corners of the rectangular boundary that surrounds the shape.

What Else Can You Do?

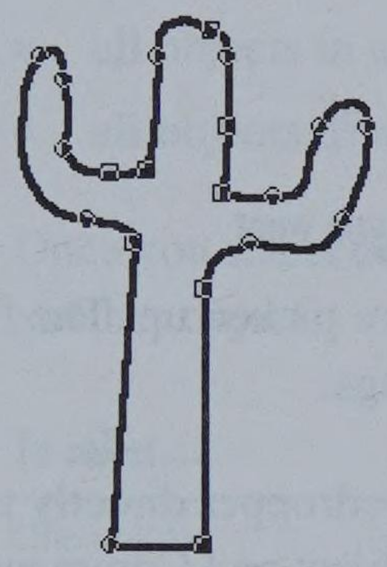
- ClarisWorks is preset to smooth the freehand shape. To change this setting, choose Preferences from the Edit menu. Deselect the Automatically Smooth Freehand option.
- Move the freehand shape by dragging the whole shape or change its size by dragging one of the handles.
- To fill a freehand shape, select the object and choose a fill pattern and/or color or gradient. The enclosed parts of the shape are filled. See "Changing an Object's Fill" on page 4-23.



- You can reshape, smooth, and unsmooth an existing freehand shape. See "Reshaping Objects" on page 4-38.

Drawing Bezier Curves

The bezigon tool lets you draw shapes with curves that pass through specific points. As you draw a bezigon, you specify the points; the bezigon tool draws smooth Bezier curves that connect the points.



A bezigon can have as many curves and points as you want, and you can change how the points appear.



To draw a bezigon:

1. **Select the bezigon tool.**
2. **Click where you want the first point of the bezigon to appear.**

   A line segment stretches from the first point as you move the mouse to the next point.
3. **Move the pointer and click where you want the next point of the bezigon to appear.**

   To create an unsmoothed (angular) point, hold down Option as you click.

   To exaggerate a curve, click and drag, releasing the mouse button when you have completed the curve.
4. **To finish the bezigon, double-click where you want the last point to appear.**

   If you want to end the bezigon by connecting the line to the starting point, click the first point. ClarisWorks connects and closes the bezigon.

What Else Can You Do?

To adjust a curve, choose Reshape from the Edit menu. Click an anchor point and drag one of the control handles. See "Reshaping Objects" on page 4-38.

Picking Up an Object's Attributes

Use the eyedropper tool to pick up an object's attributes and make them the current settings, without having to select them from a palette. You can pick up a pattern, color, or gradient for fills and pen settings, as well as pen width and arrowhead settings.

To pick up an object's attributes:

1. Select the eyedropper.
2. Click the object that has the attributes you want.

   Both the fill and pen settings are picked up. The fill and pen indicators change to reflect the new settings.

To apply the attributes from the eyedropper directly to another object, position the eyedropper over the object and Command-click. For objects with a transparent fill, click the border of the object. You can also select the eyedropper and then set the attributes. To apply those attributes, Command-click an object with the eyedropper.

◆ **Tip** Press Tab to switch quickly between the current tool and the eyedropper.

Drawing a Frame

You use frames in a draw document to add a text object, a spreadsheet object, or a paint image.

ClarisWorks treats frames as objects and the sections of this chapter on working with objects apply also to frames. For information on working with frames you create, see "Working with Frames" in chapter 8.

Editing Objects

ClarisWorks lets you modify objects—for example, you can move, duplicate, delete, rotate, flip, and arrange objects. First, you select one or more objects. Then, you use the pointer to move them or use menu commands to edit them.

Selecting Objects

Before you can move or edit any object, you must select it. Using the pointer, you can select:

- one object
- several objects
- all objects in a document
- all objects of a certain type

Once you select objects, they remain selected until you deselect them or select another object.

To select...	Do this...
One object	Click anywhere on the object. For objects with a transparent fill, click the object's line or border.
Several objects	Drag the pointer across the objects to enclose them. This selects only those objects entirely enclosed within the rectangle. Hold down Command and drag the pointer across the objects to enclose them. This selects any object, whether partially or entirely within the rectangle. Hold down Shift and click each object.
All objects	Choose Select All from the Edit menu, or press Command-A.
All objects of a certain type	Select the tool that created the type of objects you want to select, for example, the oval tool. Choose Select All from the Edit menu, or press Command-A.

◆ **Note** ClarisWorks treats the shapes drawn with the polygon, bezigon, regular polygon, and freehand tools as the same type of object. When you choose one of these tools and then choose Select All, all objects of those types are selected. For example, suppose you have a bezigon, a polygon, and a freehand shape in one document. If you choose the bezigon tool and then choose Select All, the bezigon, the polygon, and the freehand shapes are all selected, not just the bezigon shape.

Deselecting an Object

To deselect an object, click anywhere outside the object. If more than one object is selected, Shift-click an object to deselect it.

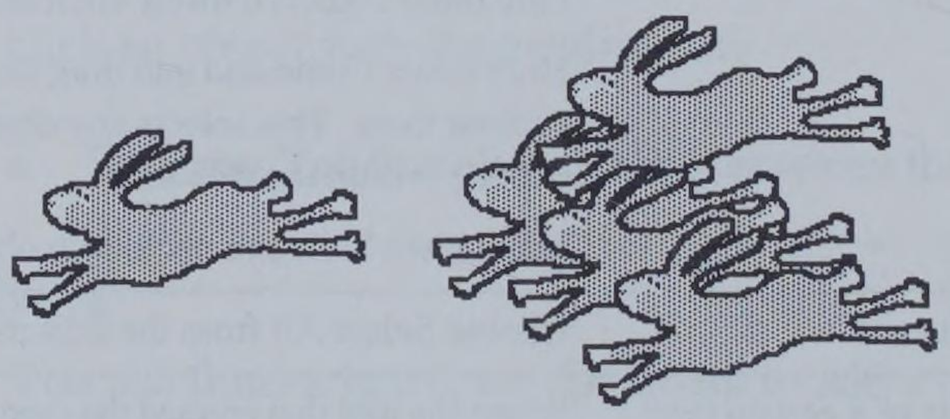
Duplicating an Object

You can easily create an exact copy of an object in one step, without having to copy it and then paste it. Duplicate does not change the current contents of the Clipboard.

To duplicate an object:

1. Select the object you want to duplicate.
2. Choose Duplicate from the Edit menu or press Command-D while the object is still selected.

   A copy of the object appears, slightly offset from the original. Choose Duplicate until you have the number of objects needed.



- **Tip** If you duplicate an object and immediately move the copy to a new position, ClarisWorks keeps track of the distance that you drag the copy. If you duplicate again immediately, the next copy appears the same distance from the last copy. This feature is useful for creating evenly spaced rows of identical objects.

Deleting Objects

After you create an object, you may want to remove it. ClarisWorks provides several ways of deleting objects.

To delete...	Do this...
An object permanently	Click anywhere on the object, and then press Delete or choose Clear from the Edit menu.
An object and keep a copy on the Clipboard	Click anywhere on the object, and then choose Cut from the Edit menu or press Command-X.
All objects in a document	Choose Select All from the Edit menu, or press Command-A. Then choose Clear from the Edit menu or press Delete.

- **Note** If you change your mind about the deletion, choose Undo from the Edit menu or press Command-Z to restore the object before you take any other action.

Arranging Objects

You can use several methods to arrange the objects you draw. The graphics ruler, grid, and autogrid aid in precise positioning, as does the Align Objects command. Several menu commands change the stacking order of objects and object orientation.

- **Note** Choose Rulers from the Format menu to set the measurement units and number of divisions on the graphics ruler. For more information, see "Changing Ruler Settings" in chapter 2. These settings also control the grid and autogrid, which are described later in this section.

Moving Objects

Any object, including frames, can be moved. If you select several objects, they move together.

To move an object, select the object and, using the pointer, drag it to the new position.

As you drag, a dotted rectangle follows the pointer. When you release the mouse button, the object moves to the place indicated by the rectangle. If you're moving any type of polygon, bezigon, or freehand shape, hold down Command as you drag to display an outline of the object.

If the autogrid is turned on, the distance the object moves is constrained to the grid (see "Using the Autogrid" on page 4-20).

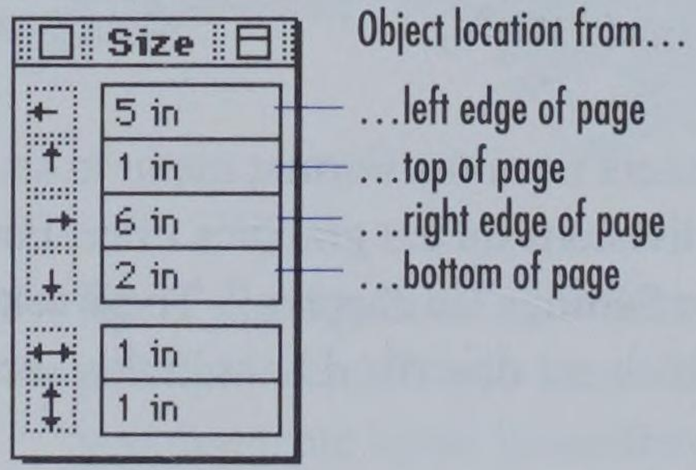
To move an object in small increments, select the object and press one of the arrow keys.

The object moves one pixel in the direction of the arrow if the autogrid is off and one grid unit in the direction of the arrow if the autogrid is on.

You can also move objects using the size palette.

1. **Select the object you want to move.**
2. **Choose Object Size from the Options menu.**

   You see the Size palette. This palette lists the object location in relation to the edges of the page and the object width and height.



3. **To move the object, type the values you want in the location boxes.**

   When you are finished, you can close the palette by clicking its close box.

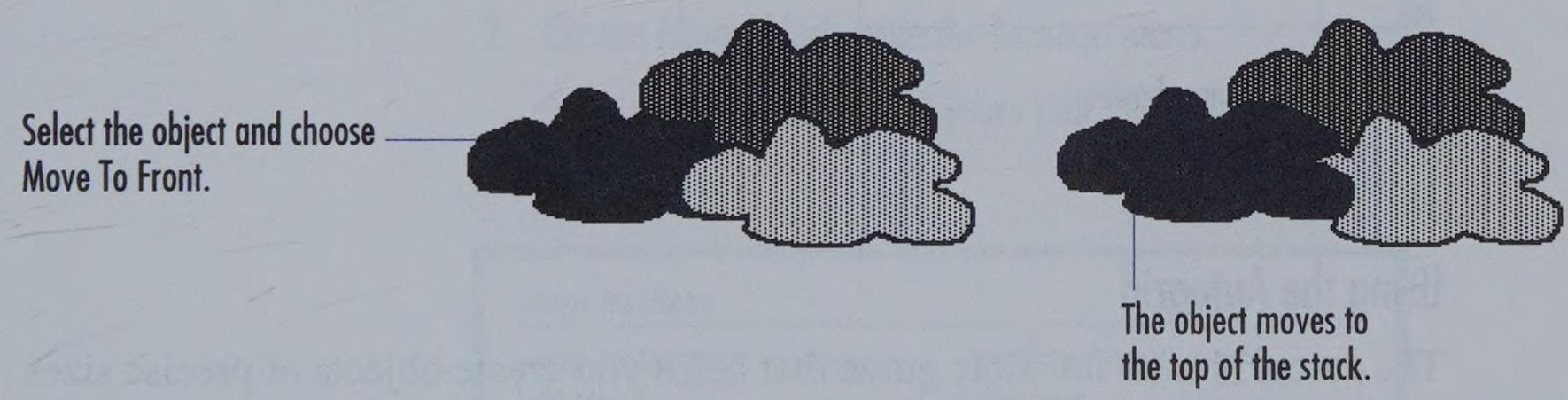
Changing How Objects Overlap

You can think of objects as cardboard cutouts that can be stacked on top of each other. The stacking order is initially determined by the order you created objects, with the most recent object on top of the stack.

To change an object's place in the stack:

1. Select the object whose order you want to change.
2. Choose one of the four Move commands from the Arrange menu: Move Forward, Move To Front, Move Backward, Move To Back.

   Move Forward and Move Backward change the object's position by one layer. Move To Front and Move To Back move the object to the top or bottom of the stack, respectively.

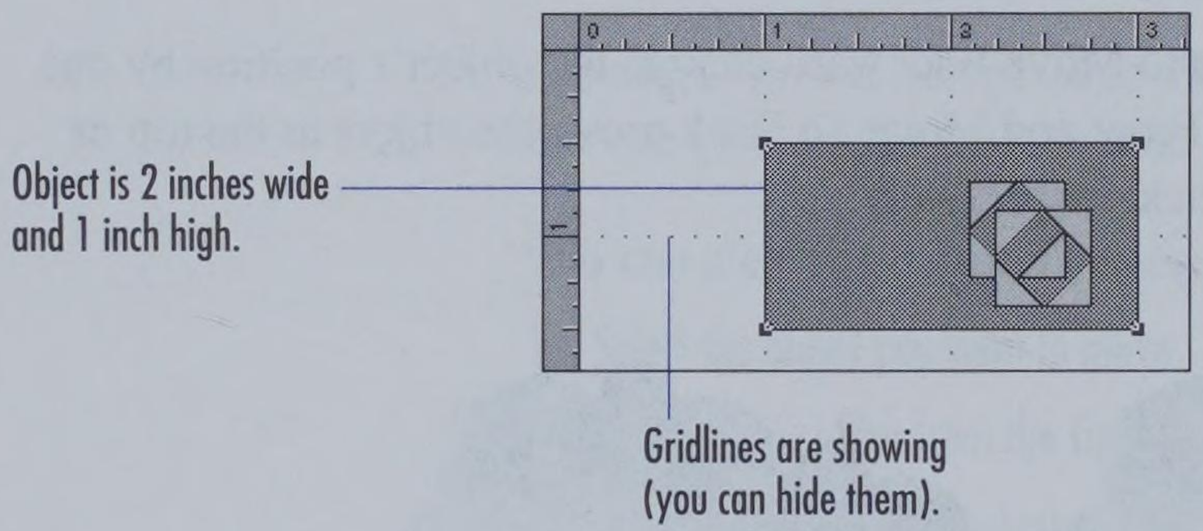


- **Note** If you are using a master page, the Move To Back command moves the object behind the master page. (For more information on master pages, see "Working with a Master Page" in chapter 8.)

Using the Graphics Grid

Use the graphics grid to help you position objects or to create objects in precise sizes. Spacing of gridlines corresponds to the units of measure you set for the ruler. Draw documents are preset to show gridlines.

To hide the graphics grid, choose Hide Graphics Grid from the Options menu. This command alternates between show and hide. To show gridlines once more, choose Show Graphics Grid.



Using the Autogrid

The autogrid is an invisible guide that helps you create objects of precise sizes and keep them lined up on the page. The autogrid is preset to be active.

The autogrid is set to the unit of measurement you chose for the graphics rulers (they are preset to inches). Autogrid increments are spaced according to the divisions you set for the graphics rulers (the preset number in a draw document is 8 per inch). To change the number of divisions on your ruler, choose Rulers in the Format menu, enter a value in the Divisions box, and click OK. You can see how the Divisions setting affects object placement when you drag objects and the autogrid is on. For more information, see "Changing Ruler Settings" in chapter 2.

For freehand work, you can turn the autogrid off so that you have more freedom in placing objects.

To switch off the autogrid, choose Turn Autogrid Off from the Options menu. This command alternates between on and off. To switch the autogrid back on, choose Turn Autogrid On.

Aligning Selected Objects to the Grid

To align selected objects to the autogrid:

1. **Select the objects you want to align.**
2. **Choose Align To Grid from the Arrange menu.**

   The selected objects are adjusted so that they line up along the nearest autogrid lines. If the objects already line up with the autogrid, they don't move.

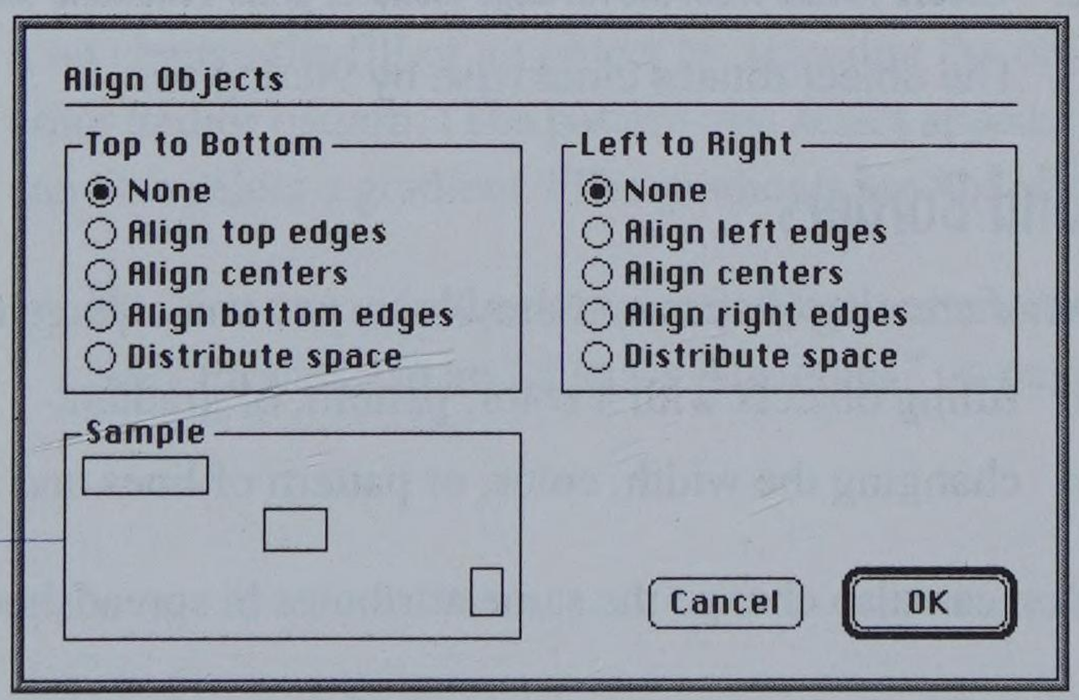
Aligning Objects to Each Other

The Alignment command in the Arrange menu lets you arrange objects in relation to each other.

To align objects in relation to each other:

1. **Select the objects you want to align.**
2. **Choose Align Objects from the Arrange menu.**

   You see the Align Objects dialog box.



Sample area illustrates how objects will align.

3. **Click a Top to Bottom and a Left to Right option (select None to leave the objects as they are).**

   The sample area shows how objects will align. The Distribute space option puts an even amount of space between objects, regardless of their size. You can experiment as much as you like; nothing changes until you click OK.

4. **Click OK.**

   The selected objects are rearranged as specified.

Flipping and Rotating Objects

You can use menu commands to rotate and flip objects.

To flip an object:

1. Select the object you want to flip.
2. Choose Flip Horizontal or Flip Vertical from the Arrange menu.

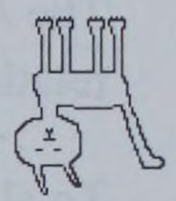
   The object changes position.



Object's original position



Object flipped horizontally



Object flipped vertically

To rotate an object:

1. Select the object you want to rotate.
2. Choose Rotate from the Arrange menu or press Command-Shift-R.

   The object rotates clockwise by 90 degrees.

Changing Object Fills and Borders

After creating shapes and drawings, you can change their appearance by:

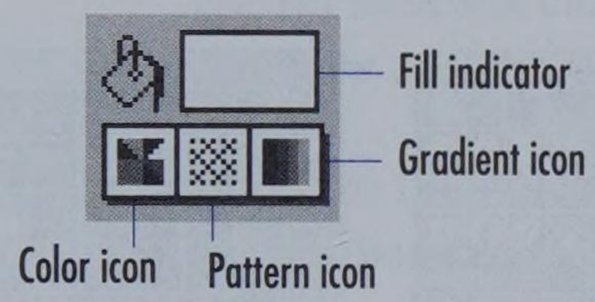
- filling objects with a color, pattern, or gradient
- changing the width, color, or pattern of lines and object borders

You can also change the same attributes in spreadsheet, paint, and text frames.

ClarisWorks lets you customize patterns and gradients.

Filling an Object

You can change the look of objects by filling them with colors, patterns, or gradients or by making them transparent. The fill indicator shows you the current color, pattern, or gradient you're using. You can also change the preset options that determine how new objects look.



- **Tip** You can drag the Fill palettes (color, pattern, or gradient) onto the screen if you're doing a lot of fill work. Place the pointer over the icon and press the mouse button to open the palette. Then drag the palette into the document and release the mouse button. To close a palette, click its close box.

Changing an Object's Fill

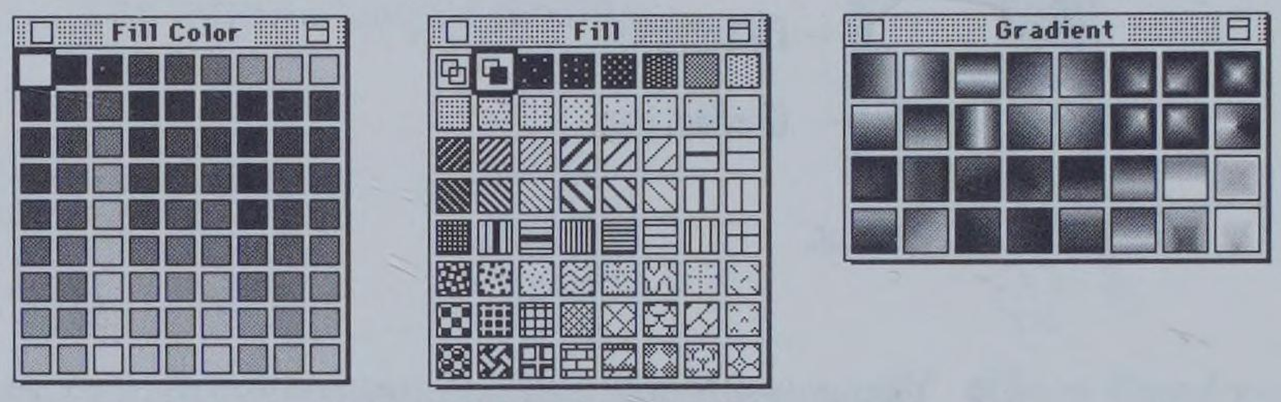
You change the fill of an object by selecting the object and then selecting the color and/or pattern. (The pattern you select appears in the current color.) You can also select a gradient. (The gradients are not affected by the current color.)

- **Tip** You can quickly change an object's attributes by using the eyedropper. See "Picking Up an Object's Attributes" on page 4-14.

To change an object's fill:

1. Select the object you want to fill.
2. Press the color, pattern, or gradient icon to open the appropriate fill palette.

   The fill color palette varies with different color systems. On a monochrome monitor, colors are listed by name.



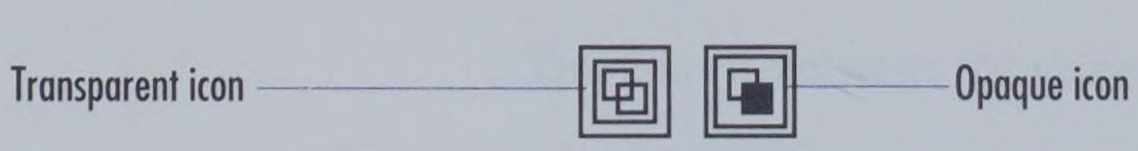
3. Select a color, pattern, or gradient.

◆ **Note** To have ClarisWorks display gradients more quickly, see "Setting Preferences" in chapter 2.

Making an Object Transparent

To make the object transparent:

1. Press the pattern icon to open the fill pattern palette.
2. Select the transparent icon if you want to see through the object (no fill); select the opaque icon if you want the object to be solid.



◆ **Note** When you fill a transparent object with a pattern, color, or gradient, the object becomes opaque.

Resetting the Preset Fill Color, Pattern, or Gradient

To specify the preset color and pattern or gradient:

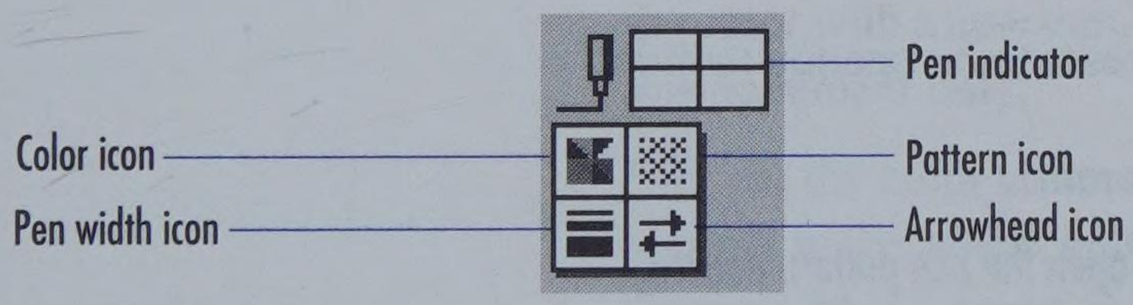
1. Start with no object selected.
2. Choose a color from the fill color palette and a pattern from the fill pattern palette. Or, choose a gradient from the gradient palette.

   The fill indicator changes to show the new preset options. Any new objects you draw use these options.

- **Note** The fill indicator is preset to create most objects as white and opaque. The freehand tool, however, is preset to transparent.

Changing Line Attributes

You use the pen palette to change the color, width, and pattern of lines and borders. You can add arrowheads to lines and specify whether lines are opaque or transparent.

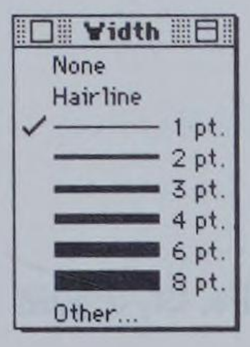


- **Tip** You can drag the pen palettes (color, pattern, pen width, or arrows) onto the screen to keep the palette open while you work. Drag the appropriate icon to where you want the palette to go. The palette remains open until you close it by clicking its close box.

Changing a Line or Border

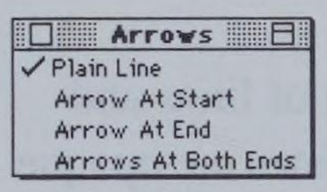
To change an object's line or border color, pattern, or width:

1. Select the object you want to change.
2. Press the color or pattern icon to open the appropriate pen palette.
3. Select a color or pattern.



4. To change the width, press the pen width icon and select a width.
   - *None*—draws an invisible line. Use this option to enclose a shape you want filled with a color or pattern without creating a visible line at the border.
   - *Hairline*—creates a hairline rule, which is a delicate line .02-point wide. On the screen, a hairline rule is one pixel wide; when printed, a hairline rule appears thinner.
   - *1 through 8 points*—draws lines at preset point sizes
   - *Other*—sets a custom pen width from .02 to 255 points

Adding Arrowheads to a Line



To add arrowheads to a line:

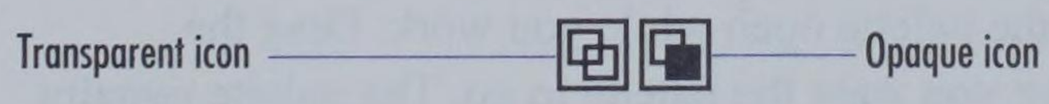
1. Select the line you want to change.
2. Press the arrowhead icon to open the arrowhead palette.
3. Choose a line style from the arrowhead palette.

Making a Line Transparent

Lines and borders are preset to be opaque (solid).

To make the line transparent:

1. Press pen pattern icon to open the pen pattern palette.
2. Select the transparent icon for a clear border; select the opaque icon for a solid border.



Resetting Pen Options

The pen indicator is preset to create lines that are black and solid (no pattern).

To specify the preset pen options:

1. Start with no object selected.
2. Choose a pattern, color, width, and line style (arrowheads) from the appropriate palette.

   The pen indicator changes to show the new preset options. Frame borders are not affected.

Editing Colors, Patterns, and Gradients

You can edit colors (on the 256-color palette), patterns, and gradients. Each palette has its own editor.

Using the Color Editor

If you're using the editable 256-color palette, you can change the colors displayed in the palette, or mix your own colors to include in the palette. A color is made up of three components: hue, saturation, and brightness. A color is also composed of varying amounts of red, green, and blue. By editing these components, you can produce new colors.

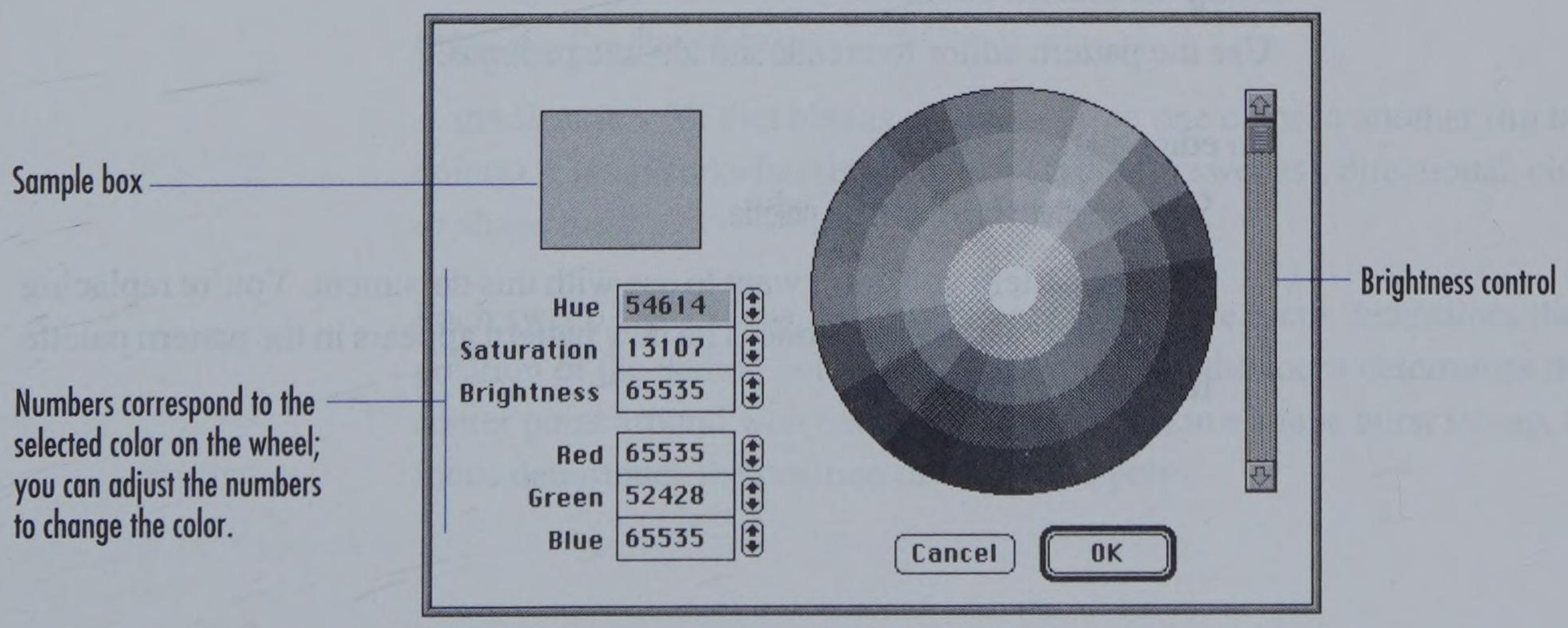
For information on switching from the 81-color Draw Default palette to the editable 256-color palette, see "Setting the Color Palette" in chapter 2.

To edit a color:

1. **Tear off the 256-color palette and double-click the color you want to change.**

   Select a color you don't want to use with this document. You're replacing the color with a new one. The new color appears in the 256-color palette for this document only.

   You see the color editor. On a monochrome monitor, you see letters appears in the wheel indicating the colors (G=green, Y=yellow, R=red, C=cyan, M=magenta, B=blue).



2. **Click anywhere on the color wheel to select a color.**

   The numbers in the Hue, Saturation, Brightness, Red, Green, and Blue boxes change to reflect the new color. The sample box changes: the original color remains on the bottom half; the new color appears on the top half.

3. **Use the scroll bar to the right of the color wheel to change the brightness of the colors displayed in the wheel.**

   Scrolling down makes the color wheel darker; scrolling up makes it brighter.

4. **To fine-tune the colors to the exact color you want, enter numbers in the Hue, Saturation, and Brightness boxes, or in the Red, Green, and Blue boxes. Enter a number in the box or click the up and down arrows beside the box to increase or decrease the number.**

   - Change the hue to produce a different color on the color spectrum.
   - Change the saturation to affect the purity or grayness of the color. The less saturated the color, the grayer it appears; the more saturated the color, the richer and deeper it appears.
   - Change the brightness to make the color lighter or darker. The lower the brightness, the closer the color approaches black.
   - Or, change the amount of red, green, and blue in the color by raising or lowering the numbers.

5. **Click OK when you're finished changing the color, or click Cancel to cancel your changes.**

   To revert to the original color, click the bottom half of the sample box.

Using the Pattern Editor

Use the pattern editor to create and change patterns.

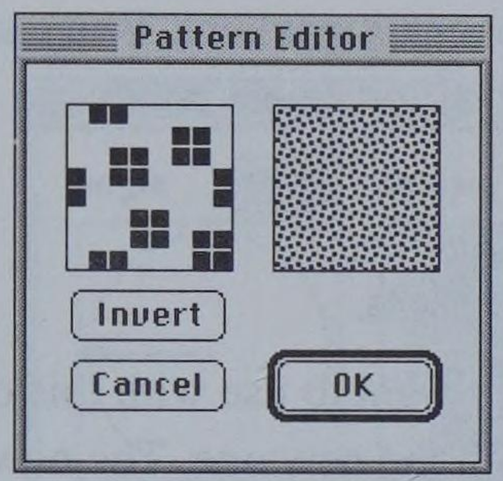
To edit a pattern:

1. **Select a pattern in the pattern palette.**

   Select a pattern you don't want to use with this document. You're replacing that pattern with the new one. The new pattern appears in the pattern palette for this document only.

2. **Choose Patterns from the Options menu.**

   If the palette is open, you can double-click the pattern you want to edit. You see the pattern editor.



3. **In the editing box, position the pointer and click or drag it to change the pattern.**

   The sample box reflects your changes. With the pattern editor on the screen, you can edit another pattern by selecting a new pattern from the pattern palette.

4. **To reverse the pattern, click Invert.**

   Black (or color) pixels become white, and white pixels become black (or color).

5. **Click OK to accept your changes or click Cancel to restore the pattern to the original form.**

   If you clicked OK, the pattern changes on both the fill and pen palettes.

Using the Gradient Editor

A gradient is a fill that blends gradually from one color to another (up to four colors). ClarisWorks has three gradient types (or sweeps): directional, circular, or shape burst.

Each sweep has a focus. In a directional sweep, the focus determines the position of the ending color; in a circular sweep, the focus determines the center point around which the gradient sweeps; in a shape burst sweep, the focus determines the position of the center point.

The directional and circular sweeps also have an angle. The angle determines the direction of the bands of color in the sweep. For example, an angle of 45 degrees makes the bands of color appear diagonally; an angle of 90 degrees makes the colors appear horizontally.

Use the Gradient Editor to change a gradient. You can change the gradient type, select the focus and angle, and select colors.

To edit a gradient:

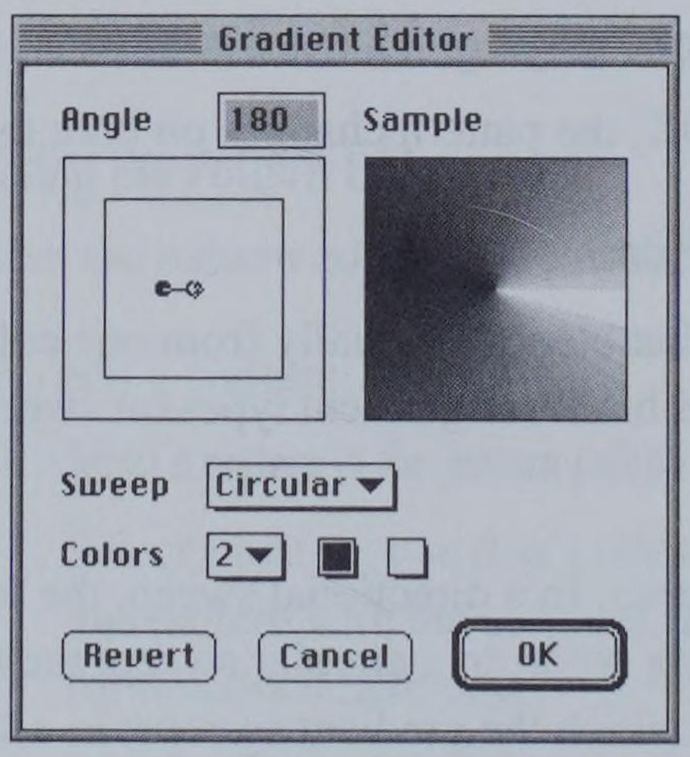
1. **Select a gradient in the gradient palette.**

   Select a gradient you don't want to use with this document. You'll be replacing that gradient with the new one. The new gradient appears in the gradient palette for this document only.

2. **Choose Gradients from the Options menu.**

   If the gradient palette is open, you can double-click the gradient you want to edit.

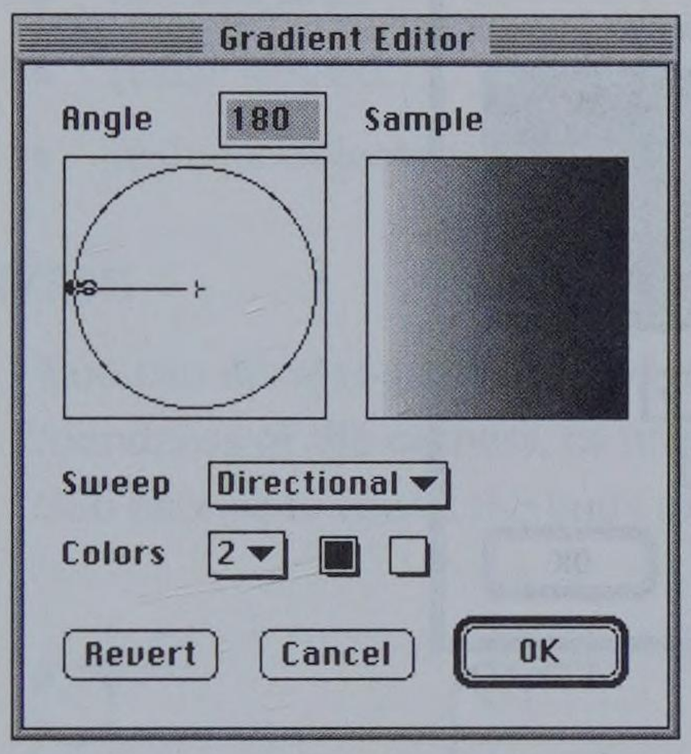
   You see the gradient editor. The sweep displayed in the dialog box depends on the selected gradient. You can change to another gradient if the gradient palette is open by clicking another gradient.



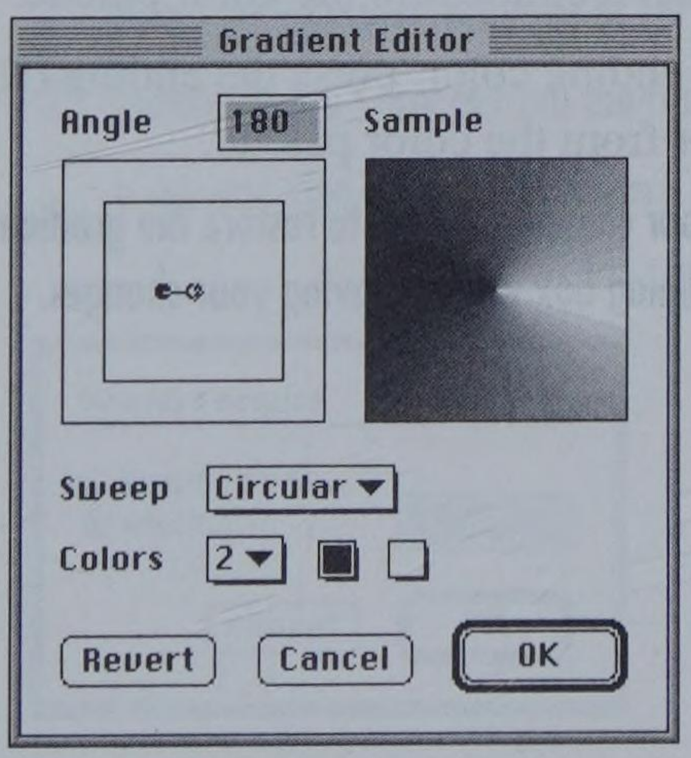
3. From the Sweep pop-up menu, choose a gradient type: Circular, Directional, or Shape burst.

4. Set the gradient's angle or focus.

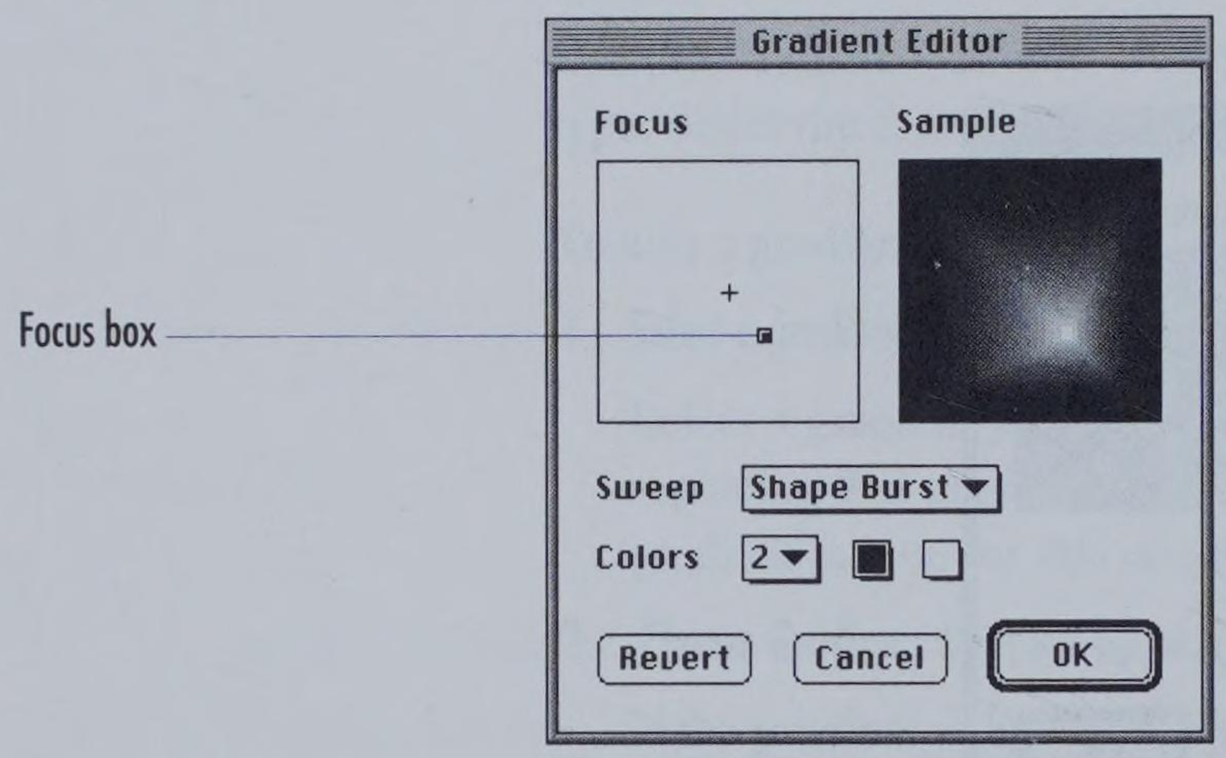
   - For a directional sweep, enter a new angle in the Angle box or drag the solid circle to a new position along the circumference. Drag the hollow circle along the radius to change the focus position.



   - For a circular sweep, enter a new angle or drag the solid circle to a new position. Drag the hollow circle to change the focus position of the gradient.



- For a shape burst sweep, drag the focus box to change the center point of the sweep. Drag the handle of the focus box to change the size of the focus area.



You see your changes in the Sample area.

5. From the Colors pop-up menu, choose the number of colors you want in the gradient.
6. From the color palettes, choose the colors you want to use.
   - To select a starting or highlight color, press the starting (leftmost) color box, and select a color from the color palette.
   - To select an ending color, press the ending (rightmost) color box, and select a color from the color palette.
7. Click OK to accept your changes, Revert to restore the gradient to its original appearance, or Cancel to close the dialog box without saving your changes.

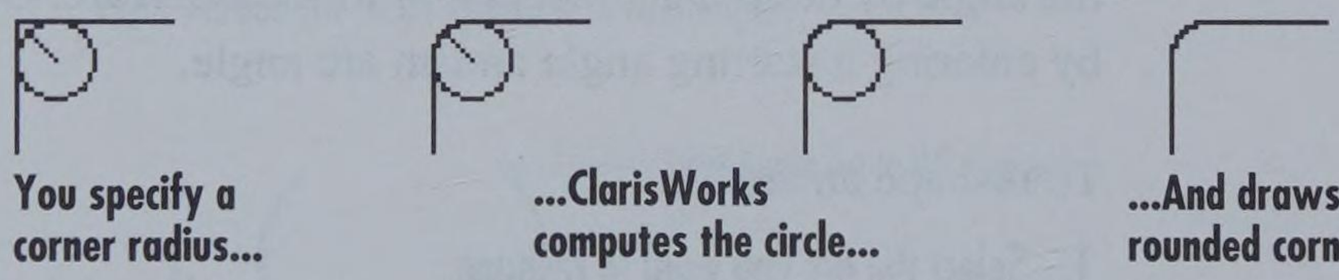
Revising Object Shapes

When you need to make fine adjustments to the shape of objects, you have several choices. You can:

- adjust corners
- reshape arcs
- resize objects
- reshape objects

Adjusting Corners

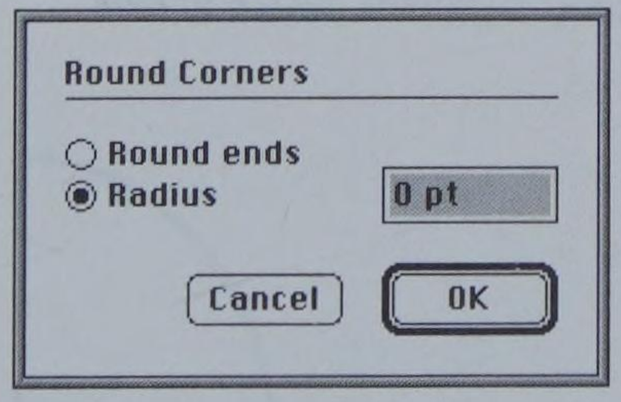
You can draw round-cornered rectangles and squares, and then adjust the roundness of the corners, or turn sharp corners into rounded corners. You can also choose to round the ends of the rectangle into semicircles.



To adjust the corners of a rectangle or square:

1. Select the rounded rectangle or rectangle whose corners you want to adjust.
2. Choose Round Corners from the Options menu (or double-click the object).

   You see the Round Corners dialog box.



3. Select Radius or click Round ends.

   Selecting Radius lets you enter a new radius for the circle that forms the corner curve. Selecting Round Ends produces a rectangle with ends rounded into semicircles.

4. Click OK.

   The corners of the selected objects are adjusted.

◆ **Note** You can change the default settings for corners. Make sure no object is selected, and then select the rounded rectangle tool. Choose Round Corners from the Options menu. Then, change the options. The next rounded rectangles or squares you create maintain these settings.

Reshaping Arcs

The arc tool draws arcs that span 90 degrees. You can reshape an arc to change the angle by dragging either end of the selected arc. Or, you can modify an arc by entering a starting angle and an arc angle.

To reshape an arc:

1. Select the arc you want to reshape.



2. Choose Reshape from the Edit menu, or press Command-R.

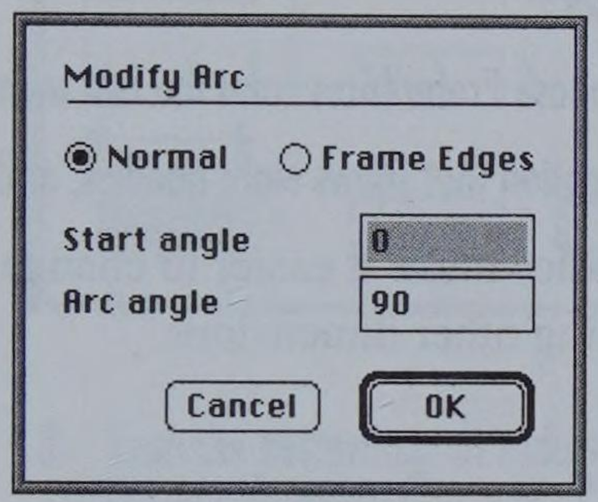
   You see anchor points at both ends of the arc, and the pointer becomes the Reshape cursor (a square with a crosshair).

3. Position the Reshape cursor over an anchor point and drag it to reshape the arc.
4. When you're through reshaping, select a tool or choose Reshape from the Edit menu again to return to the regular pointer.

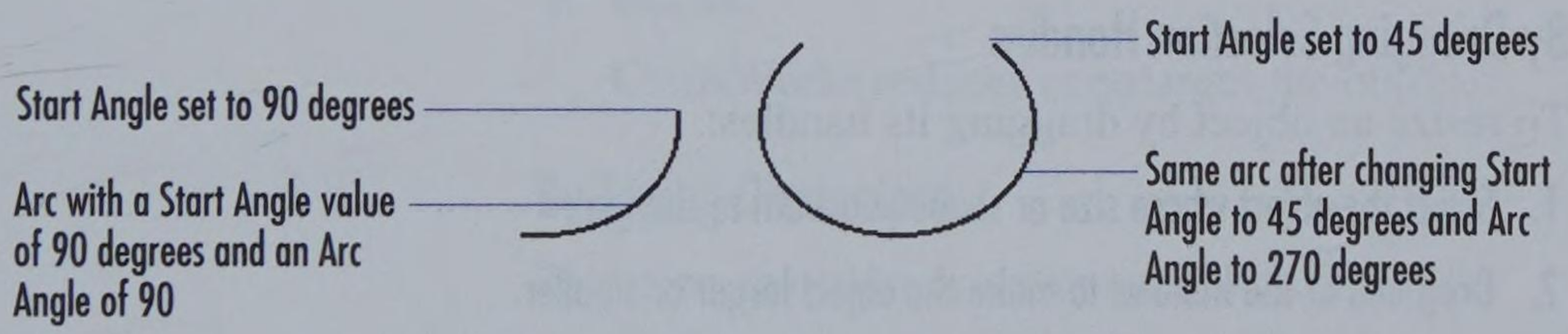
To modify an arc:

1. **Select the arc and choose Modify Arc from the Options menu.**

   You see the Modify Arc dialog box. You could also double-click the arc to display the dialog box.

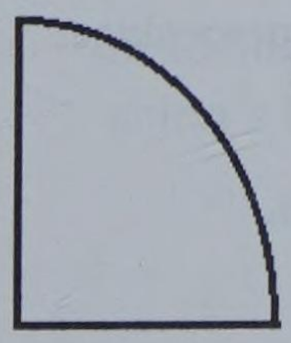


2. **Type values for Start Angle and Arc Angle.**



   The Start Angle determines the starting point of the arc and the Arc Angle determines the size of the arc.

3. **Select Normal to create a normal arc (just the arc itself) or select Frame Edges to connect the ends of the arc, creating a "pie slice."**



4. **Click OK.**

Resizing Objects

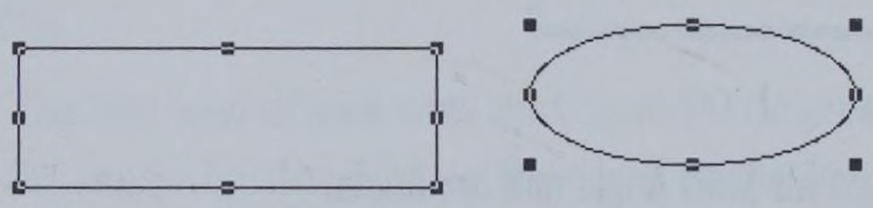
ClarisWorks lets you change the size of existing objects without having to redraw the object. You can add extra handles to help you change only the width or height.

Setting the Number of Selection Handles

To add handles to an object:

1. With an object selected, choose Preferences from the Edit menu.
2. Click the Object Selection option that shows eight handles, and click OK.

   These additional handles make it easier to change one dimension of an object without affecting other dimensions.



By Dragging Selection Handles

To resize an object by dragging its handles:

1. Select the object whose size or shape you want to change.
2. Drag one of the handles to make the object larger or smaller.

   Hold down the Shift key as you drag to resize the object proportionally.

- **Note** To resize several objects at once, select the objects. Hold down Shift as you drag one of the handles of an object. All the objects are resized proportionally.

By a Set Percentage

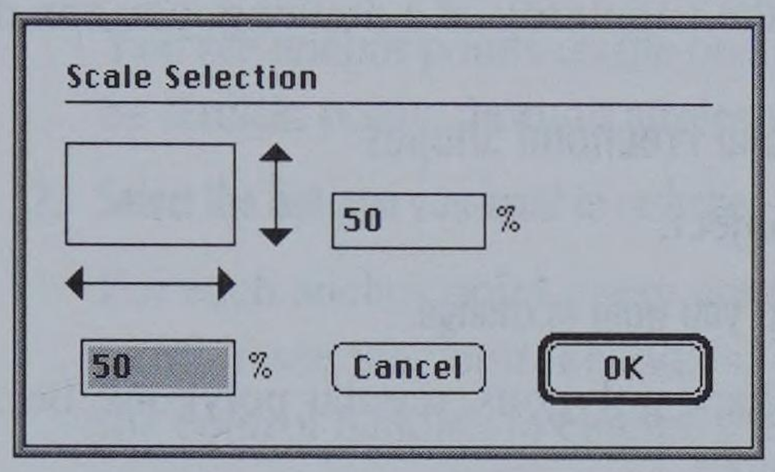
To reduce or enlarge an object by a set percentage:

1. Select the object.

   You can select more than one object.

2. **Choose Scale Selection from the Options menu.**

   You see the Scale Selection dialog box.



3. **Type the percentage of reduction or enlargement you want in the two entry boxes. The percentage can be anything from 25 to 400%.**

   To change the size proportionally, type the same value in both boxes. Preset values are 50% or the last value entered during the current session.

4. **Click OK.**

   ClarisWorks reduces or enlarges the object.

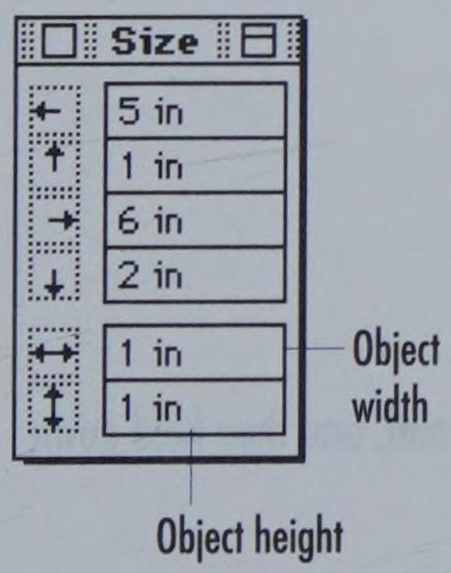
By Typing Dimensions

To resize an object using actual dimensions:

1. **Select the object you want to resize.**

2. **Choose Object Size from the Options menu.**

   You see the Size palette. This lists the object location in relation to the edges of the page and the object width and height. As you move or resize an object, these values change.



3. **In the object width and height boxes, type the values for the dimensions you want to change.**

   In addition to resizing an object, you can use this dialog box to change an object's location. Type the values in the object location boxes.

Reshaping Objects

ClarisWorks lets you reshape existing polygons, bezigons, arcs, and freehand drawings without having to redraw them. If you've smoothed out angles and want to restore the angularity of a drawing, you can do so.

Polygons, Arcs, and Freehand Shapes

To reshape an object:

1. **Select the object you want to change.**

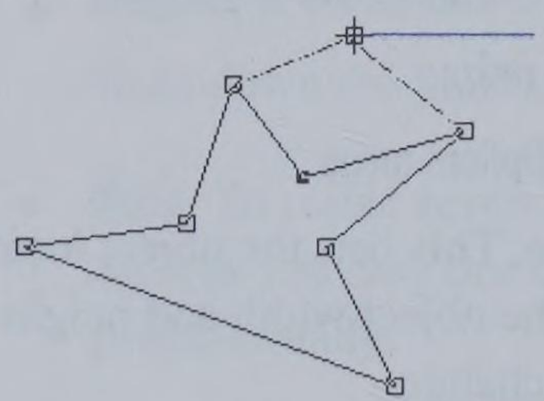
   You can reshape polygons, regular polygons, bezigons, arcs, and freehand shapes.

2. **Choose Reshape from the Edit menu.**

   The pointer changes to the reshape cursor. If the object is a polygon, you see anchor points at each point you clicked (vertex) to draw the object. If the object is an arc, you see an anchor point at each end of the arc. For objects drawn with the freehand tool, anchor point placement depends on the shape of the object.

3. **Drag one of the anchor points to reshape the object.**

   A dotted line follows your movements to show the new shape.



4. **To change a straight line to a curve in a polygon, click an anchor point, and then hold down Option as you drag the point to create a curve.**

   You see a control handle, which you can drag to bend the curve.

5. **To add a new anchor point (vertex), click and drag an edge.**

6. **When you're through reshaping, select a tool or choose Reshape from the Edit menu again to return to the regular pointer.**

Bezigons

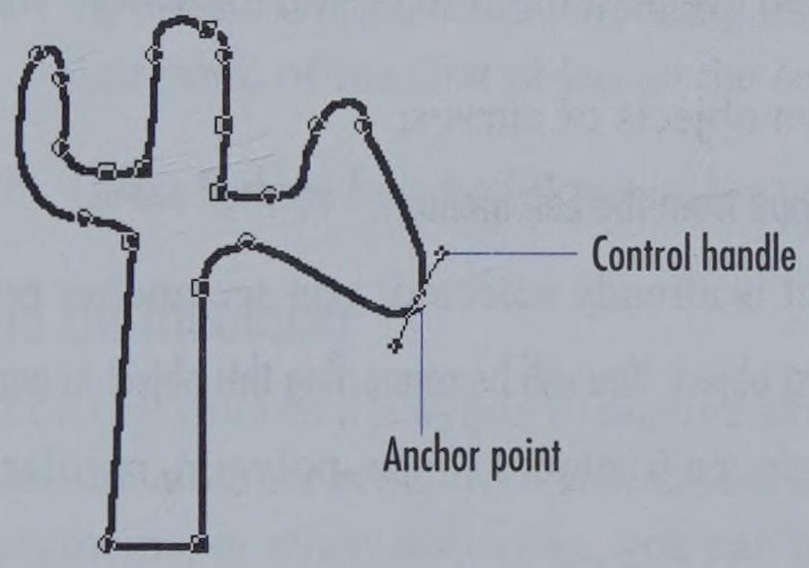
To reshape a bezigon:

1. **Choose Reshape from the Edit menu.**

   You see anchor points on the bezigon. Points through curves are represented by circles; points through angles are represented by squares.

2. **Select the bezigon you want to reshape.**

   For each anchor point, there are two control handles. Select an anchor point to see the control handles. You can drag the anchor point or one of the control handles to change the object's shape.



3. **Drag an anchor point to move the curve passing through the point.**

   You can drag an anchor point to change the object's shape. To move several anchor points, Shift-click the points (or drag a rectangle around them) and then drag a selected point.

   To make fine adjustments to the location of points, select an anchor point and press the arrow keys to move the point one gridpoint or one dot on the screen (depending on whether the autogrid is turned on or off).

4. **Drag one of the control handles to bend the curve.**

   When you click an anchor point, control handles appear. Drag either end to bend the curve.

5. **Click to add new anchor points.**

   You can add extra anchor points to create additional curves in the shape by clicking the bezigon's border. Then, drag the new anchor point to change the shape. To delete an anchor point, click it and press Delete or Backspace.

To delete a control handle, Option-click the control handle. Deleting both control handles gives you a regular curve (similar to a curve in a freehand object). To add a control handle, Option-drag from the anchor point.

6. When you're through reshaping, select a tool or choose Reshape from the Edit menu again to return to the regular pointer.

Connecting Freehand Shapes, Polygons, and Bezigons

You can draw a series of freehand shapes, polygons, regular polygons, and bezigons and then connect them. Connecting objects is useful when you want to draw an intricate shape with many curves and handles or with the same shape or curve repeated many times. You draw portions of the shape and individual objects and then connect them to create the whole shape.

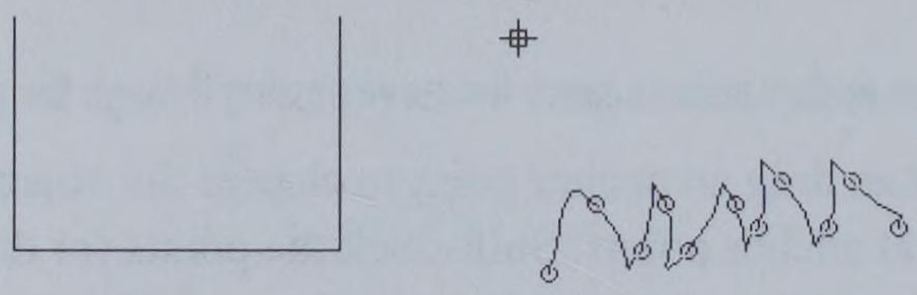
To connect two objects or curves:

1. Choose Reshape from the Edit menu.

   If an object is already selected, you see anchor points on the object.

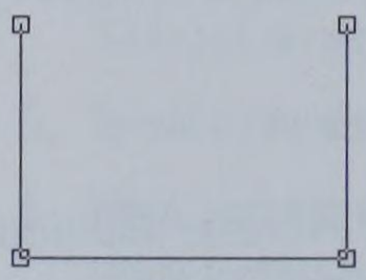
2. Select the first object. You will be connecting this object to another object.

   You can select a freehand shape, polygon, regular polygon, or bezier curve.



3. Choose Copy or Cut from the Edit menu to place the object on the Clipboard.
4. Select the second object.

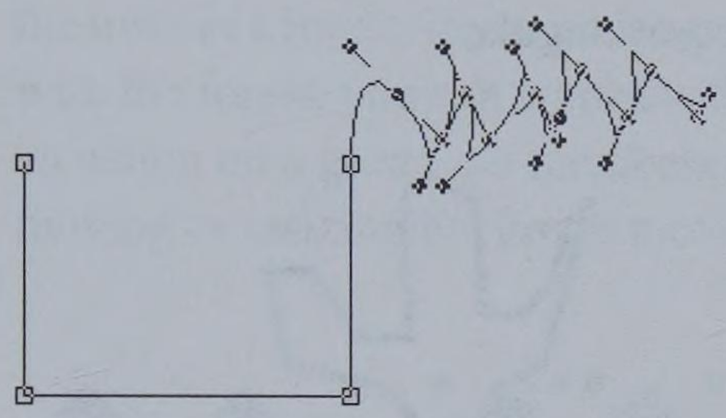
   You can select a freehand shape, polygon, regular polygon, or bezier curve.



5. If you want to connect the first object to the *start* of the second, select the second object's starting point. Otherwise, the first object will be connected to the *end* of the second object.

6. **Choose Paste from the Edit menu, or press Command-V.**

   ClarisWorks connects the *first* point of the first object to the second object.



- **Tip** Press Option while choosing Paste from the Edit menu to connect the *last* point of the first object to the second object.

7. **Choose Reshape from the Edit menu when you're finished reshaping, or select another tool.**

Smoothing and Unsmoothing

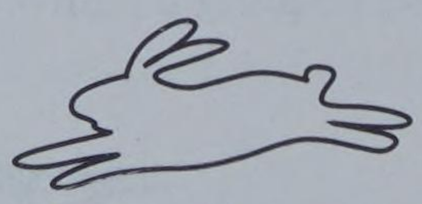
You can smooth a polygon to change straight lines and angles into curves. You can unsmooth a bezigon or freehand shape to change all of its curves into line segments, or when reshaping, you can unsmooth individual points along the object's shape to create a combination of line segments and curves.

To smooth the shape of a polygon:

1. **Select the polygon you want to smooth.**
2. **Choose Smooth from the Edit menu.**



Before smoothing



After smoothing

To revert from a smoothed shape to an angular shape:

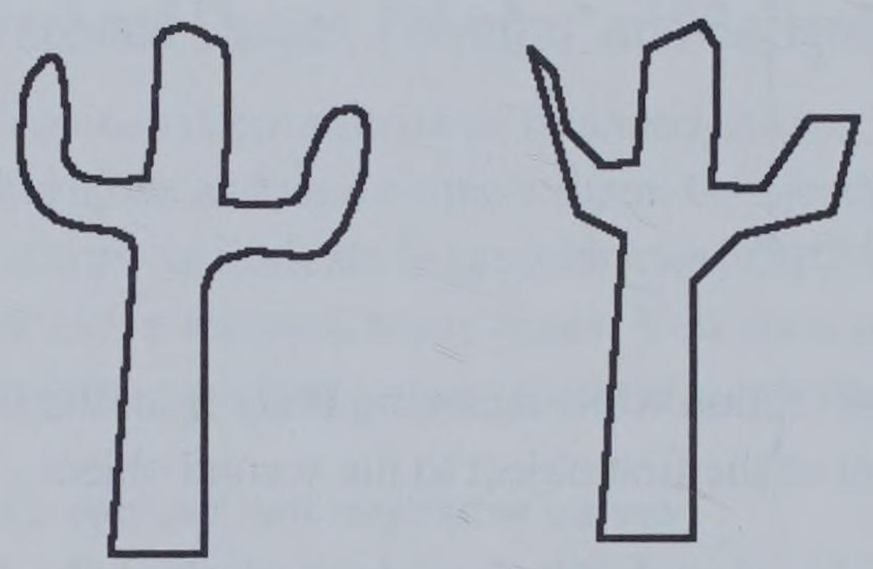
1. **Select the smoothed object or objects.**
2. **Choose Unsmooth from the Edit menu.**

   The angles are restored. You could also choose Undo from the Edit menu.

To unsmooth the curves of a bezigon:

1. Select the object to unsmooth.
2. Choose Unsmooth from the Edit menu.

   The curves become angular.



Before unsmoothing After unsmoothing

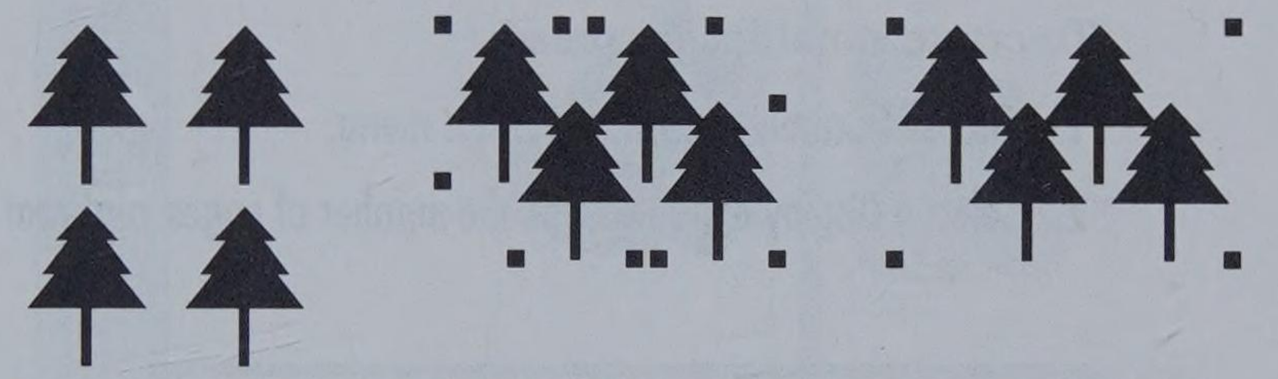
- **Tip** To change a curved segment of a bezigon to a straight line, choose Reshape from the Edit menu and select the anchor points at each end of the segment. (Shift-click to select more than one anchor point.) Choose Unsmooth from the Edit menu. Select another tool or choose Reshape from the Edit menu again.

To revert to the bezigon's curves:

1. Select the bezigon you want to smooth.
2. Choose Smooth from the Edit menu.

Combining Objects into a Group

Sometimes you create a number of objects but want to treat the objects as a whole. For example, you could draw a few trees as separate objects and arrange the trees as a forest. If you no longer want to deal with individual trees, but only with the forest, you can combine the trees into one forest. When you perform an action on a group, all members of the group are affected. For example, moving or resizing the group moves or resizes all the objects in it.



Four trees, four objects

Four selected trees as a forest

Forest grouped into one object and selected

To combine several objects into one group:

1. Select the objects you want to group by Shift-clicking or drawing a selection box around them.
2. Choose Group from the Arrange menu.

   ClarisWorks consolidates the separate objects into a group. The group is now a single object. You can select it, move it, and resize it just as you can any other single object. You can also combine a group with other objects or with another group.

To restore individual objects within a grouped object:

1. Select the grouped object.
2. Choose Ungroup from the Arrange menu.

   ClarisWorks breaks the object up into its original component objects, some of which may be groups.

◆ **Note** If the Ungroup command changes to Ungroup Picture, you are trying to ungroup an imported PICT file. You can do this, but you may lose some of the picture in the process. After ungrouping a picture, you can recombine it into a single picture again by immediately choosing Undo from the Edit menu.

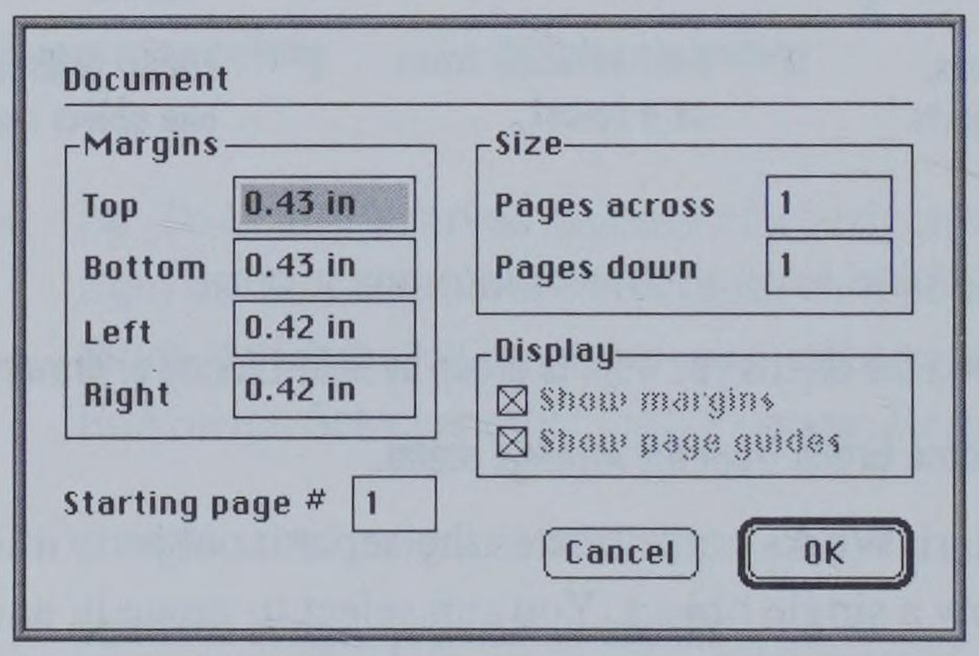
Creating a Multipage Spread

With ClarisWorks documents it's easy to produce a brochure or draw an object larger than one page. ClarisWorks displays the adjacent pages as they will appear when printed. You can then draw objects that are split between pages or easily drag objects from page to page until you have the arrangement you want.

- **Note** Don't forget, text frames, paint frames, and spreadsheet frames are also objects, so they can be placed to span more than one page.

To create a multipage spread:

1. Choose Document from the Format menu.
2. Select a Display option or type the number of pages you want across and down, and click OK.

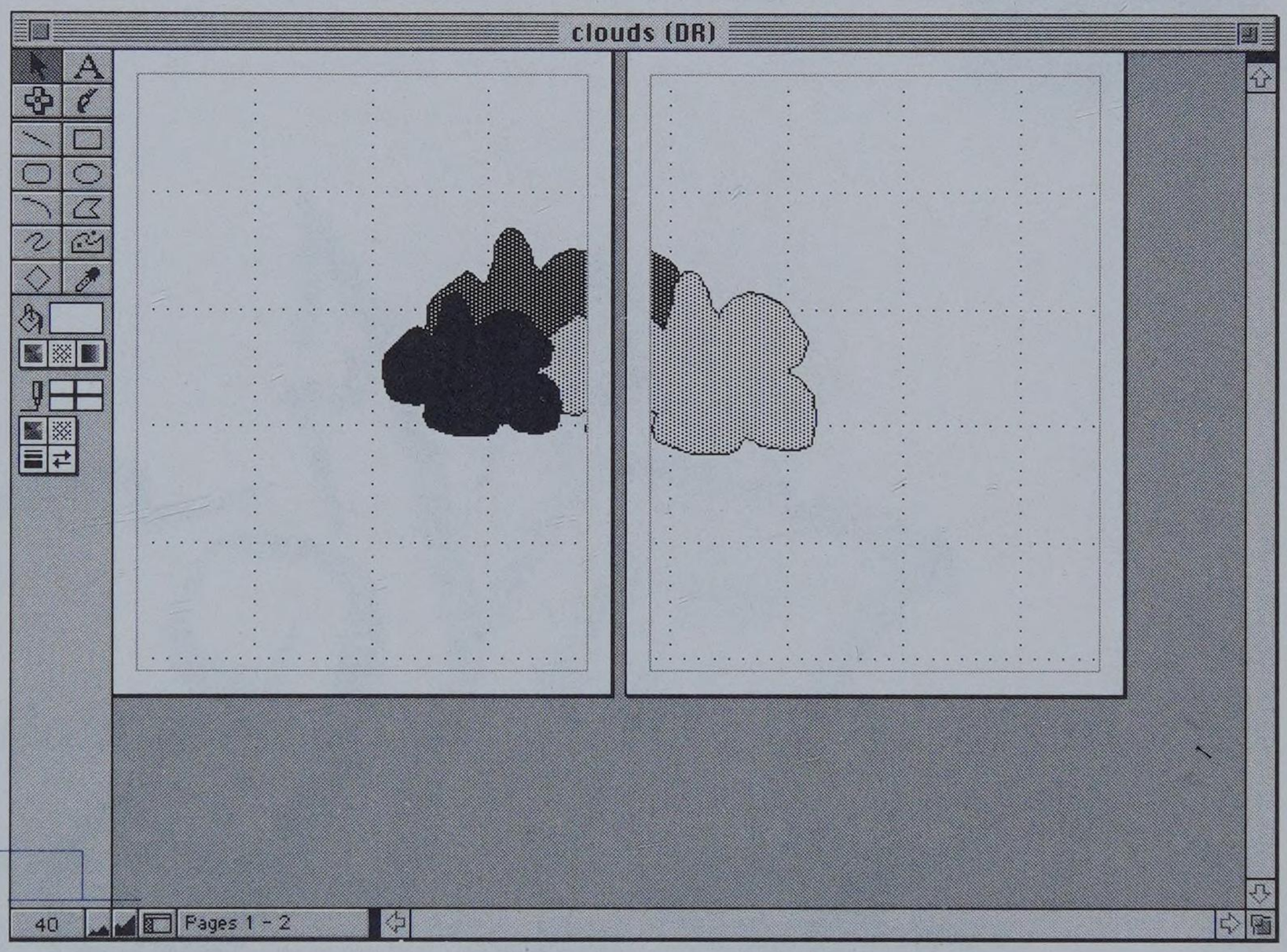


You can deselect Show margins and Show page guides if you want. For more information on these features, see "Changing Page Settings" in chapter 2.

3. Select Page View from the View menu.

4. **Use the zoom controls to view all the pages.**

   For instructions on using zoom controls, see "Rescaling the Contents of a Window" in chapter 2.



Preventing Changes

After spending time developing a complex drawing, you may wish to protect your work from inadvertent changes—your own or someone else's. When an object is protected, its handles are dimmed to indicate it can't be changed.

To protect a non-frame graphic object from change:

1. **Select the object you want to protect. (To select the whole drawing, choose Select All from the Edit menu.)**
2. **Choose Lock from the Arrange menu.**

   No changes can be made to the object except to the contents of frames. You can group locked objects.

To remove protection from a locked object:

1. Select the locked object or objects.
2. Choose Unlock from the Arrange menu.

   You can now work with the object as usual.

Chapter 5

Working with Paintings

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Using the Tool Panel	5-3	Changing Paint Documents	5-28
Painting Images	5-5	Creating a Paint Frame	5-33
Editing an Image	5-12		

Chapter 5

Working with Paintings

This chapter gives step-by-step instructions for using paint documents and working in the ClarisWorks paint environment.

In the paint environment, you create **images**, such as circles, lines, and squares. The paint environment includes the drawing tools and additional painting tools for special effects such as brushstroking and airbrushing. The image you paint is made up of shapes and visual effects.

- **Note** ClarisWorks also has a draw environment. For more information, see chapter 4, "Working with Drawings."

You can also create paint frames to include in other documents. For example, you can use a paint frame to create a logo.

In a New Paint Document

You start a new paint document either from the New Document dialog box when you first start ClarisWorks or from the File menu. For more information, see "Creating a Document" in chapter 2.

When you start a paint document, the pencil is the preset tool and black is the preset pen and fill color. The paint document size is preset to 468 by 648 pixels (6.5 inches by 9 inches), with one-inch margins on all sides.

- **Note** For information on changing the paint document size, see "Specifying a Paint Document Size" on page 5-29.

A paint document is preset to use the standard editable 256-color palette. See "Sharing Color Palettes with Other Documents" in chapter 2 for information on choosing a different editable palette. For information on editing the 256-color palette, see "Using the Color Editor" in chapter 4.

Using the Tool Panel

You use the tools in the **tool panel** to paint and change images. The tool panel includes the drawing tools and some additional painting tools.

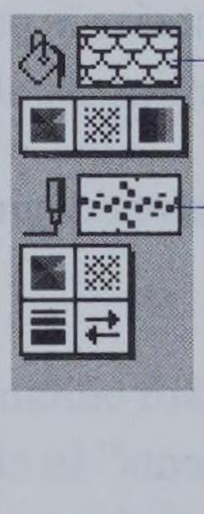
The following table briefly describes the paint tools.

Tool icon	Tool name	Use to:
	Selection rectangle	Select a rectangular area.
	Lasso	Select an irregular shape.
	Magic wand	Select adjacent pixels of the same color.
	Brush	Paint strokes of various shapes and sizes.
	Pencil	Paint fine lines.
	Paint bucket	Fill an enclosed area with a color, pattern, or gradient.
	Spray can	Create an airbrushed or spray painted effect.
	Eraser	Erase part of an image.

Fill and Pen Palettes

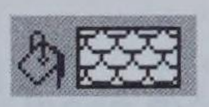
With the fill and pen palettes, you change the:

- fill color and pattern or gradient of images
- width, color, and pattern of lines that form the borders of images



Images you create use the current fill and pen settings.

The Fill Indicator



Use the fill palettes to select the fill color, pattern, or gradient for closed images you paint (arc, polygon, rectangle, oval, bezigon). The fill tool settings also affect these painting tools:

- brush
- paint bucket

◆ **Note** You can't use a gradient fill with the brush or spray can.

◆ **Tip** Select the fill settings before you paint an image. Unlike a drawn object, it's harder to change a painted image once it has been created. To select the fill settings, see "Resetting the Preset Fill Color, Pattern, or Gradient" in chapter 4.

You can also use the Fill command from the Transform menu to fill a selected image or area. See "Filling a Selection" on page 5-26.

The Pen Indicator



Use the pen palettes to select the settings, such as thickness, pattern, and color, used for lines created with the line tool and borders for images created with the drawing tools.

- **Tip** Select the pen settings before you paint an image. Unlike a drawn object, it's harder to change a painted image once it has been created. To select the pen settings, see "Resetting Pen Options" in chapter 4.

Select a pencil color by setting the pen color.

Painting Images

You paint images directly on a page in a paint document or in a paint frame. (For more information about frames, see "Creating a Paint Frame" on page 5-33.) You use painting tools to create and edit images.

To paint an image, follow these basic steps:

1. **Select a painting tool by clicking it.**

   The tool you select remains active until you select another tool.
2. **Select the fill and pen settings.**
3. **Paint the image.**

After painting an image, you can select it to make changes or add special visual effects.

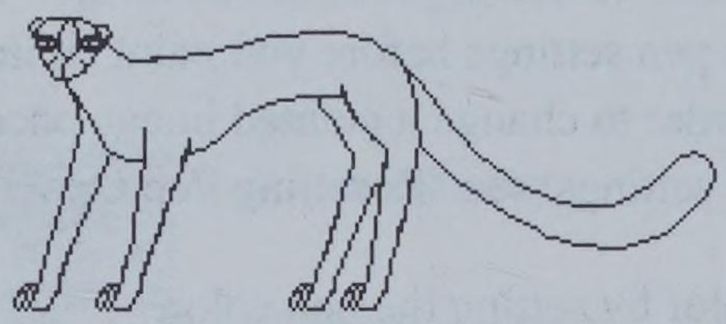
Creating shapes works the same in the paint environment as in the draw environment, with the following exceptions:

- The shape you create is not an object, but an image made up of pixels.
- The shapes don't overlap as individual objects that you can separate and move.
- The shape attributes, such as line (or border) size and fill pattern, should be selected before you paint the shape.
- The tool you select remains selected until you choose another tool; you don't need to double-click the tool.

See chapter 4 for descriptions of the drawing tools.

Using the Pencil

When you first start or open a paint document or paint frame, the pencil tool is selected. Use the pencil tool to draw fine lines as you would with a pencil.



To use the pencil:



1. **Click the pencil tool to select it, if it is not already selected.**

   The pencil draws in the current pen color. The pen line thickness and pattern have no effect on the pencil tool. (To paint thick lines, use the brush.)

2. **Click once to paint a single dot or drag the pencil to draw a line.**

   If you start the pencil tip on a white pixel, you draw a black dot or line. If you start the pencil tip on a black pixel, you draw a white dot or line.

- **Note** Hold down the Shift key while using the pencil to paint horizontal or vertical lines that are perfectly straight.

Painting with the Brush



Use the brush to paint strokes with the current fill color or pattern. Select the color and/or pattern you want before painting.



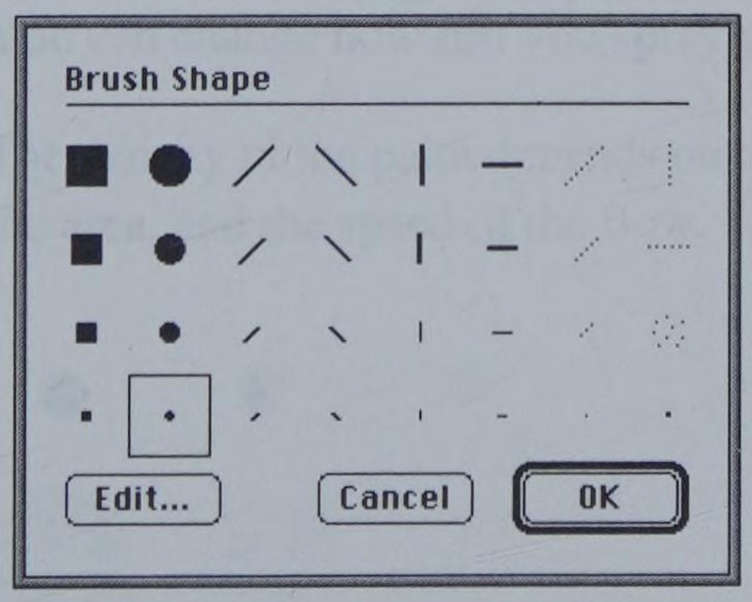
Changing the Brush Shape

You can change the shape and size of the brush by choosing from among 32 brush shapes. You can also edit one of the existing shapes to customize it.

To change the brush shape and size:

1. **Choose Brush Shape from the Options menu or double-click the brush tool.**

   You see the Brush Shape dialog box. The currently selected brush shape is outlined by a square.



2. Click a brush shape to select it.
3. Click OK.

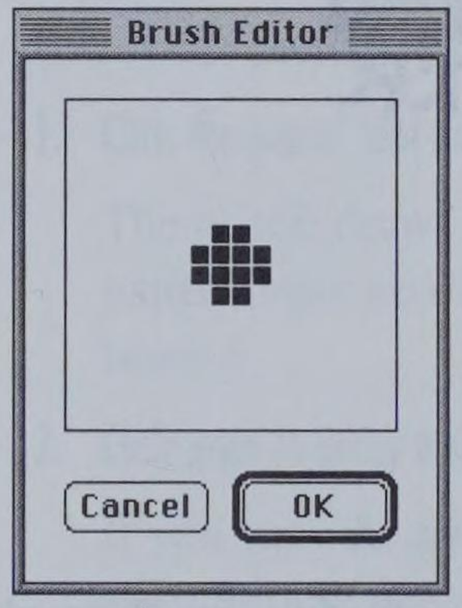
To customize a brush shape:

1. Choose Brush Shape from the Options menu or double-click the brush.

   You see the Brush Shape dialog box.

2. Select a shape and then click Edit.

   You see the Brush Editor dialog box.



3. Click or drag in the Brush Editor to draw a new brush shape.
4. Click OK to accept the new shape, or click Cancel to keep the old brush shape.
5. Click OK to leave the Brush Shape dialog box.

Spray Painting



Use the spray can to spray the current color. The spray can is useful for shading and softening edges.



To use the spray can:

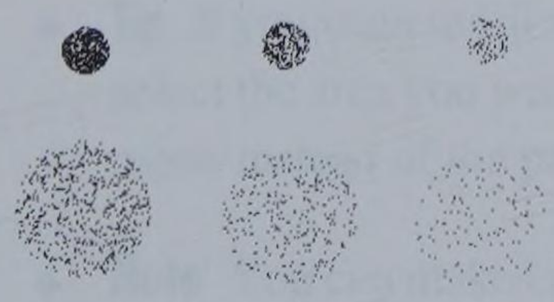
1. Select the fill color you want to spray.
2. Select the spray can.
3. Click once to spray spots of paint or hold down the mouse button to spray continuously.

   The more you drag over a given area, the more solid the color becomes.

Changing Spray Size and Flow of Paint

You can change how fast you spray paint and how wide an area you cover.

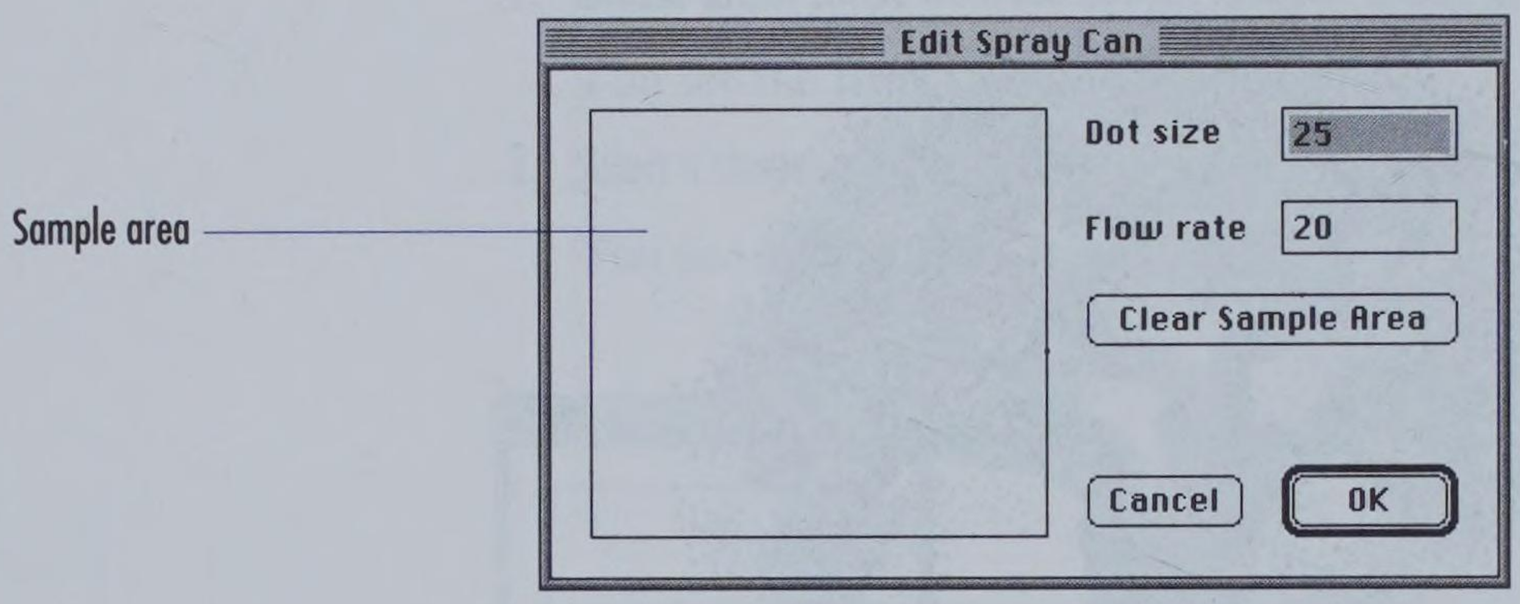
The density of the paint depends on the length of time you spray, the width of the area, and the speed of the flow.



To change the spray can settings:

1. **Double-click the spray can or choose Spray Can from the Options menu.**

   The Edit Spray Can dialog box appears.



2. **To change the size of the spray area, type a number from 1 to 72 in the Dot size box.**

   The higher the number, the larger the area. The setting changes the diameter of the spray area from 1 to 72 pixels. You can see a sample of the spray can setting by clicking the pointer in the sample area in the dialog box. Click Clear Sample Area to remove any other tests in the sample area.

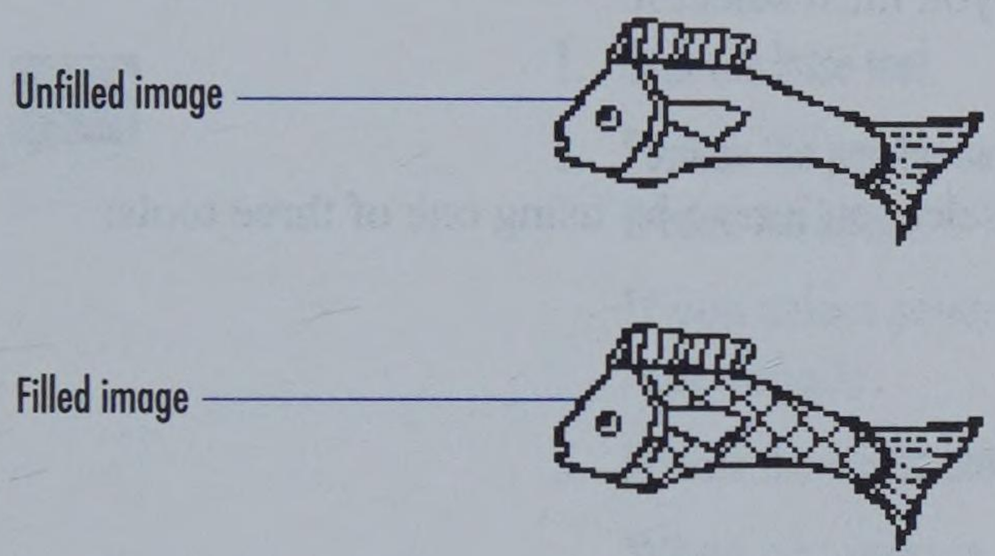
3. **To change how fast the paint flows from the spray can, type a number from 1 to 100 in the Flow rate box.**

   The larger the number, the faster the flow. You can test the flow rate in the sample area. Click Clear Sample Area to remove any other tests in the sample area.

4. **Click OK.**

Using the Paint Bucket

Use the paint bucket to fill an enclosed area with the current fill color, pattern, or gradient. The fill indicator shows you the current settings.



- **Tip** Make sure the image you're filling is closed completely; otherwise, the fill can leak and cover a lot more than you intended. A closed shape is any area of one color or a shape with an unbroken outline or perimeter of dots (without gaps). You can zoom in on an image to look for gaps and fill them with pixels. For more information on zooming, see "Magnifying an Image" on page 5-16.

To fill an enclosed area:



1. **Select the color and pattern or gradient you want to use.**

   The fill indicator changes to reflect your new selection. See "Resetting the Preset Fill Color, Pattern, or Gradient" in chapter 4 for instructions on selecting colors, patterns, and gradients.

2. **Click the paint bucket to select it.**

3. **Position the paint bucket over the area you want to fill and click once.**

   The tip of the pouring paint must be inside the area you want to fill.

   If the fill has leaked from the shape, choose Undo Paint from the Edit menu before taking any other action.

- **Tip** If you want to fill an image that's already filled with a pattern or gradient, select the area you want to fill and use the Fill command from the Transform menu instead of the paint bucket.

- **Note** You can make customized patterns and gradients. See "Editing Colors, Patterns, and Gradients" in chapter 4.

Editing an Image

After painting an image, you can move it or use any command from the Transform menu. You can also magnify a paint document to edit one pixel at a time.

Before you can edit an image, you must select it.

Selecting an Image

In the paint environment, you select an image by using one of three tools:

- selection rectangle
- lasso
- magic wand

Once an image is selected, you can move it or use a command to change it.

◆ **Note** To deselect an image, click anywhere outside the selection or choose Undo Select from the Edit menu.

Making a Rectangular Selection

Use the selection rectangle tool to select a rectangular portion of an image.

To make a selection:



1. Click the selection rectangle tool.
2. Position the pointer at one corner of the image you want to select and drag to draw a rectangle around the image.

   If you press Command while dragging the tool, the selection rectangle shrinks as small as possible to enclose the outline of the image. You can also select several images this way—each image is selected individually.

◆ **Tip** To select the whole painting area, including the white space, double-click the selection rectangle tool. To select all the images only (without the surrounding white space), hold down the Command key while double-clicking the selection rectangle tool or lasso.

Making an Exact Selection

Use the lasso to select an irregular shape. The lasso selects just the image, leaving out any surrounding white space.

To use the lasso:



1. Click the lasso tool.
2. Position the pointer beside the image you want to select and drag it as if drawing a loop around the image.

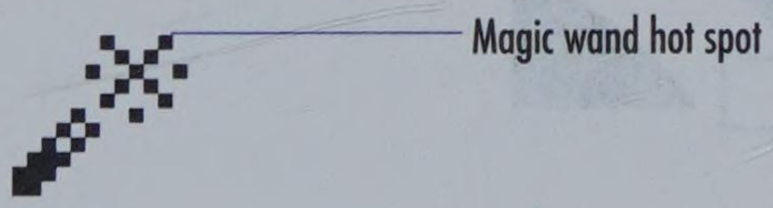
   If you select several images with the lasso, each image is selected individually.
3. Release the mouse button.

   When you release the mouse button, the loop automatically closes from the beginning to the ending point if you don't close it.

◆ **Tip** To select each image in the paint document, without the surrounding white space, double-click the lasso. This is equivalent to holding down the Command key and double-clicking the selection rectangle tool.

Selecting by Color

Use the magic wand to select adjacent pixels of the same color or pattern. This way you can fine tune the color of a small portion of an image.





To select adjacent pixels of the same color:

1. Click the magic wand to select it.
2. Click the color you want to select.

   The cursor changes to a pointer when it is over the selection.
3. Drag the selection to move it or use commands from the Transform menu.

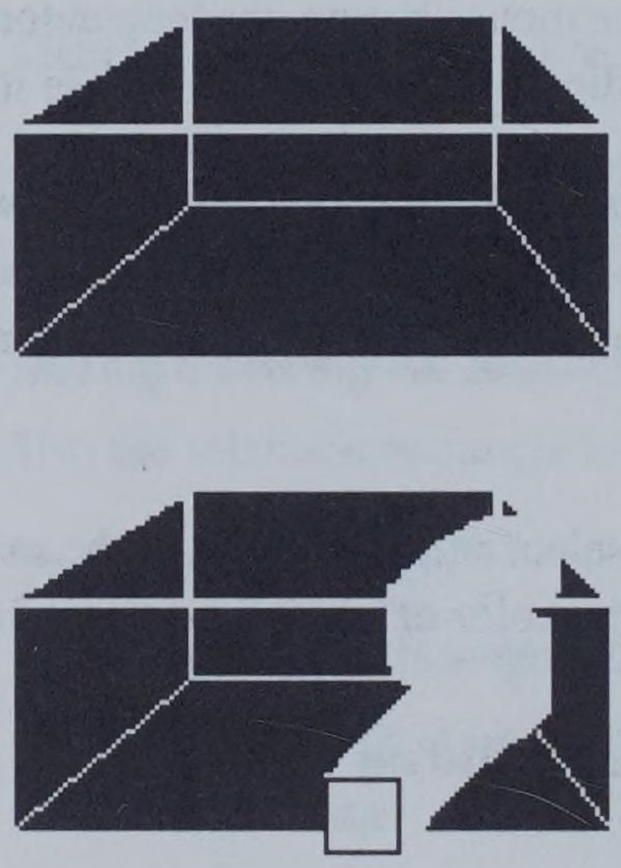
Moving an Image

After selecting an image, move it by dragging where you want it to go. The pointer is an arrow when it is in the correct position to move an image.

- **Tip** To move a selected image one pixel at a time, use the arrow keys.

Erasing an Image

Use the eraser tool to erase portions of an image. After choosing the eraser, position it over the image you want to erase. Click to erase only what's underneath the eraser, or drag the eraser over an area you want to erase. Hold down the Shift key to limit its movement to horizontal or vertical directions.



- **Tip** To erase the whole paint document, double-click the eraser. If you change your mind, choose Undo Paint from the Edit menu before taking any other action.

- **Tip** To erase where the eraser is too big to fit, choose a zoom percentage 400% or larger. Then use the eraser or pencil. See "Magnifying an Image" on page 5-16.

Picking Up a Color in a Painting

Use the eyedropper to pick up a color already used in the paint document, without having to select it from a palette. The color you select becomes the current fill or pen color.

To select a color for the current fill:



1. Select the eyedropper.
2. Click the color you want to pick up.

   The fill indicator changes to reflect the new color.

To select a color for the current pen color using the eyedropper:

1. Select the eyedropper.
2. Option-click the color you want to pick up.

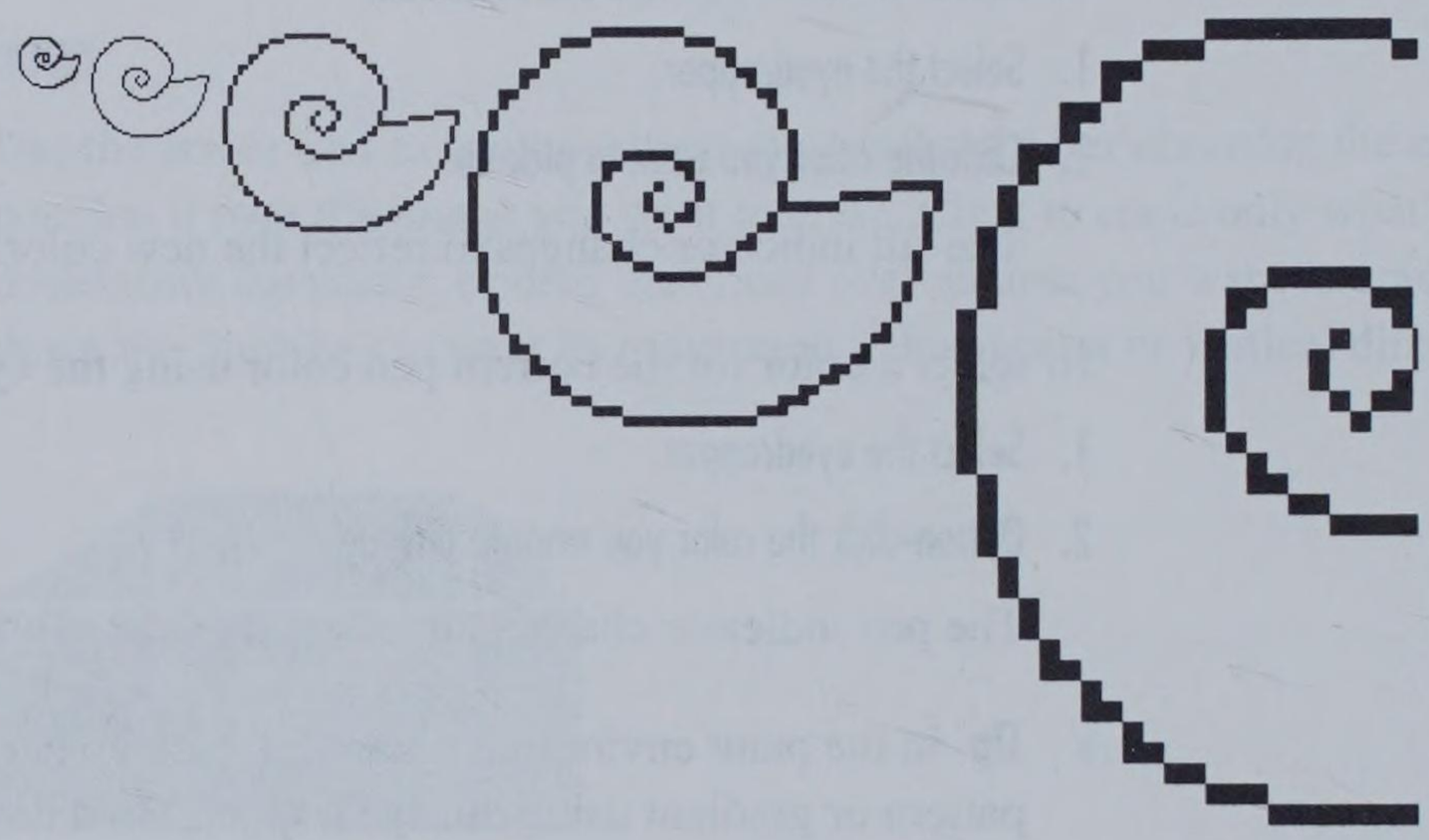
   The pen indicator changes to reflect the new color.

- **Tip** In the paint environment, you can pick up hard-to-see colors in a pattern or gradient using the eyedropper. Hold down the mouse button while dragging the eyedropper over the image and watch the fill indicator to see which color you're picking up. Release the mouse button when you see the color you want to use.

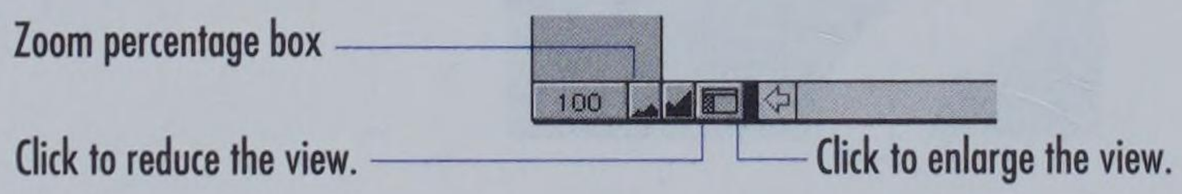
- **Tip** Press Tab to switch quickly between the current tool and the eyedropper.

Magnifying an Image

You can change the zoom level (magnification or reduction) of a paint document as displayed in the window. ClarisWorks offers 13 predefined zoom levels from 3.13% to 3200%. You can customize zoom levels if you want.



To change the zoom level, click the zoom controls at the bottom of the screen or choose a zoom level from the zoom percentage box pop-up menu.

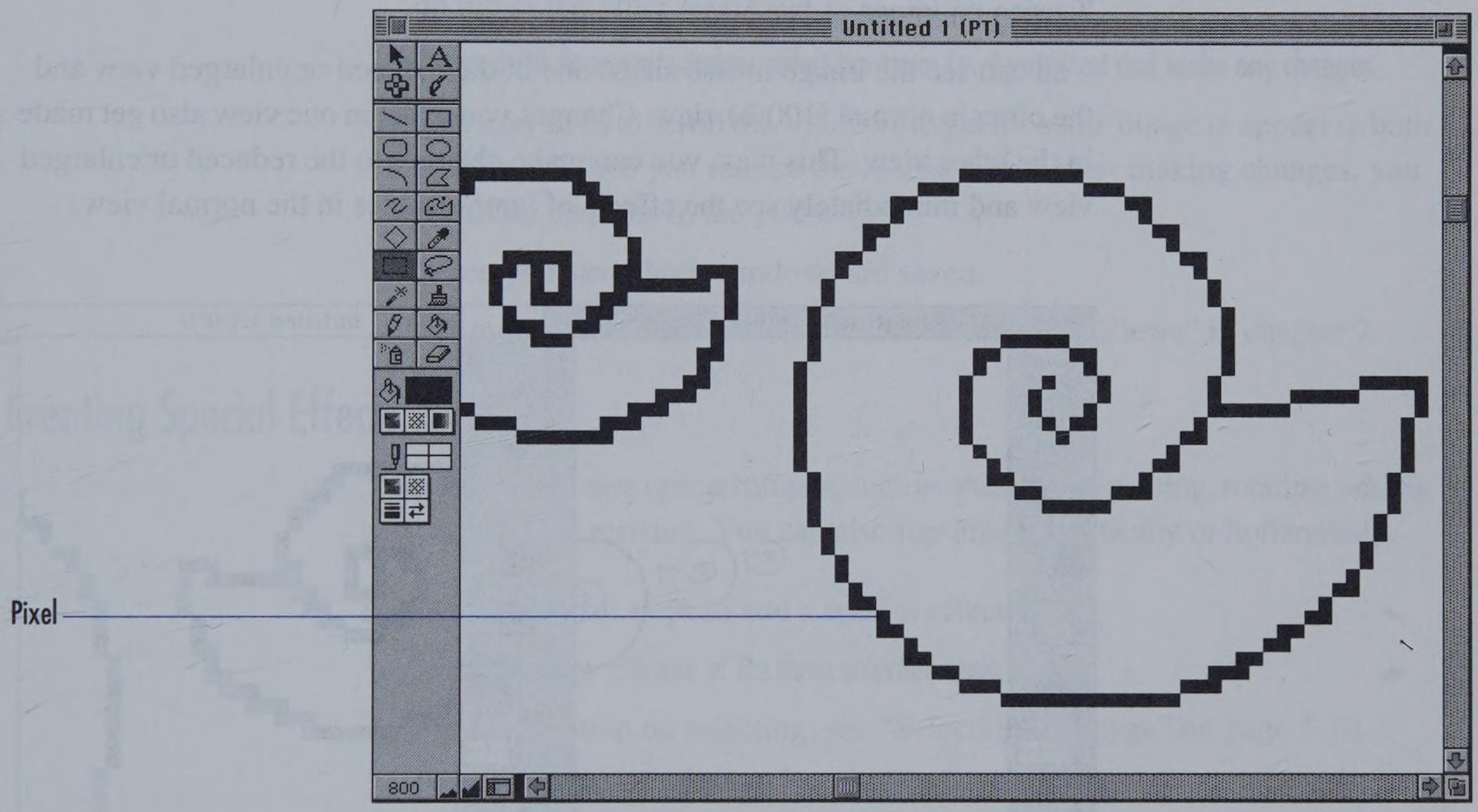


Once the paint document is enlarged or reduced, you can continue working on it with any of the tools and menu commands. For example, in larger views, you can add fine detail to an image by working with one pixel at a time using the pencil tool. In smaller views, you can move or paint images with an overview of how the document looks or you can paint a border around the entire page.

- **Tip** You can customize the percentages in the zoom percentage pop-up menu. See "Rescaling the Contents of a Window" in chapter 2.

Changing One Pixel at a Time

By enlarging your view of an image, you can work on an image pixel by pixel. Each square of an enlarged image is a pixel.



To change an image one pixel at a time:

1. Select a zoom level of 800% or more. (Double-click the pencil to zoom quickly to 800%.)

   The higher the percentage, the easier it is to work with individual pixels.

2. Scroll the document window, if necessary, to display the portion of the document you want to edit.
3. With the pencil tool, click an existing pixel to erase it. Click or drag to paint new pixels.

   If you click a pixel to erase it, you can erase other pixels you touch with the pencil tip as long as you hold down the mouse button. On a color monitor, if you click or drag the pencil over pixels that are the same color as the current pen color, those pixels are erased.

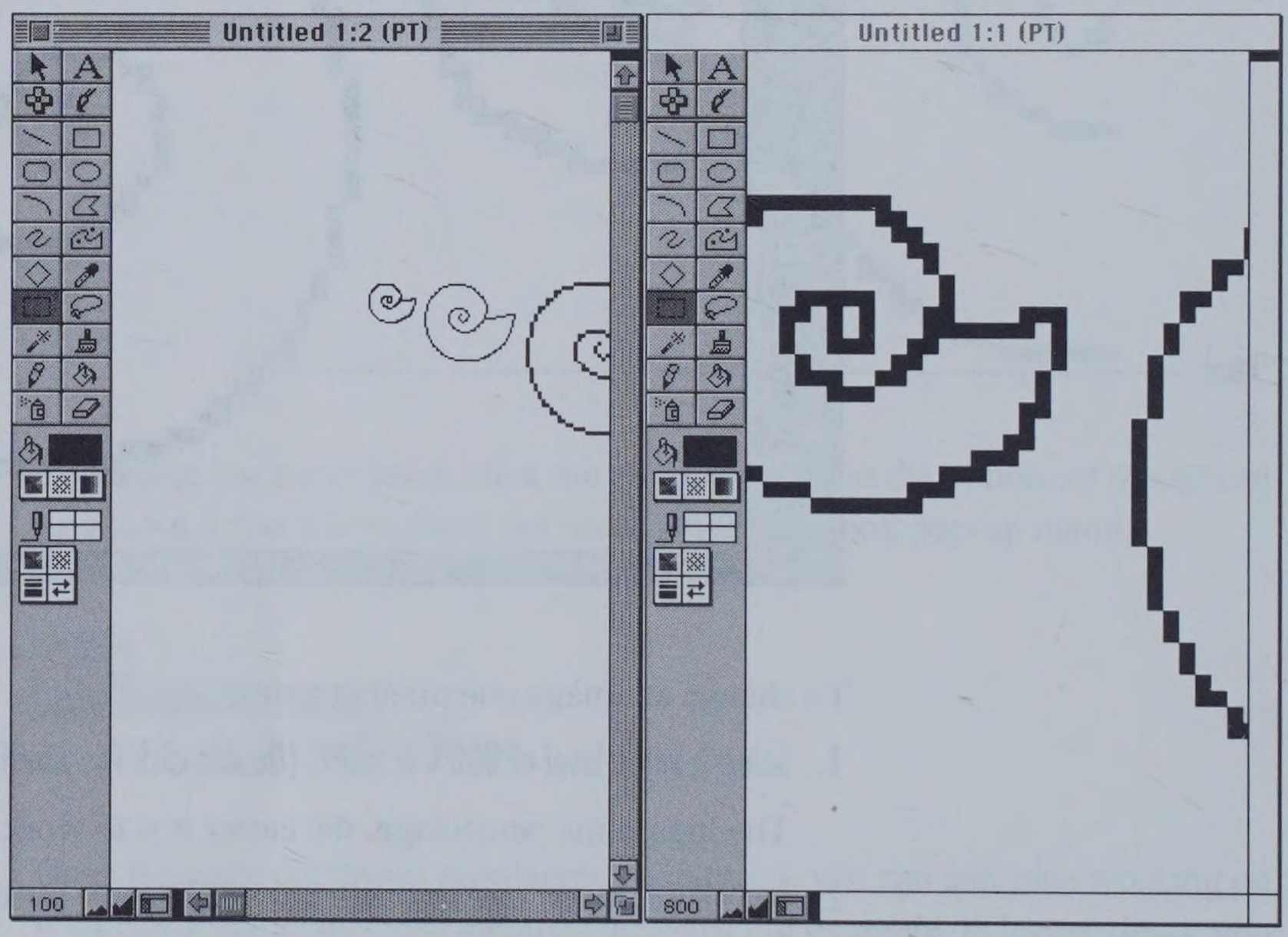
4. Use the eraser to remove several pixels at once.

5. **Select 100% zoom level to see your changes. (Double-click the pencil to zoom to 100%.)**

- **Tip** To zoom in on a specific point, choose the pencil and center the pencil tip on the area you want to see. Click once, and then choose the zoom level.

Viewing an Image in Two Sizes

You can see the image in two sizes: one in the reduced or enlarged view and the other in normal (100%) view. Changes you make in one view also get made in the other view. This way, you can make changes to the reduced or enlarged view and immediately see the effects of your changes in the normal view.



To see two views of a paint document:

1. **Open the paint document you want to view and choose New View from the View menu.**

   ClarisWorks opens a new window (at 100%) for the document on top of the original.

2. **To arrange the windows so they don't overlap, choose Tile Windows from the View menu.**

   ClarisWorks resizes the windows and arranges them, one above the other. To tile the windows side by side, hold down the Option key, and then choose Tile Windows. (Choose Stack Windows to go back to one window on top of the other.)

3. **In one paint document window, select the zoom level you want and make any changes.**

   You may need to scroll the windows to get the same image to appear in both windows. When you release the mouse button after making changes, you see those changes in the 100% view.

   When you save, both windows are saved.

   For more information on views, see "Working in Views" in chapter 2.

Creating Special Effects

You can give images special effects, such as shearing, distorting, rotating, adding perspective, and resizing. You can also flip images vertically or horizontally.

Follow these basic steps to add a special effect:

1. **Select the image with one of the three selection tools.**

   For information on selecting, see "Selecting an Image" on page 5-12.

2. **Choose one of the special effects from the Transform menu.**

   The special effects are described in the sections that follow.

3. **If necessary, drag a handle to transform the image.**

   You can continue to transform the image as long as the handles remain. You can also move the image and the handles remain intact.

4. **Click outside the image to deselect it.**

Shearing an Image

Use the Shear command to slant an image vertically or horizontally.



Original image



Vertically sheared



Horizontally sheared

To shear an image:

1. Select the image you want to shear.
2. Choose Shear from the Transform menu.

   You see handles around the selection.
3. Drag one of the handles up or down to slant the image vertically, or drag right or left to slant the image horizontally.

   The pointer is an arrow when it is positioned correctly for dragging a handle.
4. Click once outside the image to remove the handles, and again to deselect the image.

Distorting an Image

Use the Distort command to stretch an image in any direction, not just horizontally or vertically as in the Shear command.



Original image



Distorted image

To distort an image:

1. Select the image you want to distort.
2. Choose Distort from the Transform menu.

   You see handles around the selection.

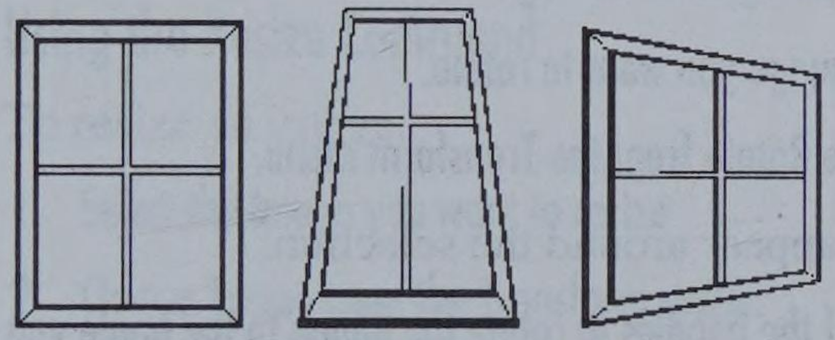
3. **Drag one of the handles to stretch the image to the shape you want.**

   Each corner of the selected image moves independently, so you can drag different corners to distort the image in several directions.

4. **Click once outside the image to remove the handles, and again to deselect the image.**

Adding Perspective

Use the Perspective command to give an image the appearance of depth or distance. When you drag one of the handles, two sides of the image move together, which adds the perspective.



Original image **Horizontal perspective** **Vertical perspective**

To add perspective:

1. **Select the image you want to add perspective to.**
2. **Choose Perspective from the Transform menu.**

   Handles appear around the selection.

3. **Drag one of the handles up or down to add horizontal perspective or drag right or left to add vertical perspective.**
4. **Click outside the image to remove the handles.**

Rotating an Image

You can rotate an image by dragging the selected image (free rotate) or by specifying an angle.



Original image **Rotated image**

To rotate an image manually:

1. Select the image you want to rotate.
2. Choose Free Rotate from the Transform menu.

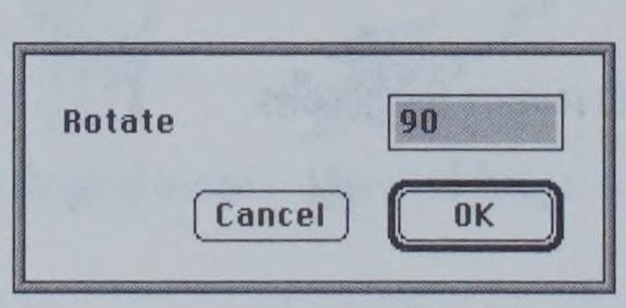
   Handles appear around the selection.
3. Drag one of the handles to rotate the image to the angle you want.

   The image rotates around its center.
4. Click outside the image to remove the handles.

To rotate an image by a specific angle:

1. Select the image you want to rotate.
2. Choose Rotate from the Transform menu.

   You see the Rotate dialog box.



3. In the Rotate dialog box, type an angle in degrees for the amount you want the image to rotate.

   This gives you finer control over the degree of rotation than with the Free Rotate command.
4. Click OK.

Changing the Size of an Image

You can change the size of an image by dragging an image to the size you want or by scaling the image by a specific percentage.



Smaller **Original** **Larger**

Using the Resize Command

To resize an image:

1. Select the image you want to resize.
2. Choose Resize from the Transform menu.

   Handles appear around the selection.
3. Drag one of the handles to change the overall size of the image.
4. Click outside the image to remove the handles.

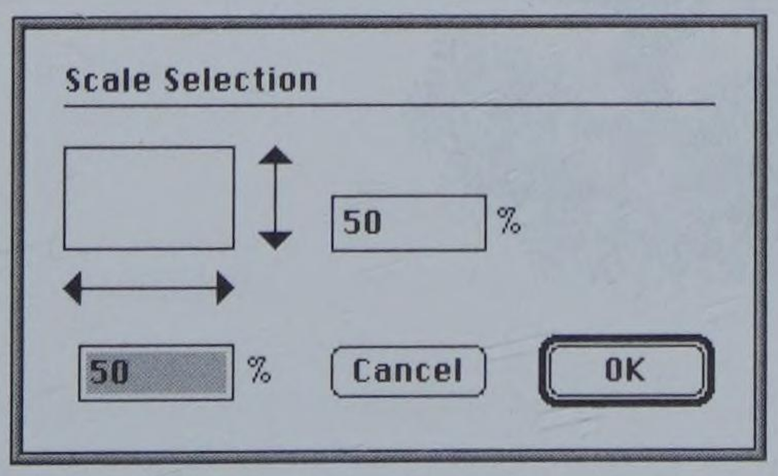
By a Set Percentage

Use the Scale Selection command when you want more precision in resizing an image.

To scale an image:

1. Select the image you want to scale.
2. Choose Scale Selection from the Transform menu.

   The Scale Selection dialog box appears.



3. **Type the percentage of enlargement or reduction you want in both the horizontal and vertical directions.**

   To reduce the image, type a number less than 100, down to 25; to enlarge the image, type a number greater than 100, up to 400.

   You can scale the image horizontally only, vertically only, or in both directions.

4. **Click OK to see the results.**

   After you click OK, the image remains selected and you can choose Scale Selection again to rescale the image to a different size.

Flipping an Image

You can flip an image horizontally or vertically. Choosing Flip Horizontal flips a selected image or part of an image around a vertical line through its center. Use Flip Horizontal when you want to create images that should be symmetrical along a vertical axis.

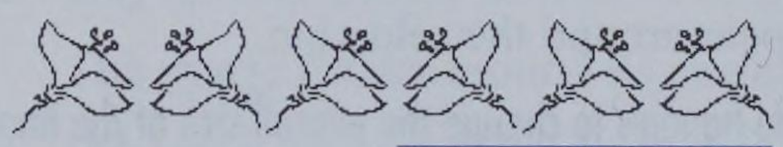


Image flipped horizontally

Choosing Flip Vertical flips a selected image (or part of an image) upside down. Use Flip Vertical when you want to create an image that should be symmetrical along a horizontal axis, such as a reflection or mirror image.



Image flipped vertically and lightened

To flip an image:

1. Select the image you want to flip.
2. Choose Flip Horizontal or Flip Vertical from the Transform menu.

   The image flips horizontally or vertically.
3. Click outside the image to deselect it.

To make a mirror image:

1. Select the image using the lasso, and then hold down the Option key and drag to create a duplicate image.

   Using the lasso selects just the image, not any surrounding white space.
2. Choose Flip Vertical from the Transform menu.
3. Move the flipped image so that it forms a reflection.
4. Choose Lighter from the Transform menu to get the reflection effect.

Working with Colors and Selections

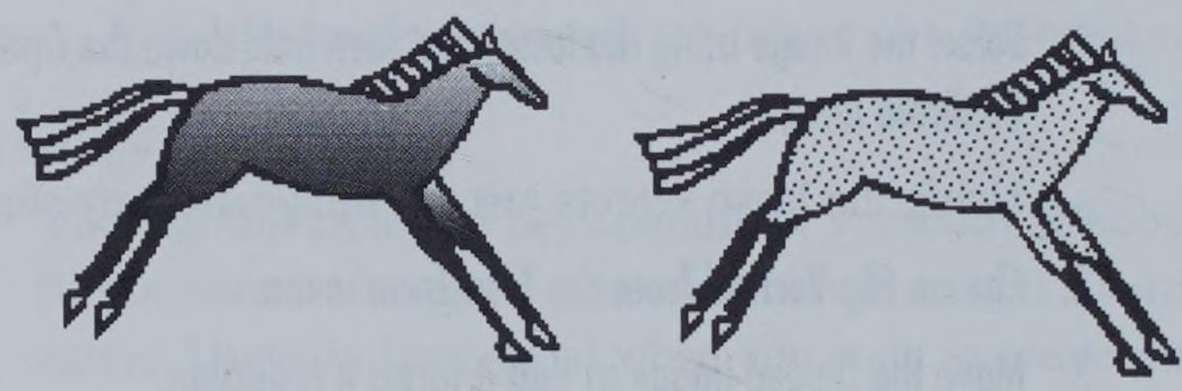
ClarisWorks provides several commands for working with colors or portions of images to create special effects. These include:

- filling a selection
- picking up an image
- inverting colors
- blending colors
- changing color tints
- lightening or darkening colors

Filling a Selection

Use the Fill command to fill the currently selected image or area with the current fill color, pattern, or gradient. This differs from the paint bucket in two ways—you can fill a selected:

- part of an image
- image or area that is multi-colored, such as a gradient fill



To fill a selection:

1. **Select the image or part of the image you want to fill.**
2. **Select the fill color, pattern, or gradient.**
3. **Choose Fill from the Transform menu.**

   ClarisWorks fills the selection with the current fill.

◆ **Tip** To be more precise in selecting an exact area, zoom in first, and then select the particular area.

Picking Up an Image

Use the Pick Up command to combine the image in a selection with another image. By making a selection, moving it over another image, and choosing Pick Up, you replace the image in the selection with the image under the selection.

To pick up an image:

1. **Select the image or area.**
2. **Move it over the image you want to pick up.**
3. **Choose Pick Up from the Transform menu.**

   ClarisWorks picks up whatever is underneath the selection.

◆ **Tip** Using Pick Up is a fast way to copy an image's attributes. After you use Pick Up, you can move the image to another location in the painting.

- **Note** How the image gets picked up depends on the paint mode. In opaque mode, the colors in the selected image are replaced with the colors from underneath. In transparent mode, the colors underneath are added. In tint mode, the colors blend.

Inverting Colors

Use Invert to reverse the colors of a selected image. The effect is similar to a negative image.



To invert an image:

1. Select the image or part of the image you want to invert.
2. Choose Invert from the Transform menu.

   ClarisWorks reverses the colors of the selection.

Blending Colors

Use the Blend command to add intermediate colors between two high-contrast colors. Blend creates a smooth progression from one color to the other.

To blend an image:

1. Select the image or area containing the colors you want to blend.
2. Choose Blend from the Transform menu.

   ClarisWorks blends the colors (or adds shades of gray in black-and-white monitors).

Adjusting Tint

Use the Tint command to adjust the color in a selection to shade it with the current fill color.

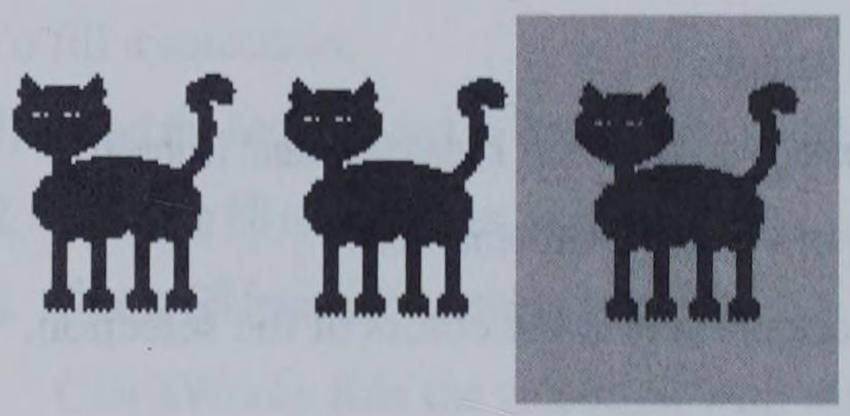
To adjust the tint:

1. Select the image or area you want to tint.
2. Choose Tint from the Transform menu.

   ClarisWorks tints the selection with the current fill color.

Lightening and Darkening an Image

Use the Lighter and Darker commands to lighten or darken a selection. Lighter tints each pixel in a selection white. Darker tints each pixel in a selection black.



Lighter **Normal** **Darker**

To lighten or darken an image:

1. Select the image or area you want to change.
2. Choose Lighter or Darker from the Transform menu.

   ClarisWorks tints the selection white for Lighter; black for Darker.

Changing Paint Documents

When you first open a new paint document, several options are preset:

- document size
- document resolution and depth
- painting mode

Specifying a Paint Document Size

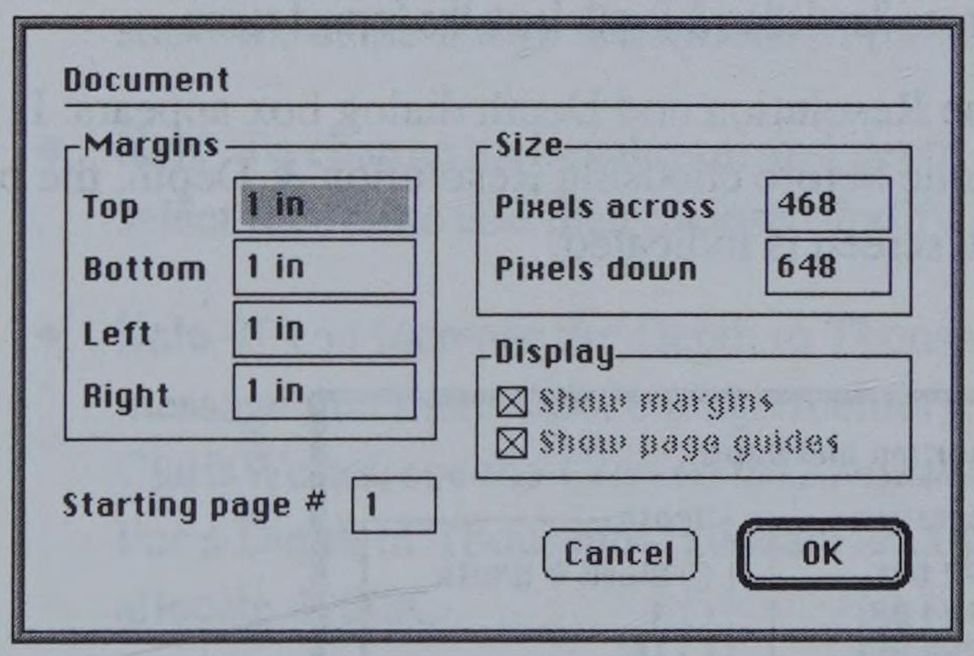
The preset size of a paint document is 468 pixels wide and 648 pixels tall (6.5 inches by 9 inches), which leaves a one-inch margin on all sides. You can change the size of an existing document. The size becomes the preset size for subsequent new documents until you change it again or quit ClarisWorks. See "Changing Page Settings" in chapter 2 for more information on margins.

- **Note** If you open a second paint document or a new paint document in limited memory, ClarisWorks reduces the document size to fit the available memory.

To change the document size:

1. Choose Document from the Format menu.

   The Document dialog box appears.



2. Specify the number of pixels across and the number of pixels down in the Size area.

   There are 72 pixels to the inch.

3. Click OK.

Changing Paint Document Resolution and Depth

A new paint document or frame is preset for a resolution of 72 dpi (dots per inch). The number and range of colors in the preset palette depends on the monitor you are using. You can change the resolution and the number of colors displayed in the color palette.

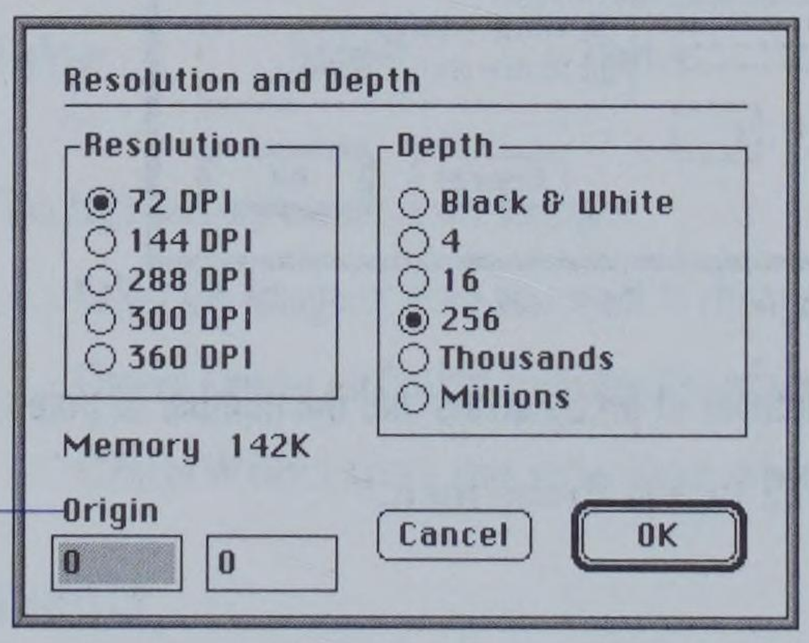
The Macintosh screen has a resolution of 72 dpi, but some printers (such as the LaserWriter) have a resolution of 300 dpi. You may want to change the resolution to match the print quality of your printer.

- **Note** Increasing the resolution decreases the size of a paint document and any images in the document. Each pixel becomes smaller. To make a document larger, increase the number of pixels in the Document dialog box (see "Specifying a Paint Document Size" on page 5-29). ClarisWorks can create paint documents up to 2000 by 2000 pixels. At 300 dpi, 2000 pixels is 6.75 inches. Working at 300 dpi and 256 colors in a 2000-by-2000 pixel document size requires 13MB of memory. See the documentation that came with your Macintosh for information on allocating more memory to an application.

To change the resolution and depth:

1. **Choose Resolution & Depth from the Format menu.**

   The Resolution and Depth dialog box appears. If you've selected a paint frame before choosing Resolution & Depth, the paint frame's position on the screen is indicated.



2. **Select the resolution you want.**

   By painting and editing images in a resolution that matches the resolution of your printer, you can take advantage of your printer's capabilities.

   - 72 dpi matches the resolution of the Macintosh screen and ImageWriter printers.

- 144 dpi matches the maximum resolution of ImageWriters.
- 288 dpi matches the resolution of the Macintosh screen and Apple LaserWriters (images print in the same proportions that they appear on the screen).
- 300 dpi matches Apple LaserWriters.
- 360 dpi matches the Apple StyleWriter (ink-jet printers).

3. **Change the number of colors you want displayed.**

   The larger the color palette, the more memory it uses. The amount of memory the current setting takes is listed after Memory in the lower-left corner of the dialog box.

4. **If you're working in a paint frame rather than a paint document, set the upper-left corner of the frame (optional) by entering values in the Origin boxes.**

   If you're working in linked paint frames, you can have several paint frames show the same image or portions of the same image.

◆ **Note** To change the resolution and depth of a paint frame, you can also select the frame and then choose Modify Frame from the Options menu.

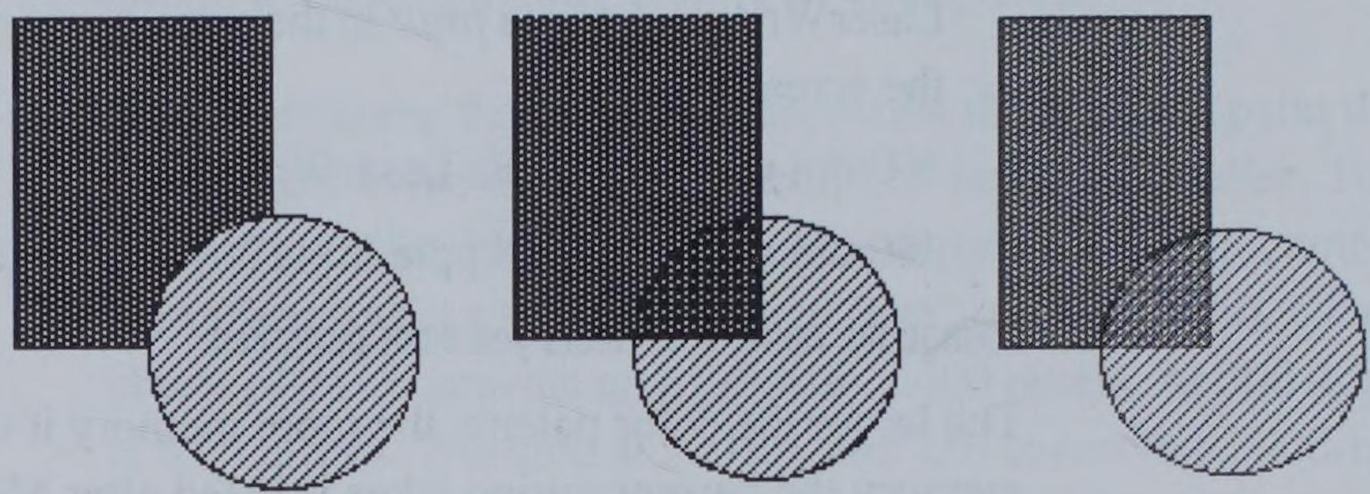
◆ **Note** If you increase the Depth to Thousands or Millions, you may see a message that there's not enough memory. To allocate more memory to ClarisWorks, see the *ClarisWorks Installation Guide* for information. For a Depth of Thousands, allocate 2400K; for a Depth of Millions, allocate 4200K.

Choosing the Paint Mode

Paint modes determine how patterns and colors interact when they overlap. The paint environment has three paint modes:

- *Opaque*—the color or pattern completely blocks out a color or pattern beneath it
- *Transparent*—the color, pattern, or gradient behind a white image (or any white pixels of an image) shows through
- *Tint*—the color you're painting with tints the colors underneath it

The preset mode is Opaque.

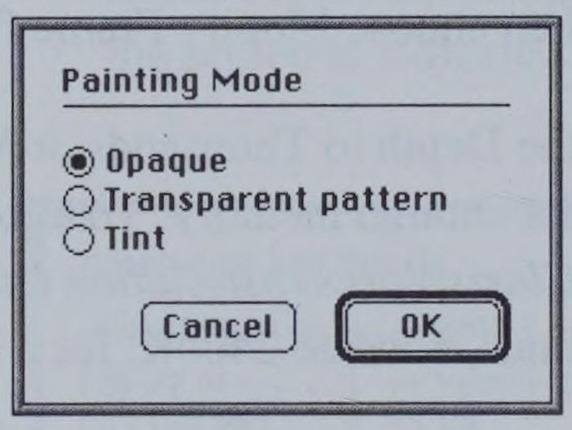


Opaque **Transparent** **Tint**

To change the paint mode:

1. Choose Paint Mode from the Options menu.

   You see the Painting Mode dialog box.



2. Select the mode
3. Click OK.

◆ **Note** If you're painting in transparent mode and the background color is the same as the pattern color, the pattern does not show up.

Creating a Paint Frame

You can create a paint frame within another document. You can add paint frames to word processing, spreadsheet, draw, and database (layout view) documents. For example, you can create a paint frame in a word processing document and then paint a logo in the paint frame.

To create a paint frame:

1. Open the document where you want a paint frame.
2. Select the paint tool and drag it across the document.
3. Release the mouse button when the paint frame is the size you want.

   The paint frame appears with the pencil as the preset tool.

- **Note** You can create frames (spreadsheet and text) in a paint document. However, as soon as you click outside the frame, the contents of the frame become an image. You can edit the information only as an image, pixel by pixel. For example, once you click outside of a spreadsheet frame, you can't go back and edit the figures or formulas.

For more information on frames, see "Working with Frames" in chapter 8.

Creating a Text Frame in a Paint Document

You can add interesting visual effects to text by creating a text frame in a paint document. For example, you could type a newsletter title and add perspective to it.



To create a text frame:

1. **In a paint document, click the text tool and drag it to create the frame.**

   By dragging to create a wide frame, you can change the font, style, and size of the text and avoid awkward word-wrapping.

2. **Select the font, size, and style for the text.**
3. **Type the text.**
4. **Click outside the text frame.**

   The text is now an image and you can treat it just as you would any other image.

5. Select the text using one of the selection tools.
6. Choose a special effect from the Transform menu.
7. Click outside the text to remove the handles.
8. Click again to deselect the text.

Chapter 6

Working with Spreadsheets

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Chapter 6

Working with Spreadsheets

This chapter provides instructions for working in the ClarisWorks spreadsheet environment, including spreadsheet documents and spreadsheet frames.

Spreadsheet Basics

Spreadsheets are a way to organize information in rows and columns—and much more. Spreadsheets let you analyze the data stored in those rows and columns. You can include formulas in a spreadsheet to perform calculations on the data. Later, you can change the spreadsheet data and ClarisWorks will automatically recalculate the new results.

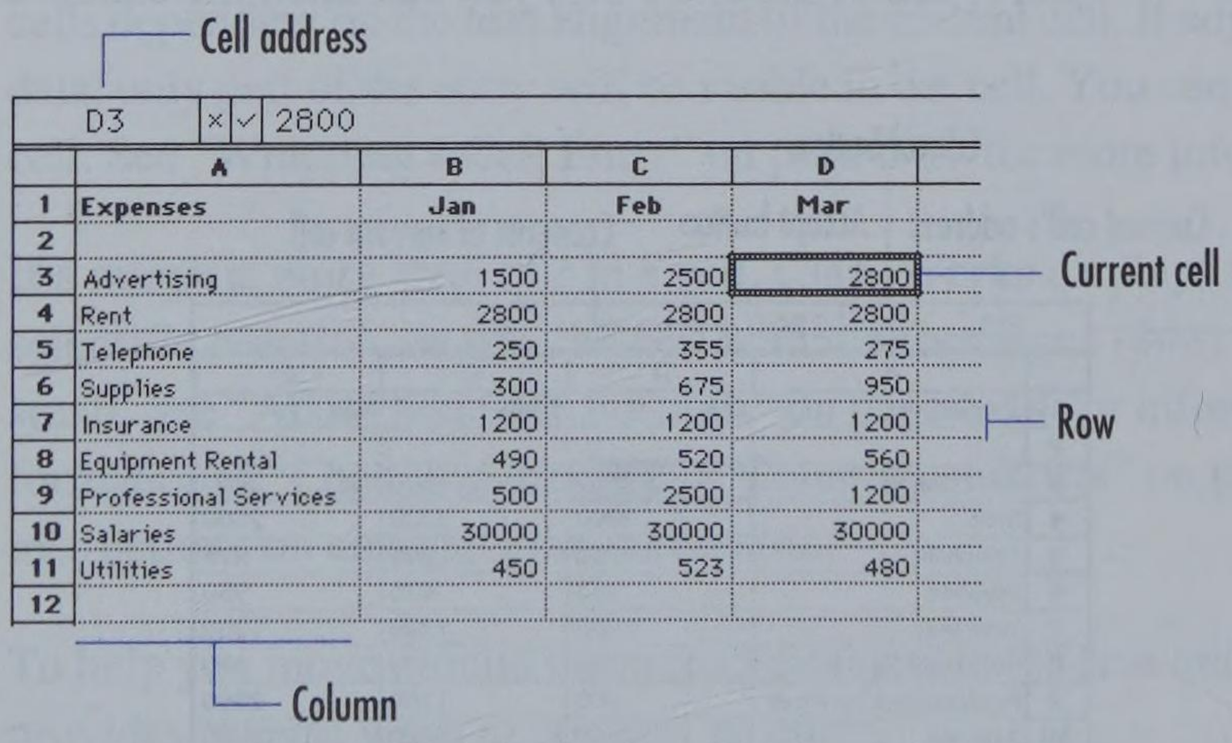
A spreadsheet is also a good way to present your data. ClarisWorks provides flexible formatting controls for text and numbers and allows you to add graphics or text notes to the spreadsheet. You can also present your data as a chart by using the ClarisWorks charting options.

Although spreadsheets are most frequently used for working with numbers, you can use a spreadsheet for any information you want to organize and present in rows and columns. You might, for example, use a spreadsheet frame to format a table in a word processing document. See "Setting Up a Table" in chapter 3 for more information.

Cells, Columns, and Rows

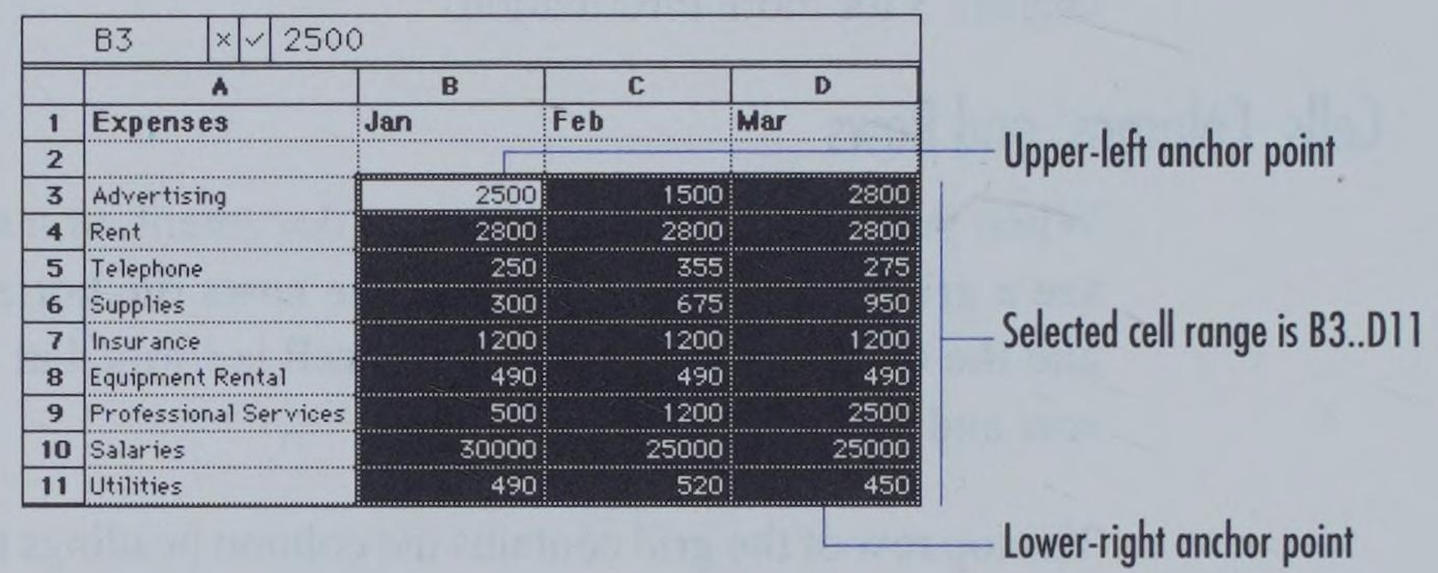
When you open a new spreadsheet document, or a spreadsheet frame, you see a grid of rows and columns. The **rows** run horizontally across the grid and the **columns** run vertically. A **cell** is formed at the intersection of each row and column.

The top row of the grid contains the column headings (labeled A, B, C,…). The left column of the grid contains the row headings (labeled 1, 2, 3,…). Each cell has a unique identity based on its position in the grid. For example, the cell at the intersection of column E and row 2 is identified as cell E2. The notation E2 is the **cell address**. You use cell addresses when you build spreadsheet **formulas** to perform calculations on your data.



One cell is always the **current cell** (the active, selected cell). The current cell has a heavy border.

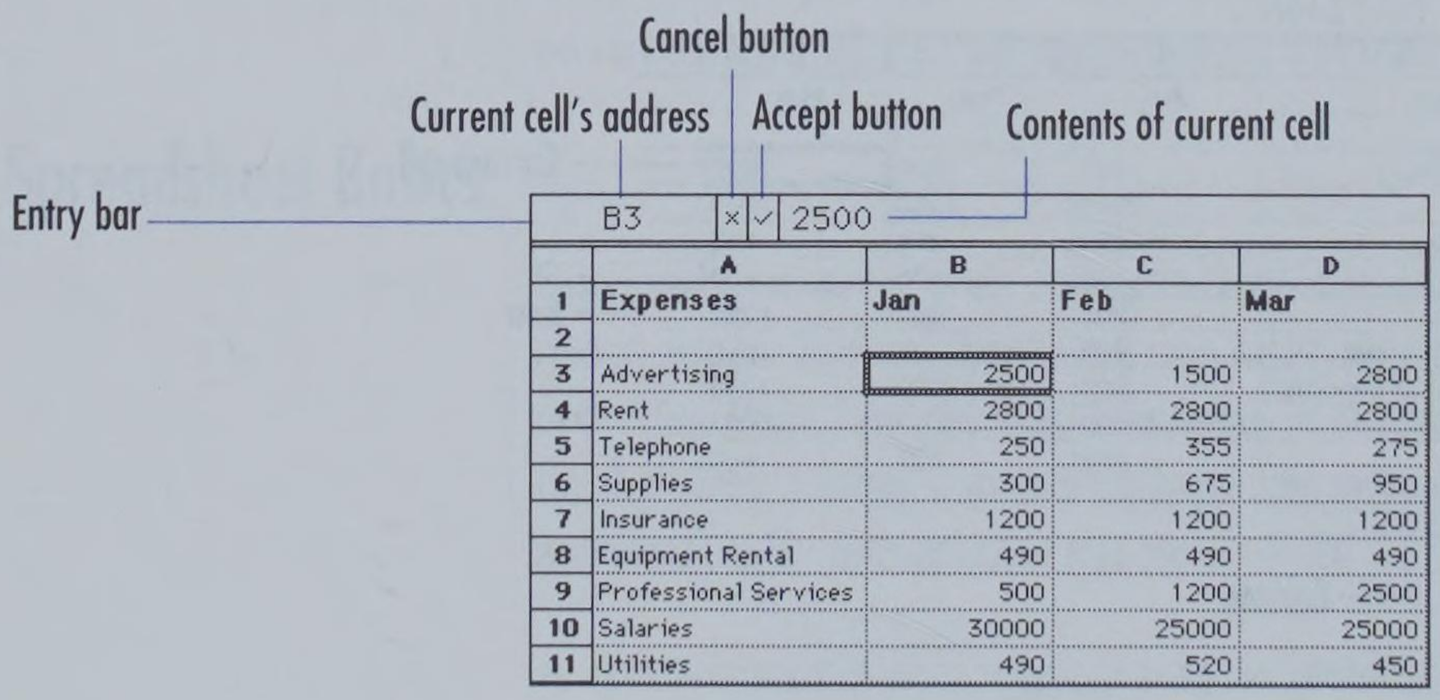
A group of cells is called a **cell range.** You identify a cell range by its **anchor points** (the addresses of the upper-left and lower-right cells) separated by two periods.



	A	B	C	D
1	**Expenses**	**Jan**	**Feb**	**Mar**
2				
3	Advertising	2500	1500	2800
4	Rent	2800	2800	2800
5	Telephone	250	355	275
6	Supplies	300	675	950
7	Insurance	1200	1200	1200
8	Equipment Rental	490	490	490
9	Professional Services	500	1200	2500
10	Salaries	30000	25000	25000
11	Utilities	490	520	450

Entry Bar

You use the entry bar to enter and edit data in cells. The entry bar shows the contents and address of the current cell. The accept button accepts data you enter in the entry bar and displays it in the current cell. To clear data that you just typed in the entry bar, you can click the cancel button.



	A	B	C	D
1	**Expenses**	**Jan**	**Feb**	**Mar**
2				
3	Advertising	2500	1500	2800
4	Rent	2800	2800	2800
5	Telephone	250	355	275
6	Supplies	300	675	950
7	Insurance	1200	1200	1200
8	Equipment Rental	490	490	490
9	Professional Services	500	1200	2500
10	Salaries	30000	25000	25000
11	Utilities	490	520	450

Entering Data

You can enter numbers, text, or formulas in a spreadsheet cell. An entry containing only numbers is a **numeric** entry. ClarisWorks treats numeric entries different from text entries. Numbers can be positive or negative. To enter a negative number, begin it with a minus sign.

A text entry is any combination of letters, numbers, or other characters. If you want ClarisWorks to interpret a numeric entry as text, you must begin and end the entry with a double quotation mark, and precede the quoted text with an equal sign (= "1992").

To enter data in a cell:

1. **Select a cell in the spreadsheet.**
2. **Type the data in the entry bar.**

   You don't need to click the entry bar. The data appears in the entry bar's text box as you type. You can enter up to 255 characters in a cell. The text box scrolls automatically to the right if you exceed the length of the box.

   To cancel your entry, click the cancel button (X) on the entry bar.
3. **Confirm the entry by pressing Return, Tab, Enter, or an arrow key, by clicking the accept (√) button, or by clicking another cell.**

   When you confirm the entry, data in the entry bar is displayed in the cell.

If a text entry is too long to fit in a cell, ClarisWorks overlaps empty adjacent cells to display the entire entry. The entry overlaps the left, right, or both adjacent cells depending on the text alignment of the current cell. If adjacent cells contain data, only part of the entry will be visible in the cell. You can also wrap text in a cell. See "Wrapping a Cell Entry" on page 6-17 for more information.

If a numeric entry won't fit in a cell, ClarisWorks displays the number in scientific notation, or fills the cell with number signs (###) if the cell is too small. See "About Numeric Formats" on page 6-14 for information on number formats and "Changing the Size of Columns or Rows" on page 6-22 for instructions on changing the cell width.

To help you move around the spreadsheet and enter data quickly, ClarisWorks provides several ways to confirm an entry:

- Return moves the selection one cell down.
- Tab moves the selection one cell to the right.
- Arrow keys move the selection one cell in the direction of the arrow.
- The Enter key and the accept (√) button keep the current cell selected.

You can also click the current cell to keep it selected or click another cell to confirm the entry and move to that cell.

Entering Formulas

A **formula** calculates a result based on data in cells or values you supply. For example, a formula can calculate the sum of the contents of two cells in the spreadsheet:

```
=B6 + B8
```

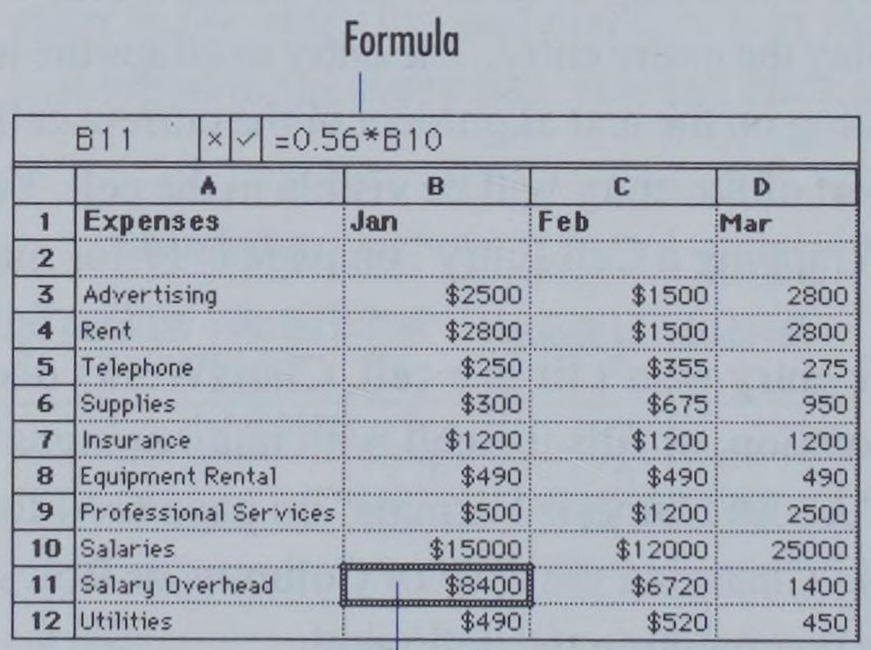
Or, a formula might multiply the contents of a cell by a value you supply:

```
=E9 * 3.5
```

ClarisWorks provides several predefined formulas, called **functions**. You can include functions in your formulas. For example, the SUM function adds the contents of cells that you specify in a formula. A formula that totals a column of figures might look like this:

```
=SUM(D4..D12)
```

If the current cell contains a formula, ClarisWorks displays the formula in the entry bar and the result in the cell.



	A	B	C	D
1	**Expenses**	**Jan**	**Feb**	**Mar**
2				
3	Advertising	$2500	$1500	2800
4	Rent	$2800	$1500	2800
5	Telephone	$250	$355	275
6	Supplies	$300	$675	950
7	Insurance	$1200	$1200	1200
8	Equipment Rental	$490	$490	490
9	Professional Services	$500	$1200	2500
10	Salaries	$15000	$12000	25000
11	Salary Overhead	$8400	$6720	1400
12	Utilities	$490	$520	450

To enter a formula:

1. Select a cell in the spreadsheet.
2. Type an equal sign (=) in the entry bar.

   The equal sign tells ClarisWorks to interpret the entry as a formula.

3. **Enter the formula after the equal sign.**

   A quick way to include a cell address in a formula is to click the cell. To include a range of cells, drag through the range. You can put a space before or after any operators and type either uppercase or lowercase letters.

   To cancel the entry, click the cancel button (X) in the entry bar.

4. **Confirm the entry by pressing Return, Tab, Enter, or an arrow key, or by clicking the accept (√) button.**

   The result appears in the cell.

◆ **Note** Don't confirm the entry by clicking another cell; doing so adds the cell to the formula.

See "Working with Formulas" on page 6-26 for details on using formulas in your spreadsheets. For instructions on using functions, see "Working with Functions" on page 6-32. For a description of each ClarisWorks function, see appendix A, "Using ClarisWorks Functions."

Working with Cell Data

After you enter data and formulas into cells, you can easily select the cells and edit the data, or move, copy and paste the contents of cells into other cells.

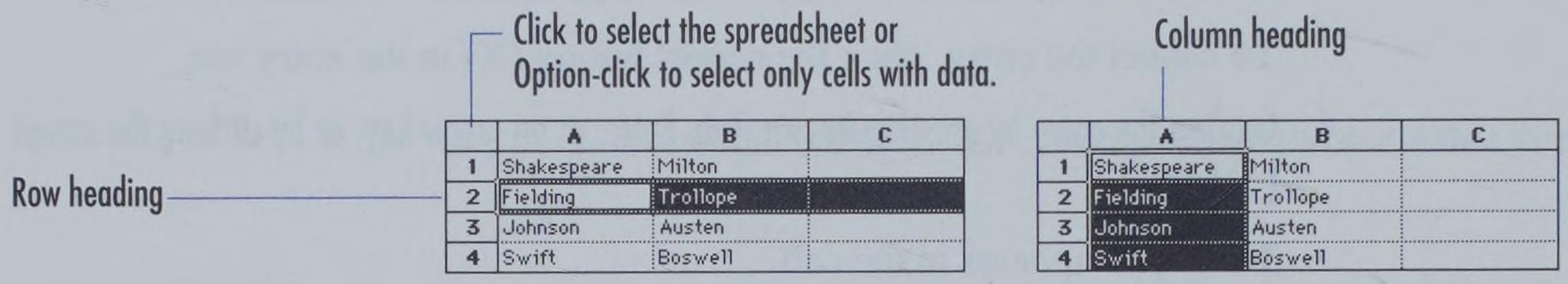
Selecting Cells and Ranges

You select a single cell by clicking the cell. A heavy border appears around the cell, and the cell contents (if any) appear in the entry bar.

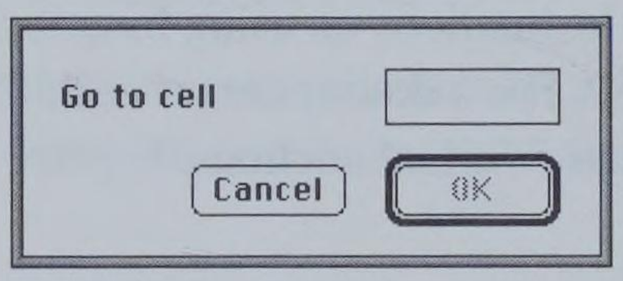
To select a range of cells, drag through the cells, or click the first cell in the range and then Shift-click the last cell. When you select a range of cells, the top anchor cell becomes the current cell and its contents appear in the entry bar.

To select a row or column, click the row or column heading, or drag through the cells. The row or column is highlighted to show it is selected. The contents of the first cell in the row or column appear in the entry bar.

To select an entire spreadsheet, click the box in the upper-left corner where the row and column headings intersect. To select the range of cells that contain entries, press the Option key and click the box in the upper-left corner.



You can go to any cell in the spreadsheet and make it the current cell by choosing Go to cell from the Options menu and typing the cell's address.



Editing Cell Data

To edit the contents of a cell:

1. Select the cell.

   The cell's value or formula appears in the entry bar.

2. In the entry bar, click where you want to insert data, and type the changes.

   To replace all the contents in a cell, you don't need to click or select data in the entry bar.

   To remove part of an entry, drag to select the portion and press Delete or Backspace. To select a word in the entry bar, double-click the word.

3. To cancel the changes, click the cancel button (X) in the entry bar.

4. Confirm the changes by pressing Return, Tab, Enter, or an arrow key, or by clicking the accept (√) button.

◆ **Note** You can't edit data in a locked cell. See "Protecting Cell Data" on page 6-12.

Cutting, Copying, and Pasting

You can cut or copy data, formats, and formulas from one cell and paste them into another cell in the current or another spreadsheet.

To cut or copy the contents of a cell or range, select the cells and choose Cut or Copy from the Edit menu. The cell contents are placed on the Clipboard.

- **Note** The Cut command cuts the cell contents, not the cell. To delete cells, see "Inserting and Deleting Cells, Rows, and Columns" on page 6-20.

To paste the contents into a cell or range:

1. Click the cell that you are pasting into.

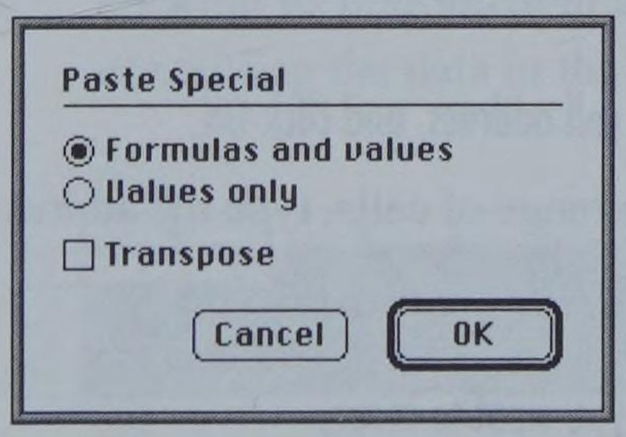
   If you are pasting a range, click the upper-left anchor cell at the new location.
2. Choose Paste from the Edit menu.

- **Note** When you paste a formula, cell references are updated for the new location.

To paste a value, but not the formula that produced it:

1. Cut or copy cell contents to the Clipboard, then select another cell and choose Paste Special from the Edit menu.

   You see the Paste Special dialog box.



2. Select Values Only, and click OK.

   Only the value that was copied to the Clipboard is pasted (the formula that produced the value isn't pasted).

Clearing and Deleting the Contents of Cells

To clear the contents of a cell or a range and remove the cell format, select the cells and choose Clear from the Edit menu. To remove the contents of cells and not remove the cell format, select the cells and then press Delete.

Clearing or deleting removes the cell contents without placing a copy on the Clipboard. If you clear or delete cell contents and then change your mind, choose Undo Clear from the Edit menu before typing anything else.

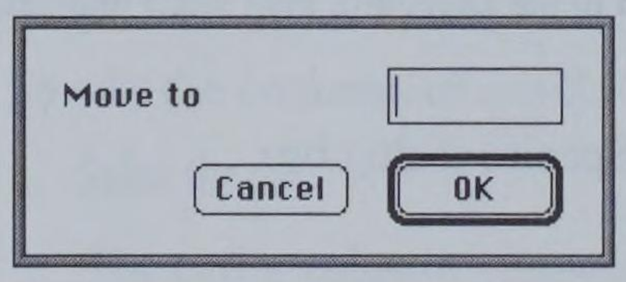
Moving the Contents of Cells

You can move the contents of a cell or range to another location in the spreadsheet. Cell references in formulas do not change when you move cells as they do when you cut and paste cells.

To move the contents of cells:

1. Select the cell or range of cells you want to move.
2. Choose Move from the Calculate menu.

   You see the Move to dialog box.



3. Type the new location's cell address, and click OK.

   If you are moving a range of cells, type the address for the top anchor point.

To move cells quickly:

1. Select the cell or range you want to move.
2. Hold down Command-Option, and then click the anchor cell where you want the selected range to go.

Transposing Rows and Columns

You can transpose rows and columns—that is, switch columns to rows and rows to columns. This feature is useful for changing the orientation of data.

To transpose rows and columns:

1. **Select the range of cells you want to transpose.**
2. **Choose Cut from the Edit menu.**
3. **Choose Paste Special from the Edit menu.**

   You see the Paste Special dialog box.
4. **In the dialog box, select Transpose, and click OK.**

   ClarisWorks switches columns to rows and rows to columns and updates formulas to reflect the new cell positions.

Filling Cells Automatically

You can fill a range of cells with the contents of the row above or the column to the left. This can help you avoid retyping repetitious information.

To fill cells downward:

1. **Drag to select the row of cells that contain the data you want to duplicate.**
2. **Continue dragging downward to select the cells you want to fill.**

   You can also select the range by clicking its top-left anchor cell and Shift-clicking its bottom-right anchor cell. Make sure you include the row containing the data in the range.

	A	B	C
1	25	30	55
2			
3			
4			

3. Choose Fill Down from the Calculate menu.

ClarisWorks duplicates the data in the selected rows.

	A	B	C
1	25	30	55
2	25	30	55
3	25	30	55
4	25	30	55

To fill cells to the right:

1. Drag to select the column of cells that contains the data you want to duplicate.
2. Continue dragging to the right to select the cells you want to fill.

	A	B	C
1	2450		
2	3596		
3	3427		
4	2964		

3. Choose Fill Right from the Calculate menu.

ClarisWorks duplicates the data in the selected cells to the right.

	A	B	C
1	2450	2450	2450
2	3596	3596	3596
3	3427	3427	3427
4	2964	2964	2964

Protecting Cell Data

You can protect data or formulas from accidental changes by locking cells. To lock a cell or range, select the cells and then choose Protect Cells from the Options menu. To unlock a protected cell or range, select the cells and then choose Unprotect Cells from the Options menu.

- **Note** If you protect an entire column, you can enter data in blank cells in that column.

Formatting Data in Cells

You can change the appearance of spreadsheet data by changing the format used in a cell. **Cell format** refers to text characteristics and number formats.

Setting the Format for Numbers, Dates, and Times

The way a number appears in a cell depends on the numeric format and the precision set for that cell. Numbers always appear unformatted in the entry bar.

C4 | × | ✓ | 1500 ← Number as you type it

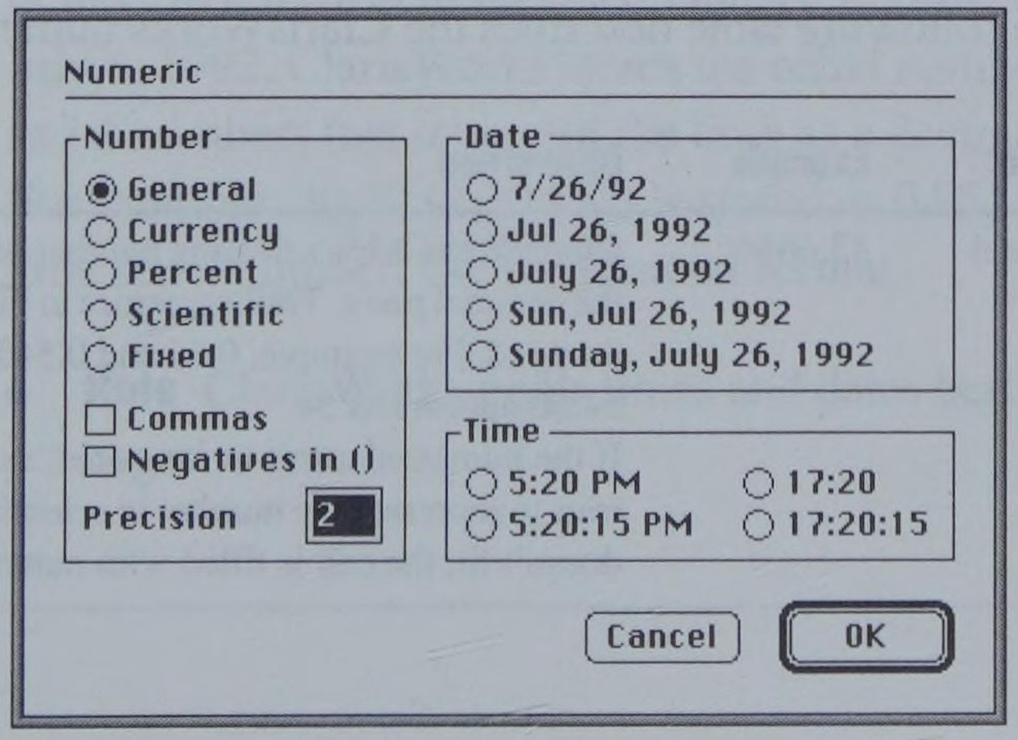
	A	B	C
1	**Expenses**	**Jan**	**Feb**
2			
3	Advertising	$2500.00	$1500.00
4	Rent	$2800.00	$1500.00 ← Number as formatted
5	Telephone	$250.00	$355.00
6	Supplies	$300.00	$675.00
7	Insurance	$1200.00	$1200.00
8	Equipment Rental	$490.00	$490.00

Numeric data can be displayed as a percentage, currency, or scientific notation, and can show a fixed or floating number of decimal places. How you format numeric data has no effect on how ClarisWorks stores numbers and uses them in calculations.

To set the numeric format for a cell or a range:

1. **Select the cells and choose Number from the Format menu (or double-click a single cell).**

   You see the Numeric dialog box.



2. From the Number area, select a numeric format.

   The numeric formats are described in the table in the next section, "About Numeric Formats."

3. Select Commas to use comma separators for thousands.
4. Select Negatives in () to display negative numbers in parentheses.
5. Specify a precision for the format.

   You can specify up to 15 decimal places.

   Precision determines how many digits are displayed to the right of the decimal point. ClarisWorks is preset to display two decimal places for Fixed, Currency, and Percent formats. For numbers using the Scientific format, the precision applies to the mantissa. The General format uses floating-point precision and is not affected by this setting.

6. From the Date and Time areas, select date and time formats.

   Date and time formats are described in "About Date and Time Formats" on page 6-15.

7. Click OK.

◆ **Tip** If numbers can't be displayed because the cells are too narrow, ClarisWorks first attempts to display the numbers in scientific notation. If the numbers still won't fit, ClarisWorks fills the cells with number signs (######). To bring the numbers into view, make the cells wider. (See "Changing the Size of Columns or Rows" on page 6-22.)

About Numeric Formats

The following table describes the ClarisWorks numeric formats.

Format	Example	Description
General	43.6666	ClarisWorks adds a floating number of decimal places to the right of the decimal point. Trailing zeroes to the right of the decimal point are dropped. For example, 0.54 and 0.5400 appear as 0.54. The number 54.00 appears as 54. If the number doesn't fit into a cell as a fixed number, ClarisWorks tries to represent the number in scientific notation. If the number still doesn't fit, the cell is filled with number signs (#####).

Format	Example	Description
Currency	$43.67	ClarisWorks puts a currency symbol next to the number. The preset precision is two decimal places, but you can change it.
Percent	4367.00%	Numbers are displayed as percentages. ClarisWorks multiplies the number you enter by 100 and displays it in a fixed decimal format with the precision you set. The number 5 appears as 500%, and the number .5 as 50%.
Scientific	4.37e+1	ClarisWorks displays entries as exponential powers of 10. The precision (set in the Precision box) applies to the mantissa of the value displayed. For example, if you set the precision at 2, the number 1000000 appears as 1.00e + 6 (1.00 multiplied by 10 to the power of 6).
Fixed	43.67	ClarisWorks rounds numeric entries to a fixed number of decimal places. The preset number of decimal places is two. You can change the number in the Precision box of the Number Format dialog box.

About Date and Time Formats

The date and time options show how data formatted for date or time will appear in a cell. For example, the format Mon, Jul 15, 1991 supplies a three character abbreviation of both the day of the week and the name of the month.

The format 5:20 PM produces a time in the format Hours:Minutes, on a clock divided into 12-hour blocks (AM and PM). The formats 17:20 and 17:20:15 produce times based on a 24-hour (international) clock.

ClarisWorks stores dates and times as serial numbers, not as the formatted dates and times you see in cells. Any date you enter is converted to the number of days that have elapsed since January 1, 1904. For example, if you enter July 6, 1992, ClarisWorks stores the serial number 32329. Time is stored as serial numbers that represent the time as a decimal fraction of the whole day. For example, 20:30 (8:30 PM) is stored as 0.854166666. To display a date or time serial number, use the General format.

- **Note** ClarisWorks treats times and dates before January 1, 1904, as negative numbers.

Changing the Text Characteristics

You can change the characteristics of text and numbers in a cell or range by changing the font, size, style, and color. You can also change the default font and size (9-point Geneva) that ClarisWorks uses to display text in the spreadsheet.

To change text characteristics for a cell or range:

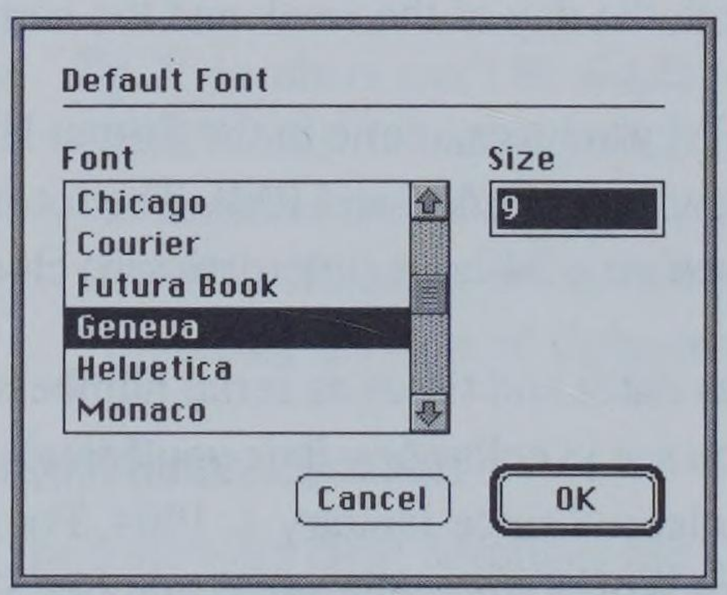
1. **Select the cells you want to change.**
2. **Choose from the Font, Size, Style, or Text Color submenus in the Format menu.**

   For complete information on text characteristics, see "Changing Text Appearance" in chapter 3.

To change the default font and size for the entire spreadsheet:

1. **Choose Default Font from the Options menu.**

   You see the Default Font dialog box. The dialog box shows the fonts available in your Macintosh system file.



2. Choose a different font and type a size, and click OK.

Changing the Alignment in Cells

ClarisWorks is preset to align numbers to the right edge of a cell and text to the left.

To change the alignment of data in cells:

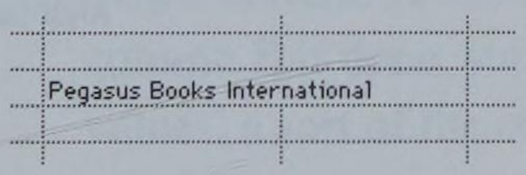
1. Select the cells you want to change.
2. Choose Alignment from the Format menu, and then choose General, Left, Center, or Right from the submenu.

   General (the preset alignment) aligns numbers to the right and text to the left. Left, Right, and Center specify the alignment regardless of the type of data in the cell.

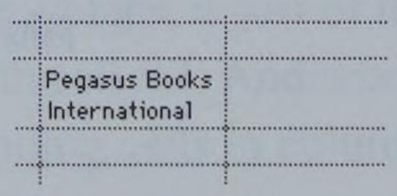
Wrapping a Cell Entry

Normally, when lines of a text entry are longer than the cell width, the lines continue into the next cell (if the next cell is empty), or are cut off (truncated) if the next cell contains data. To prevent lines from overflowing a cell or from being truncated, you can wrap the cell contents. To do this, choose Alignment from the Format menu and then choose Wrap from the submenu.

Wrap causes lines to wrap (go to the next line) when they reach the border of the cell. You can use Wrap with any alignment.



Unwrapped entry

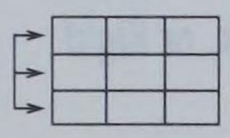


Wrapped entry

- **Note** A long entry may wrap below the bottom border of the cell. If this happens, you can increase the cell's height or width to see the entire entry. For more information, see "Changing the Size of Columns or Rows" on page 6-22.

Sorting a Range of Cells

You can sort values in selected columns or rows. Text values are sorted in alphabetical order and numeric values in numerical order. If a column or row contains both text and numbers, text values are sorted first, then numbers.



Sorting vertically

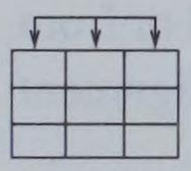
A vertical sort (down a column) sorts the data in several rows. The contents of cells in each row are kept together in the row.

Jones	U.S.A.	East	Atlanta	2544
Smythe	U.K.	South	London	6903
Abernathy	France	Central	Paris	4588

Before sort

Abernathy	France	Central	Paris	4588
Jones	U.S.A.	East	Atlanta	2544
Smythe	U.K.	South	London	6903

After sort



Sorting horizontally

A horizontal sort (across a row) sorts the data in several columns. The contents of cells in each column are kept together in the column.

Jones	**Smythe**	**Abernathy**
U.S.A.	U.K.	France
East	South	Central
Atlanta	London	Paris
2544	6903	4588

Before sort

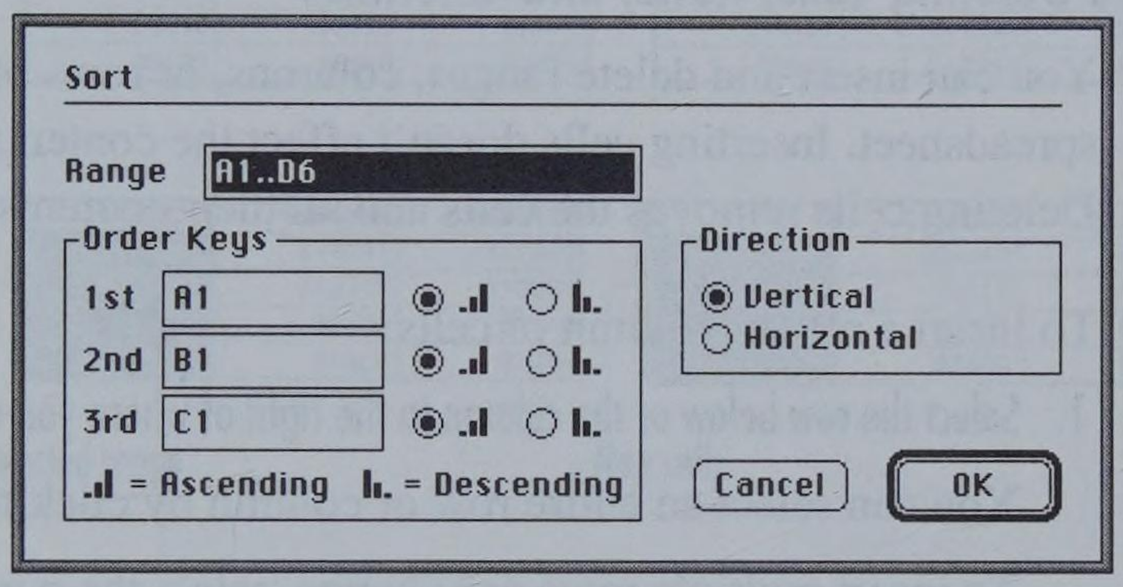
Abernathy	**Jones**	**Smythe**
France	U.S.A.	U.K.
Central	East	South
Paris	Atlanta	London
4588	2544	6903

After sort

To sort the values in a range of cells:

1. Select the range whose values you want to sort.
2. Choose Sort from the Calculate menu.

   You see the Sort dialog box. In the following example, a range was selected for vertical sorting.



3. In the Direction area, click Vertical to sort down columns or Horizontal to sort across rows.
4. Type a beginning cell address in an Order Keys box for each row or column you want to sort.

   The above example shows a sort by column. The sort is in column A and begins in cell A3.

   When column A has duplicate values, a sort of the corresponding cells in column B is done, starting with cell B3. And when column B has duplicate values, a sort of the corresponding cells in column C is done, starting with cell C3.
5. For each address, click a sort order.

   Ascending sorts text in alphabetical order and numbers from lowest to highest. Descending sorts text in reverse alphabetical order and numbers from highest to lowest.
6. Click OK.

Working with Cells, Rows, and Columns

You can revise a spreadsheet by inserting cells, changing the size of rows and columns, and changing the number of cells in the spreadsheet. You can also add borders to cells and set options that determine how a spreadsheet looks on the screen and when it is printed.

Inserting and Deleting Cells, Rows, and Columns

You can insert and delete ranges, columns, or rows of cells anywhere in a spreadsheet. Inserting cells doesn't affect the contents of any existing cells. Deleting cells removes the cells and all their contents.

To insert a row or column of cells:

1. **Select the row below or the column to the right of where you want to insert a row or column.**

   You can select an entire row or column by clicking its heading.

   To insert multiple rows or columns, select the number of rows or columns that you want to insert.

2. **Choose Insert Cells from the Calculate menu.**

   ClarisWorks inserts the cells.

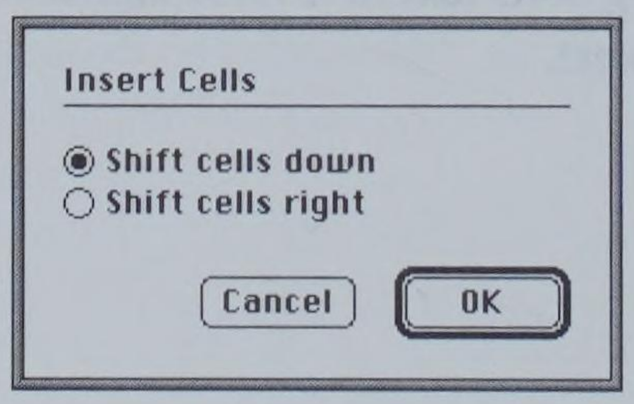
To insert a range of cells:

1. **Select a range of cells either above or to the left of where you are inserting the cells.**

   The size of the range you select determines the size of the range that ClarisWorks inserts.

2. **Choose Insert Cells from the Calculate menu.**

   You see the Insert Cells dialog box.

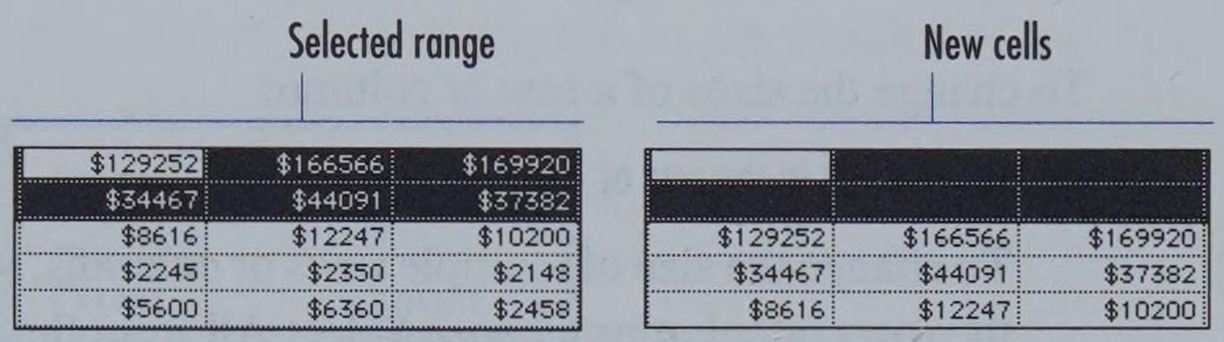


3. Select Shift Cells Down or Shift Cells Right.

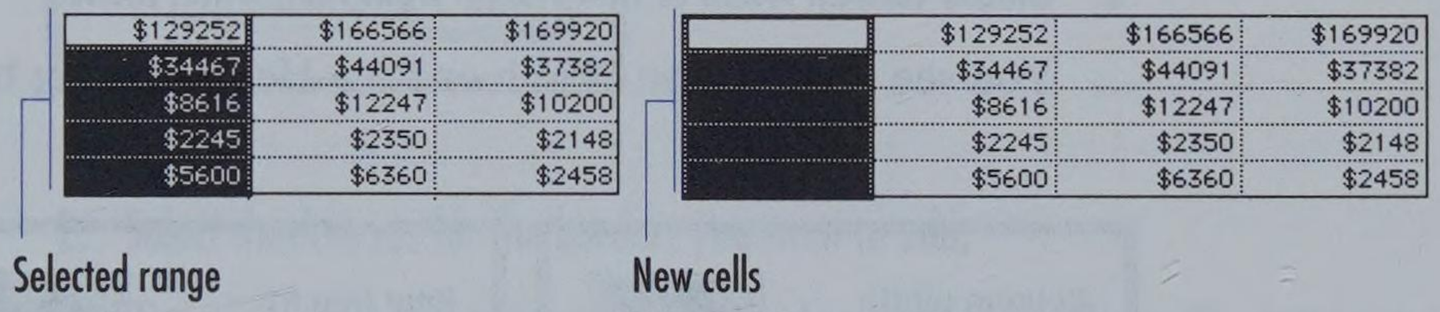
4. Click OK.

The new cells are inserted.

Cells shifted down



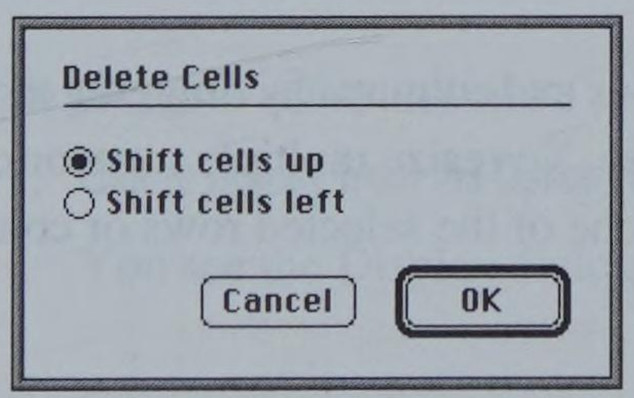
Cells shifted right



To delete cells:

1. Select the range, rows, or columns you want to delete.
2. Choose Delete Cells from the Calculate menu.

   If you selected a range rather than whole rows or columns, you see the Delete Cells dialog box.



3. In the dialog box, select Shift cells up or Shift cells left.
4. Click OK.

   If you delete entire rows or columns, ClarisWorks moves the remaining columns to the left or the remaining rows up.

   References to cells in the deleted range, if any, are changed to "BADCELL" or "BADRANGE" references and show "#Ref!" errors.

Changing the Size of Columns or Rows

You can resize an individual row or column or all rows and columns in the spreadsheet.

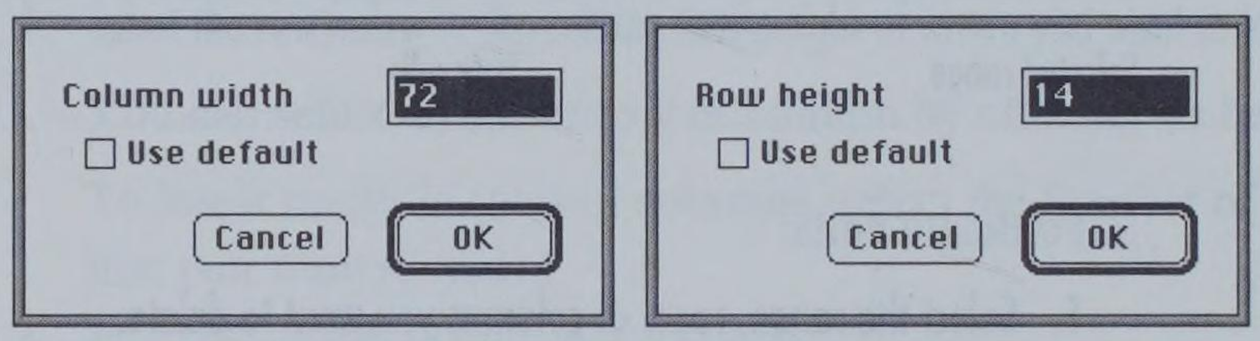
To change the sizes of a row or column:

1. **Select a cell in the row or column.**

   To change the size of multiple rows or columns, select them. To change all the rows or columns, choose Select All from the Edit menu.

2. **Choose Column Width or Row Height from the Format menu.**

   You see the Column Width or Row Height dialog box.



3. **Type the size you want in points, and click OK.**

- **Note** The preset column width is 72 points (1 inch) and the preset row height is 14 points.To revert to the preset size, click Use default.

You can also resize rows and columns by dragging the edge of a row or column heading with the mouse. To resize multiple rows or columns, select them and then drag the edge of one of the selected rows or columns.

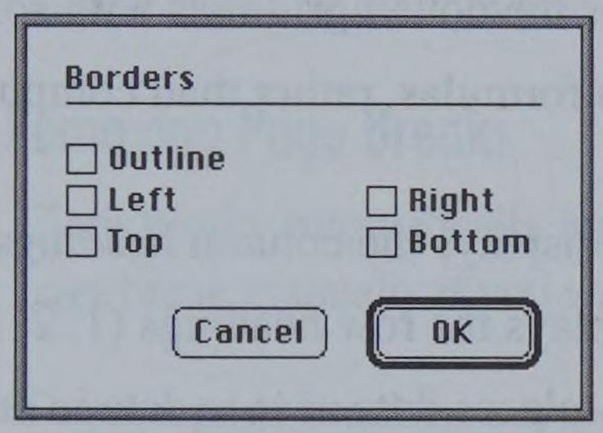
Adding Borders

You can emphasize a cell or range of cells by adding solid borders. Borders are a part of a cell's format and are copied and pasted with the cell.

To add borders to a cell or range of cells:

1. **Select the cells and choose Borders from the Format menu.**

   You see the Borders dialog box.



2. **Select checkboxes for the borders you want to add.**

   To surround the cells with a border, select Outline. To remove a border, deselect its checkbox.

- **Note** If a dash appears in a checkbox, some but not all of the currently selected cells have that border.

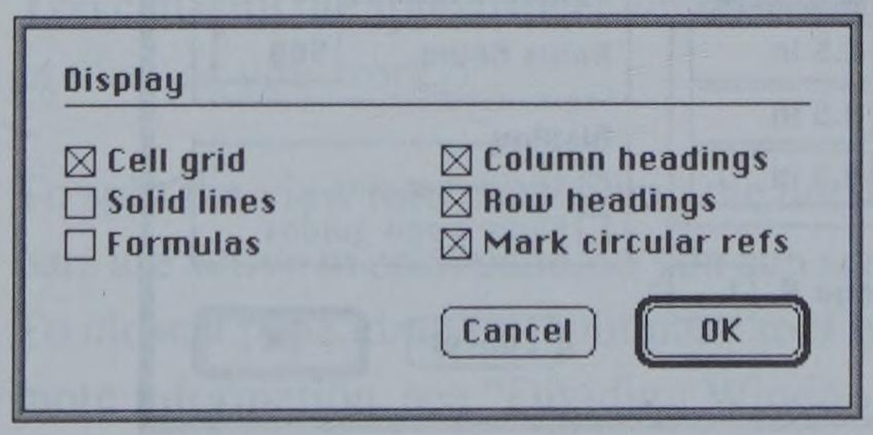
Choosing Display Options

You can change the way the cell grid is displayed, whether or not to display column and row headings, and how formulas and circular references are displayed.

To change display options:

1. **Choose Display from the Options menu.**

   You see the Display dialog box.



2. **Select the options you want.**

- *Cell grid*—displays dotted grid lines that divide the spreadsheet into rows and columns. This allows you to see the spreadsheet cells. When Cell grid is not selected, no lines appear.
- *Solid lines*—replaces the dotted gridlines with solid lines
- *Formulas*—displays formulas, rather than computed values, in cells that contain formulas
- *Column headings*—displays the column headings (A, B, C, and so forth)
- *Row headings*—displays the row headings (1, 2, 3, and so forth)
- *Mark circular refs*—places dots next to data in cells that contain circular cell references. This helps you spot formulas that may need rethinking. For more information, see "Working with Formulas" on page 6-26.

3. **Click OK.**

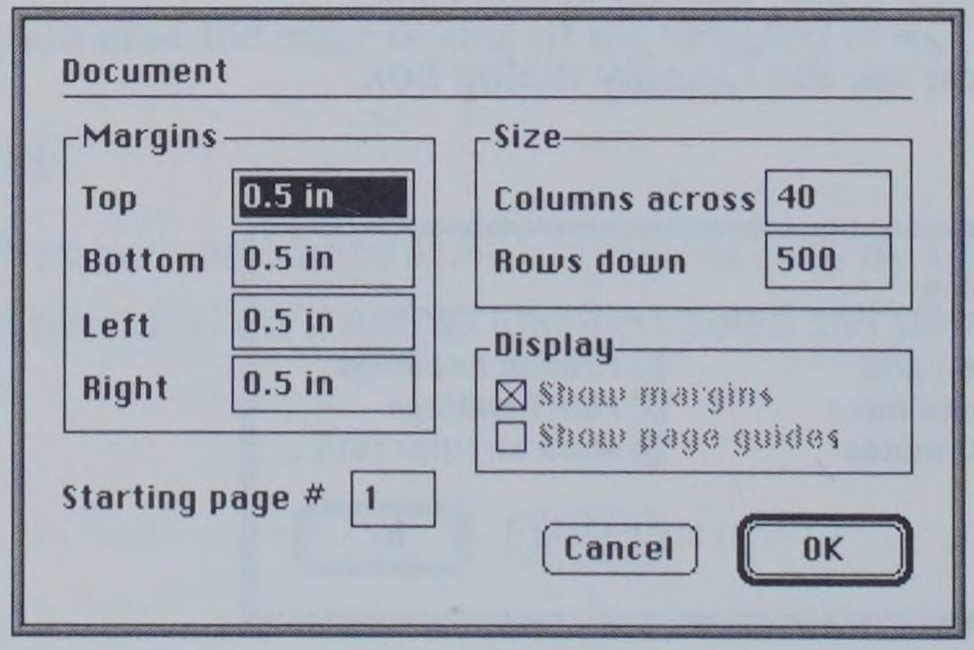
Changing the Size of the Spreadsheet

A new ClarisWorks spreadsheet document contains 40 columns and 500 rows. A spreadsheet frame can be any size; however, it initially contains 10 columns and 50 rows.

To change the number of rows and columns:

1. **Choose Document from the Format menu.**

   You see the Document dialog box.



2. In the Size boxes, type the number of columns and rows you want.
3. Click OK.

Working with Pages and Views

You can add page breaks, headers and footers to format the pages of a spreadsheet. To make working with large spreadsheets easier, you can split the onscreen view of the spreadsheet window, or freeze rows and columns of the spreadsheet in place so you can view them as you scroll the rest of the spreadsheet.

Setting and Removing Page Breaks

ClarisWorks automatically inserts page breaks when a page is full. You can add a page break manually if you want a break to occur before the automatic page break.

To set a page break in a spreadsheet document, select the row, column, or cell where you want the page to end. Then choose Add Page Break from the Options menu. ClarisWorks breaks the page below the row, to the right of the column, or at the bottom right of the cell you selected.

To remove a page break, select the row, column, or cell where you previously set the break. Then choose Remove Page Break from the Options menu.

To remove all the page breaks you added, choose Remove All Breaks from the Options menu (ClarisWorks doesn't remove the automatic page breaks).

Setting the Print Range

To set the range of cells to print, choose Print Range from the Options menu, select Cell range, and then type the range you want to print. To print all cells that contain data, select the All cells with data option in the Print Range dialog box.

Splitting the View and Locking Titles

As a spreadsheet grows larger, you may lose sight of some columns and rows. You can split the spreadsheet window to keep different parts of the spreadsheet in view as you work.

To split the view into panes, drag the horizontal or vertical pane control. Scroll bars are active in each pane, so you can scroll titles or data into view as needed. To close a pane, drag the split pane tool back to the edge of the window. For more information, see "Dividing Windows into Panes" in chapter 2.

You can also lock the position of columns or rows that you use as titles. This prevents the columns or rows from moving as you scroll the spreadsheet.

To lock column or row titles on the screen:

1. Select the columns or rows you want to lock in place.
2. Choose Lock Title Position from the Options menu.

   A checkmark appears next to the command when titles are locked. Choose the command again to unlock titles.

Changing the Page View

A spreadsheet is preset to appear without margins showing, but you can switch to a view of the actual page (page view). Page view shows the spreadsheet as it will be printed.

To switch to page view, choose Page View from the View menu. A checkmark indicates that page view is on. To switch back, choose Page View again.

ClarisWorks switches you automatically to page view if you insert a header or footer in a spreadsheet. (For information on inserting headers and footers, see "Adding Headers and Footers" in chapter 2.)

Working with Formulas

This section gives a brief introduction to the way formulas work in a spreadsheet and describes how formulas are built, how they are used, and the kinds of results they produce.

Types of Results

When working with formulas, you can expect results of a specific type. For example, if you subtract a time from a time (times are numbers), the result is a number. A formula that counts characters in a text expression also has a numeric result.

Results of a formula can be one of the following types:

- Text
- Number (including dates and times)
- Boolean
- Errors

Parts of a Formula

- *Operators and Operands*—Operators are symbols that define the action to be performed. Familiar examples are the plus sign (+) and minus sign (–). Operands are the elements acted on. They are most often numeric values or text strings. In the equation 2 + 3 = 5, the 2 and the 3 are operands.
- *Simple Formulas*—A simple formula can be a series of numbers joined by operators. For example, if you enter the formula = 2 + 3 + 5 in cell B5, ClarisWorks adds the three values. After you confirm the formula, the result—10—appears in cell B5.
- *Functions and Cell References*—A formula can also use cell references and functions. For example, in cell B5 you can enter this formula:

```
=SUM (A1..B4)
```

After you confirm the formula, ClarisWorks uses the predefined function (SUM) to add the contents of the range of cells A1 through B4. The result appears in cell B5.

Types of Operators

You can use three types of operators in ClarisWorks formulas: numeric, text, and relational.

Numeric Operators

Numeric operators perform arithmetic computations on numeric data. These operators are:

Symbol	Operation
+	addition
–	subtraction
*	multiplication
/	division
^	exponentiation

Text Operator

ClarisWorks has one text operator: & (ampersand). You use the text operator to join text expressions, also called text strings. Quotation marks should be used to surround a text expression.

For example, suppose a city, Anytown, is in cell A2, and a state name, Any State, is in cell A3. You want to join the two in a text expression in cell B6. In cell B6 you type:

```
=A2 & ", " & A3
```

In this expression, ClarisWorks sees the comma and space and interprets them as text because they are inside the quotation marks. The result is:

```
Anytown, Any State
```

Relational Operators

Relational operators express a relationship between two operands. Both the operands must be text, or both must be numbers (dates and times, which are formatted numbers, work as well). Relational operators are:

Symbol	Operation
=	equal to
>	greater than
≥	greater than or equal to
<	less than
≤	less than or equal to
<>	not equal to

Formulas that use relational operators make a statement, and ClarisWorks evaluates the statement to see if it is TRUE or FALSE. For example, if cell A1 contains the number 345, and cell B1 contains the number 678, the formula

```
= A1 < B1
```

gives a TRUE result, and TRUE appears in the cell that contains the formula.

When you use relational operators to compare text values, ClarisWorks looks at the ASCII values of the text characters.

Precedence

Precedence is the order in which calculations are performed when a formula has more than one operator. ClarisWorks acts on an operator with a higher level of precedence before it acts on one with a lower level. If two operators have the same level of precedence, ClarisWorks performs the calculation from left to right.

Operator		Level of precedence
%	(division by 100, example: 57% =.57)	7
^	(exponentiation)	6
+,-	(sign)	5
*,/	(multiplication, division)	4
+,-	(addition, subtraction)	3
&	(text operation)	2
=, >, >=, <, <=, or <>		1

For example, the formula

```
= 3 + 4 * 5
```

produces 23 because 4 and 5 are multiplied (level 4) before 3 is added (level 3).

To change the precedence of operators within a formula, enclose items in parentheses to give them higher priority. When parentheses are nested within other parentheses, the innermost level receives the highest priority. Evaluation proceeds from left to right. For example, the formula

```
=(3 + 4) * 5
```

produces 35.

```
=((3 + 4) * 5) * 4
```

produces 140.

Cell References in Formulas

A formula can contain references to a cell or to a range of cells. ClarisWorks uses the contents of these cells to compute the formula.

Relative References

A **relative reference** gives the location of a cell relative to the location of the current cell. If you're entering a formula in cell B2, for example, and you use a reference to cell C4, you're telling ClarisWorks to get the value from the cell one column to the right and two rows down.

If you copy a formula with a relative reference to another cell, ClarisWorks changes the reference to reflect the relative position from the new source cell. If cell B2 contains a reference to cell C4, and you copy that reference into cell E3, the reference changes from C4 to F5—still one column over and two rows down from the source cell.

Absolute References

An **absolute reference** doesn't change when you copy and paste a formula. To enter an absolute cell reference, you type a dollar sign ($) before each part of the cell address: C4 indicates a fixed column (C) and fixed row (4). You can quickly enter an absolute cell reference in a formula by Command-Option-clicking a cell.

Mixed References

A **mixed reference** contains both relative and absolute cell references. For example, the reference $C3 indicates an absolute column but a relative row location. The reference C$3 indicates a relative column but absolute row location.

Entering Cell References

- *Single cell*—You can enter a reference to a single cell by typing the cell address. Or, you can click the cell and ClarisWorks inserts the address. If you click a cell to put it in a formula, the cell reference appears at the insertion point in the formula.
- *Range*—For a range of cells, you can type the addresses of the range's two anchor cells—the cell at the upper left of the range and the cell at the lower right with two dots between them (..). Or, you can drag through the range. If you drag through a range, the range reference appears at the insertion point in the formula. Two dots (..) between the first and last cell references indicate that a range was selected.

Simple Addition

You can click more than one cell in a formula without specifying an operator. ClarisWorks inserts the plus sign (addition) between the cell references.

Multiple References

You can use more than one cell reference or range in a formula. For example, the formula

```
= AVERAGE (D12, A16..A20)
```

adds the values in cells D12 and in cells A16 through A20, and computes the average.

Circular References

A **circular reference** occurs when two or more cells refer to each other (for example, A1 = B2 * 3 and B2 = A1 + 4) or a cell refers to itself: A10 = Sum (A1..A10). Circular references can get complex, with several calculations in the middle, so you may not immediately realize that one calculation depends on another. You may want to rethink the layout of the spreadsheet to avoid circular references.

To help you find circular references, ClarisWorks is preset to mark cells that contain them. The data in these cells are surrounded by bullets (dots). You can turn the markings off in the Display dialog box (Display command, Options menu).

Calculating Formula Results

When you enter a formula in a cell, ClarisWorks automatically computes the result and displays it in that cell.

ClarisWorks includes a feature called **automatic recalculation**, which is useful if the data in a cell is referred to by formulas in other cells. When this feature is in effect, and the contents of the cell change, the values in the other cells are automatically recalculated. Automatic recalculation is an easy way to keep spreadsheet data accurate.

In a large spreadsheet, frequent automatic recalculations may become too time consuming, because ClarisWorks recalculates each time you make or change an entry. You may decide to calculate only at the end of a session, after you've entered a significant batch of data.

To turn off automatic recalculation, choose Auto Calc from the Calculate menu. The checkmark next to the Auto Calc command disappears. To turn automatic recalculation back on, choose Auto Calc again and the checkmark reappears.

If you turn off automatic calculation, you will probably want to calculate formula results when you've finished a data entry session. To do this, choose Calculate Now from the Calculate menu. This calculates all formulas in the spreadsheet, and displays the results in the appropriate cells.

Working with Functions

ClarisWorks provides many built-in routines called functions. Functions allow you to perform routine computations—such as summing a group of numbers or deriving a square root—without having to type the entire formula. Instead, you insert the function name into a formula and ClarisWorks provides the computation automatically. See appendix A, "Using ClarisWorks Functions," for a complete list of functions.

Arguments (Values)

Most functions need values to act on. You supply the values, called **arguments**, either as constant values or in the form of cell references.

Arguments (values) are always enclosed in parentheses. Multiple arguments are separated by commas. For example, in the formula

```
=SQRT (56884)
```

SQRT is the function name and 56884, a constant value, is the argument.

In the formula

```
=SUM (A1..B6)
```

SUM is the function name and the cell range reference A1..B6 is the argument.

Constants

Functions such as NOW( ) and PI( ) work as constants. PI( ) always produces the number π, and NOW( ) always produces a serial number for the current date and time. For more information on serial numbers, see "About Date and Time Formats" on page 6-15.

Types of Functions

Functions fall into eight general categories:

- *Business and Financial*—common business functions used to calculate mortgage and payment values
- *Date and Time*—functions used for manipulating dates and times, such as converting dates to text or getting the current date or time
- *Logical*—functions used to evaluate Boolean expressions
- *Numeric* —functions used for general mathematical computations
- *Information*—functions that look up and evaluate information in spreadsheet cells and ranges and in databases
- *Statistical*—functions used for general statistical calculations such as standard deviation and variance
- *Text*—functions used for finding, comparing, and manipulating text expressions
- *Trigonometric*—functions dealing with arcs and angles

See appendix A, "Using ClarisWorks Functions," for a complete list of functions.

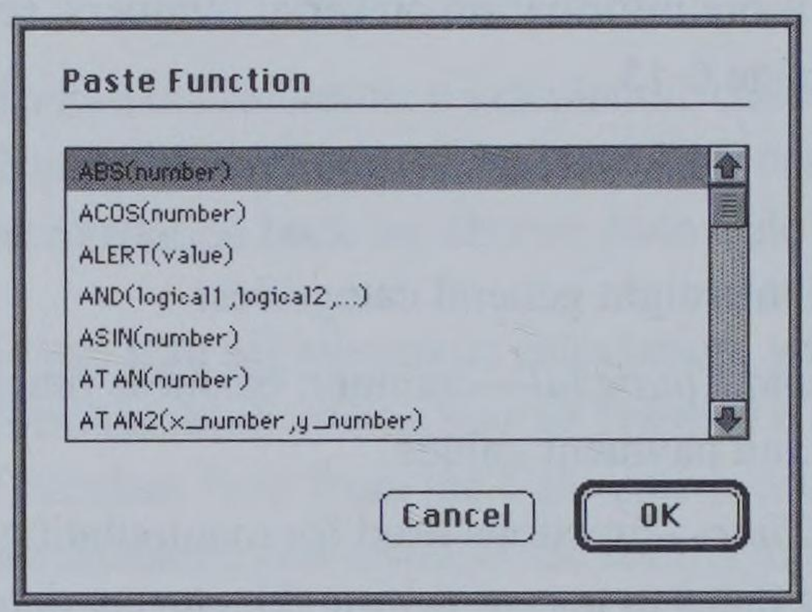
Entering Functions

To enter a function in a formula:

1. Click in the formula at the spot where you want to place the function.

2. **Choose Paste Function from the Edit menu.**

   You see the Paste Function dialog box.



3. **Select a function from the list.**

   Functions are listed alphabetically, with their arguments in parentheses. Use the scroll bar to move to functions that are out of view, or quickly move to a function by typing the function name.

   You can also type a function name in the entry bar. If you do this, you must type the name and arguments in the same order and with the same spelling and punctuation as shown in the Paste Function dialog box. Since ClarisWorks is not case sensitive, you can use any combination of uppercase and lowercase letters.

4. **Click OK.**

   The function and arguments appear in the entry bar. The first argument is selected so that you can immediately replace it with the required values.

5. **Replace the argument names with values or cell references.**

   You can type values or cell references, or you can click cells or drag through a range to enter the references. For example, if you wanted to calculate the average of numbers in a range of cells, the formula may look like this:

   ```
   AVERAGE(D14..D48)
   ```

   The range of cells D14..D48 is the argument.

6. **Press Return or Enter to confirm the formula.**

Displaying Data in Charts

You can transform the data in your spreadsheet into an interesting and attractive chart. A **chart** is an effective way to present your data because it illustrates relationships and trends by showing your data graphically.

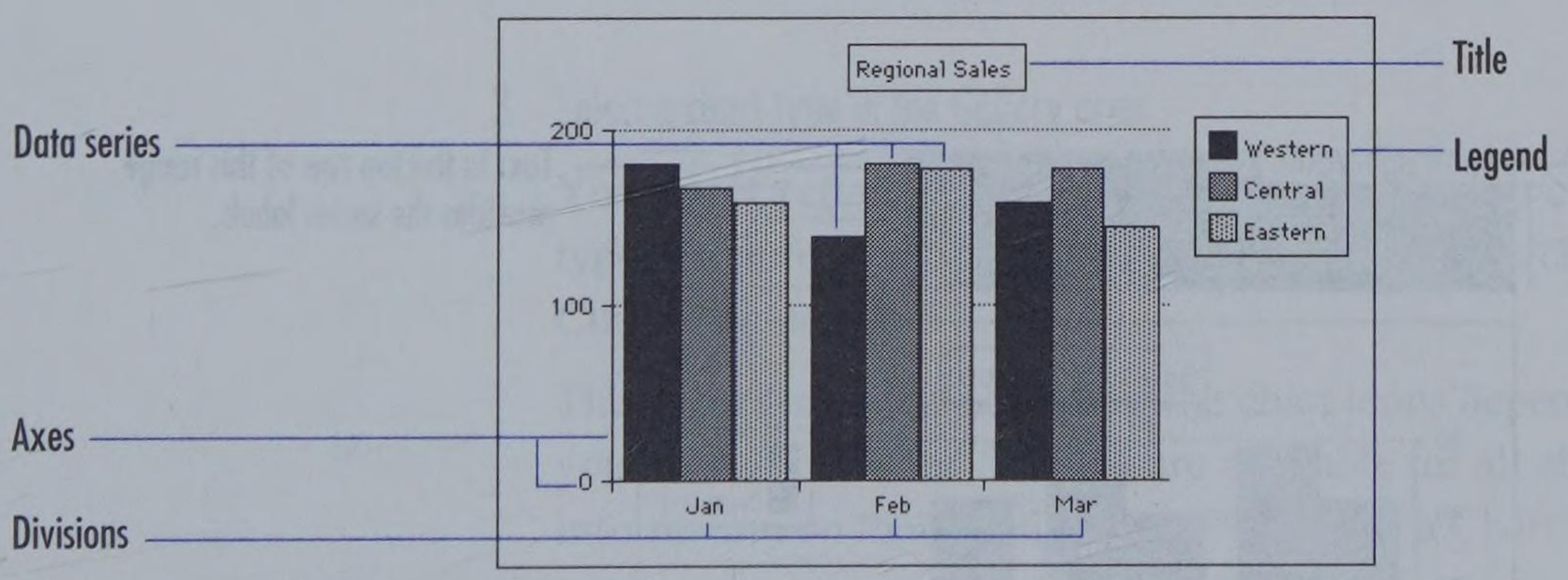
You can create a chart from part or all of the data in a spreadsheet. A chart is linked to the spreadsheet, so if you change the data in the spreadsheet, ClarisWorks updates the chart for you.

You can choose from several types of charts and options when you create or revise a chart. You can also use the drawing, painting, and text tools to modify a chart. Charts are objects, so you can select, move, and resize them like other graphic objects, and you can copy and paste them into any ClarisWorks document except a communications document.

- **Note** When you copy and paste a chart, you sever its link to the spreadsheet data. If you change the spreadsheet data, ClarisWorks won't update the chart.

Parts of a Chart

Most ClarisWorks charts are made up of the following parts:



A chart displays at least one set of values from a spreadsheet row or column. Each set of values in a chart is called a **data series**. In a bar chart, the data series are represented by the bars. In many charts, the series are broken into **divisions**, which are intervals or categories from the spreadsheet.

For example, you can chart the value of a stock (the data series) by months (the divisions). If you include a second stock, the chart has two data series.

The **legend** contains the names of the data series and a key that identifies the series in the chart. The **title** helps identify the contents of the chart.

The framework of most charts is their **axes**, the perpendicular lines that are used to plot data. Most charts have a Y (vertical) axis, which usually shows the scale of the data values, and an X (horizontal) axis, which usually shows the chart's divisions. Pie charts have no axes. **Tick marks** appear on the axes to mark the intervals and **gridlines** extend across the chart's background from the tick marks.

ClarisWorks has a preset option that determines the appearance of each part of a chart, but you can modify these options. See "Revising a Chart" on page 6-38 for more information.

Creating a Chart

You create a chart by first selecting a range of cells in the spreadsheet (called the **chart range**). ClarisWorks plots either rows or columns in the chart range as the data series—depending on the number of rows and columns in the range and the type of chart you choose. Text in the top row and leftmost column become the series or division names.

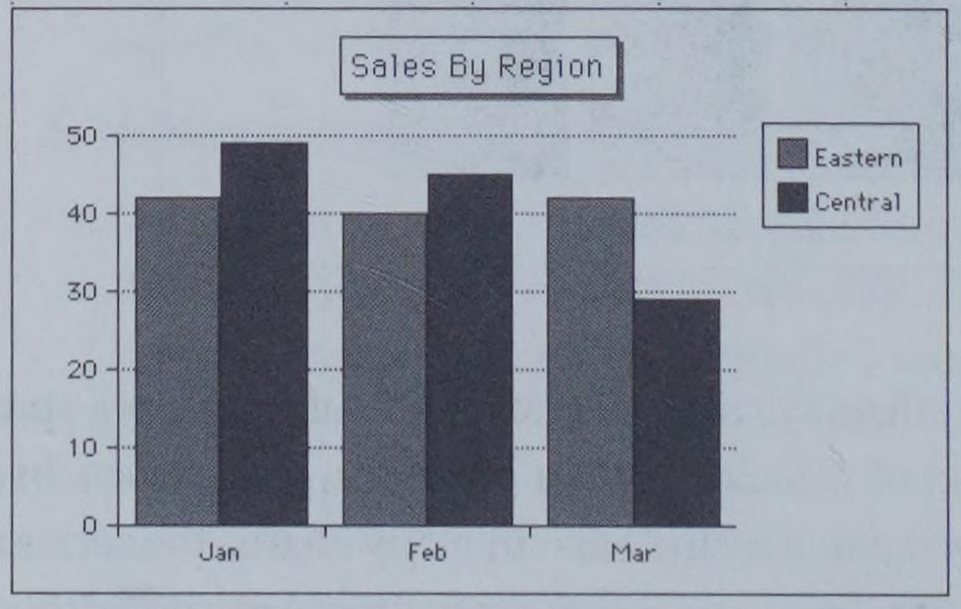
The following example shows a range and chart in which the data series were plotted by columns.

Text in the top-left cell becomes the chart title.

Text in the left column of this range provides the division names.

Sales By Region	Eastern	Central
Jan	42	49
Feb	40	45
Mar	42	29

Text in the top row of this range provides the series labels.

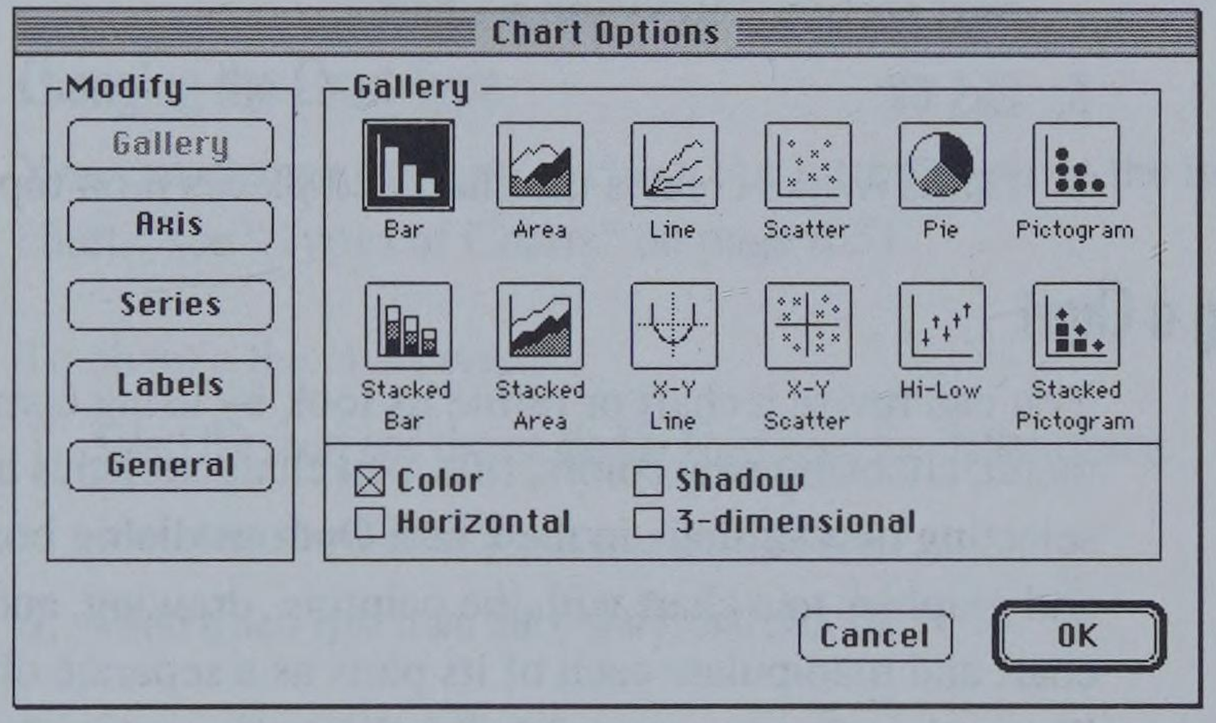


ClarisWorks minimizes the number of data series in the chart when determining whether to plot the series from rows or columns. To change how the series are plotted, see "Displaying Series as Rows or Columns" on page 6-49.

To create a chart:

1. Select a range of spreadsheet cells.
2. Choose Make Chart from the Options menu.

   You see the Chart Options dialog box.



3. Select a chart type in the Gallery area.

   You select a chart type by clicking its icon. The Bar chart is the preset chart type. For information on the types of ClarisWorks charts, see "Types of Charts" on page 6-51.

   The checkboxes you see below the chart icons depend on the type of chart you select. Color and Shadow are available for all chart types. For information on these options, see "Revising a Chart" on page 6-38.

4. Set other chart options.

   Click a button in the Modify area of the Chart Options dialog box to display another group of chart options. The buttons display the following groups of options:

   - *Gallery*—includes chart types and options, such as color and shadow, that affect how the chart displays information

- *Axis*—specifies labels for the X axis and Y axis, sets the scale and display of tick marks, and determines if gridlines appear on the chart
- *Series*—determines how the chart displays and labels data series
- *Labels*—affects the display of the chart title and legend
- *General*—determines how ClarisWorks constructs the chart from the spreadsheet, including the cell range, whether the data series come from rows or columns, and whether the first row and column contain labels

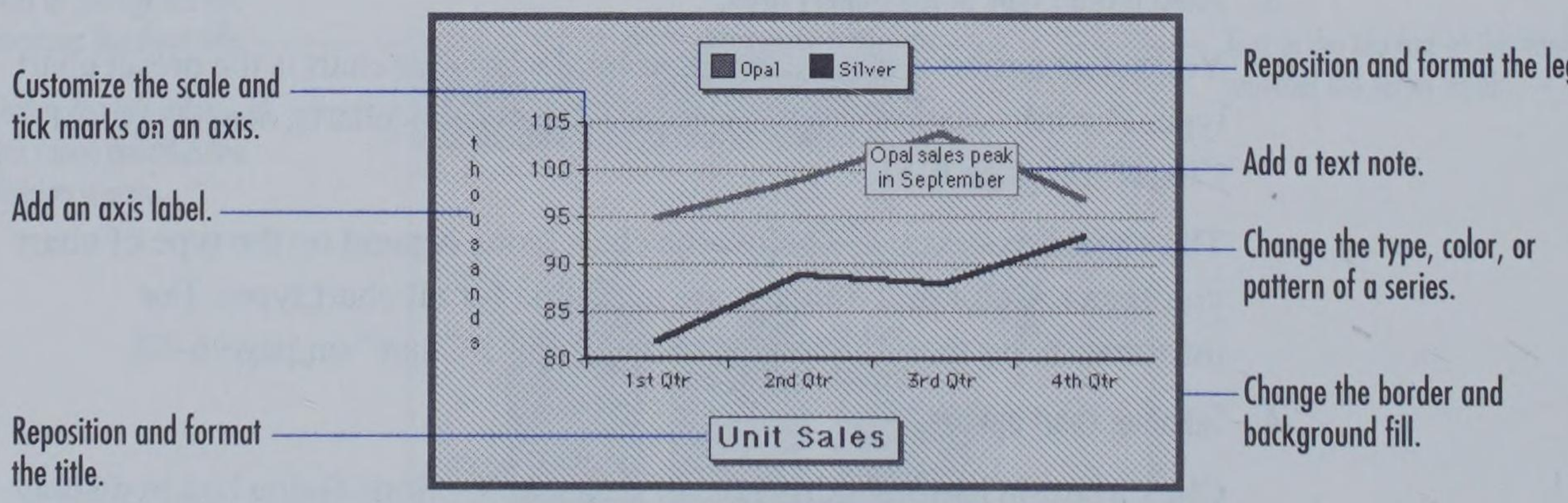
You can set these options when you make the chart or you can revise a chart by setting the options later. For information on modifying a chart, see the next section, "Revising a Chart."

5. Click OK.

   ClarisWorks creates the chart and places it on top of the spreadsheet.

Revising a Chart

You can revise a chart or refine its look by using commands on the Format menu, choosing new colors, fills, pen characteristics in the tools palettes, or by selecting new settings in the Chart Options dialog box. You can also add text and graphics to a chart with the painting, drawing, and text tools, or ungroup a chart and manipulate each of its parts as a separate object. The following illustration shows some of the modifications you can make to a chart.



You select a chart by clicking in its frame. Handles appear on the corners of the chart's frame to indicate the chart is selected. Round handles appear on the axes, title, and legend when you select them.

You can quickly open the Chart Options dialog box by double-clicking in the chart frame. If you double-click an axis, the legend, or the title, you open the Chart Options dialog box to the appropriate group of chart settings.

Moving and Resizing a Chart

You move and resize charts the same way you do other objects. To move a chart, click the chart's frame to select it, and then drag the chart. To resize a chart, select it and then drag one of its corner handles. You can also scale a chart to a specific percentage: choose Scale Selection from the Options menu and enter percentages to scale the chart horizontally and vertically.

Changing the Chart Type

You can change the type of chart. For information on the types of ClarisWorks charts, see "Types of Charts" on page 6-51.

To change the chart type:

1. **Select the chart and choose Modify Chart from the Options menu.**

   You see the Chart Options dialog box.

2. **Select a new type from the Gallery, and click OK.**

Drawing a Horizontal Chart

You can draw a chart with a horizontal rather than a vertical orientation. The X and Y axes in a horizontal chart are switched so that the bars in a bar chart are horizontal and the lines in a line chart appear vertical. The Horizontal option is not available for X-Y scatter and X-Y line charts. Horizontal is preset for a pie chart. If you deselect Horizontal for a multi-pie chart, the pies are displayed vertically.

To draw a horizontal chart, select Horizontal in the Gallery options in the Chart Options dialog box.

Changing and Formatting the Chart Title

Normally, ClarisWorks uses text in the upper-left corner of the chart range for the chart title. The font characteristics of the text in that cell appear in the title. If you change the text in the upper-left cell, the chart title changes. To display a chart without a title, delete the text from this cell.

You can also change the chart title and make it independent of cell text, or change its position, turn it horizontal, and add a shadow behind the title box. You make these changes in the Labels area of the Chart Options dialog box.

To add a chart title that is independent of cell text:

1. Select the chart and choose Modify Chart from the Options menu.
2. Click Labels in the Chart Options dialog box.

   You see the Labels options in the Chart Options dialog box.

   To open the Chart Options dialog box quickly and display the Label options, double-click the chart title.
3. Type a chart title in the Title text box, and click OK.

To format a chart title that is independent of spreadsheet text, click the title to select it and then choose from the Font, Size, Style, and Text Color submenus on the Format menu.

To change the position of the title, make it vertical, or add a shadow effect:

1. Double-click the chart title.

   You see the Labels options in the Chart Options dialog box.
2. Set the title's position by clicking one of the eight positioning buttons.
3. To display a vertical title, deselect Horizontal.

   You may want to reposition the title if you use a vertical title.
4. To display a shadow box behind the title, select Shadow.
5. Click OK.



Title Position buttons

You can change the fill color or pattern of the title box, or make it transparent by selecting the title and using the fill palettes. Similarly, you can use pen palettes to format the title's border.

Modifying the Legend

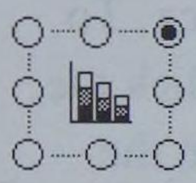
You can hide or show a chart's legend, move its location in the chart, add a shadow effect, and change its fill and border. ClarisWorks is preset to display the legend.

To modify the legend:

1. Select the chart and choose Modify Chart from the Options menu.
2. Click Labels in the Chart Options dialog box.

   You see the Labels options in the Chart Options dialog box.

   To open the Chart Options dialog box quickly and display the Label options, double-click the legend (but not in a series box).
3. To hide the legend, deselect the Legend checkbox.
4. To display a horizontal legend, select Horizontal.
5. To display a shadow box behind the legend, select Shadow.
6. To set the legend's position, click one of the eight positioning buttons.
7. Click OK.



Legend Position buttons

You can change the fill color or pattern of the legend box, or make it transparent by selecting the legend and using the fill palettes. Similarly, you can use pen palettes to format the legend's border.

The legend's text is derived from the cells that provide the series names. Changes you make to the text format in those cells are reflected in the legend.

Changing the Colors or Patterns in a Chart

ClarisWorks is preset to draw charts in color if you are using a color monitor, but you can change a chart to black and white or change the colors and patterns in the chart. For special effects you might want to edit the patterns used in charts. See "Editing Colors, Patterns, and Gradients" in chapter 4.

Changing the Border or Background

You can change the chart's border by selecting the chart and then choosing from the pen color, pen pattern, and pen width palettes. To change the background of the chart frame, select the chart and choose from the fill color and fill pattern palettes, or from the gradient palette.

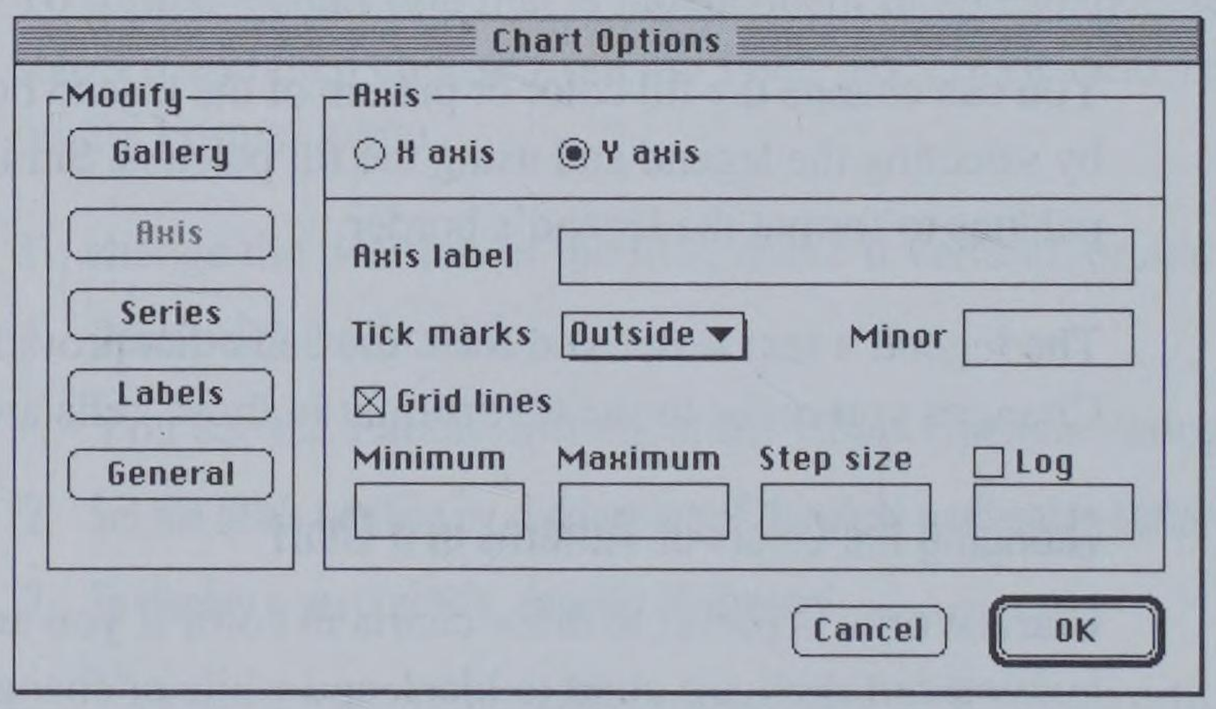
You can create special effects by changing the chart's border and fill to transparent and pasting or moving the chart over a picture or drawing.

Changing the Color or Pattern of a Series

To change the color and pattern of a series, click the series box in the legend and then choose from the fill and pen palettes. For more information on changing the color or pattern of a specific type of chart see "Modifying the Chart Series" on page 6-44.

Modifying a Chart Axis

You modify an axis in the Axis options in the Chart Options dialog box. To open the Chart Options dialog box directly to the Axis area, double-click the axis that you want to modify. You can also choose Modify Chart from the Options menu and then click the Axis button. You then specify which axis to modify by clicking the X axis or Y axis button.



Adding an Axis Label

Labels help identify the values displayed in the axes. To add a label to an axis, type the label in the Axis label text box.

ClarisWorks is preset to display axes labels in X-Y charts. Text in the top row or left column of the chart range become the axes labels.

You format an axis label by selecting the axis in the chart and using the Font, Size, Style, and Text Color submenus in the Format menu. When you format an axis label, the text associated with the major interval tick marks is also formatted.

Changing Tick Marks and Related Text

Tick marks show the intervals along an axis. The major interval tick marks are identified with text.

You can display tick marks inside the axis, outside the axis, across the axis, or display no marks. You set how tick marks are displayed in the Axis options in the Chart Options dialog box. Choose an option from the Tick marks pop-up menu. In the Minor text box, type the number of marks you want to appear between the major (labeled) intervals. Leave the Minor text box empty if you don't want to display minor tick marks.

To format the text associated with the major tick marks, select the axis and choose from the Font, Size, Style, and Text Color submenus in the Format menu. This also affects the axis label.

- **Note** Changing the font or size can change the interval of major tick marks displayed in the axis. To avoid this, set the Step size in the Axis options in the Chart Options dialog box.

To change the numeric format for the axes values, change the numeric format for the upper-left value in the chart range.

Changing the Grid and Axis Lines

If you want to display a grid in the chart frame, select Grid lines in the Axis options in the Chart Options dialog box. The gridlines extend from the axis's major intervals. To change the pattern of the gridlines, select an axis in the chart and choose a pattern from the pen palette.

To change the color of the grid and the axis line, select the axis and then choose from the pen color palette. You can change the width of the axis line by choosing a width from the pen width palette.

Setting the Scale

The scale of a chart's axes can affect the impact of the chart. For example, on a linear scale of 1 to 10, a value of 2 looks small. If you change the scale to a range of 1 to 5, the value 2 appears more important.

ClarisWorks sets the scale for a chart depending on the type of chart and the values in your data. You can change the axis's upper and lower values and the interval of values displayed between them. (The interval values are the major tick mark labels.) You can also convert the scale to a logarithmic scale to emphasize orders of magnitude.

To change the scale of an axis:

1. Double-click the axis you want to change.

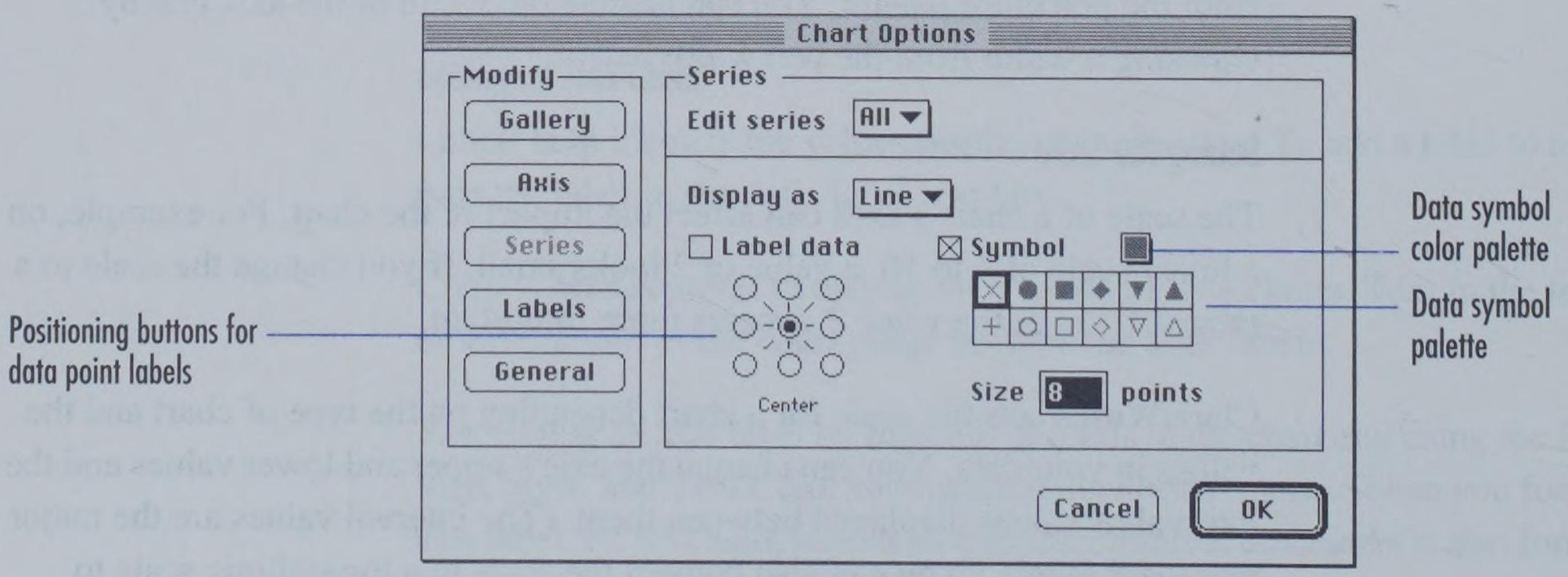
   You see the Axis options in the Chart Options dialog box.
2. To set the low and high values for the axis, type values in the Minimum and Maximum text boxes.
3. To set the interval value for the axis, type a value in the Step size text box.
4. To change from a linear to a logarithmic scale, click Log and type the log base in the text box.

Modifying the Chart Series

You can change the way series are displayed in a chart by changing their color or pattern, changing their type (to create a combination chart), adding a label, or by changing the data point symbols.

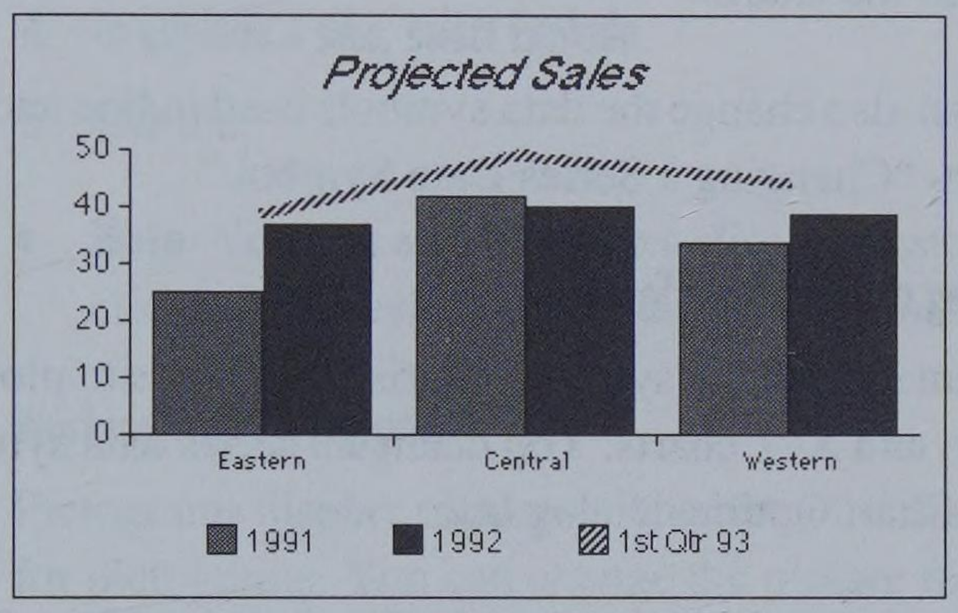
To change the color or pattern of a series, click the series box in the legend and use the fill and pen palettes. You change other series attributes in the Series options of the Chart Options dialog box.

To open the Chart Options dialog box directly to the Series options, double-click the series box in the legend for the series you want to modify. You can also choose Modify Chart from the Options menu and then click the Series button. You then specify which series to modify by choosing a series from the Edit Series pop-up menu.



Changing a Series Type to Create a Combination Chart

A combination chart uses more than one chart type to display series. You can add emphasis to a series by displaying it as a different chart type. For example, you can change one data series in a bar chart to a line.



You can change a series type in bar, line, area, scatter, and pictogram charts. You change the series type in the Series options in the Chart Options dialog box. Choose the series you want to change in the Edit series pop-up menu and then choose a type from the Display as pop-up menu.

Adding Labels to Series Data Points

You can include labels that identify the values of bars or data points in a series. To include data point labels, select the Label data checkbox in the Series options in the Chart Options dialog box. Choose a position for the label by clicking one of the positioning buttons.

Working with the Series in Bar Charts

You can change the color, pattern, and border of the bars in bar charts. To change the bars for a series, select the series box in the chart legend and choose from the fill pattern, color, and gradient palettes. To change the border of the bar, choose from the pen color, pen pattern, and pen width palettes.

Working with the Series in Line, Area, and Hi-Low Charts

To change a series line in line, area, and hi-low charts, select the series box in the chart legend and choose from the pen color palette, pen pattern palette, or the pen width palette.

In area charts you can change the color or pattern of the fill area. Select the series box in the chart legend and choose from the fill color, pattern, or gradient palettes. If a series is hidden in an area chart by another series, you can bring it to the front by changing the position of its values in the chart range. Series values in the top row or left column of a chart range appear in front of other series in the chart.

You can also change the data symbols used in line and area charts. See the next section, "Changing a Series Data Symbol."

Changing a Series Data Symbol

You can change the symbols ClarisWorks uses to plot data points in line, area, scatter, and X-Y charts. You change a series data symbol in the Series options in the Chart Options dialog box.

To hide the symbols, deselect the Symbol checkbox. To use a different symbol, select one from the data symbol palette. To change the color of the symbol, select a color from the data symbol color pop-up palette. To change the size for a symbol, type a point size in the Size text box.

- **Note** The pen color, pen pattern, and pen width palettes also affect the data symbols in scatter and X-Y scatter charts.

Working with the Series in a Pie Chart

Pie charts display series as slices of the pie. You can change the color or pattern of the pie slices, explode a pie slice to add emphasis to it, or add labels that show the percentage of the whole that each slice represents.

To change the fill of a pie slice, select the series box in the chart legend and then choose from the fill color, fill pattern, or gradient palettes. You can also change the border of a slice by choosing from the pen color, pen pattern, and pen width palettes.

To explode a slice or include labels in the slices and the legend:

1. **Choose Modify Chart from the Options menu and then click the Series button.**

   You see the Series options in the Chart Options dialog box.

2. **Choose the series you want to change from the Edit series pop-up menu.**

   Choose All to change all series in the chart.

3. To display a series label, select Label data and then click an option to display the label in the slice, in the legend, or in both.

   The label shows the percentage of the whole represented by the slice. In a chart with multiple pies, the label displayed in the legend shows the average for the series in all pies.

4. To explode a slice, select Explode.
5. Click OK.

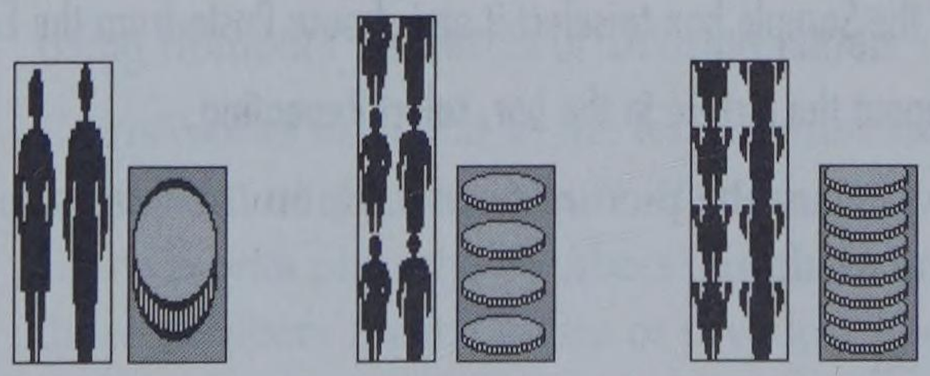
◆ **Note** You can also explode a slice (or restore an exploded slice) by Option-clicking the series box in the chart legend.

Working with Pictograms

Pictograms display pictures in the bars of a chart. An arrow is the preset picture for pictograms. You can change the picture for all series in the chart or use a different picture of each series. Use clip art or create a picture using the ClarisWorks drawing or painting tools.

Pictograms are most effective when you keep the number of bars to a minimum. Use a picture that is approximately the width of the bar. You affect the width of the bars by changing the number of bars (series) displayed in the chart and by changing the size of the chart.

ClarisWorks stretches or compresses the picture to fit in the bar. If you repeat the picture in the bar (and the bar is wide enough to accommodate the picture), ClarisWorks maintains the picture's dimensions. For special effects you can overlap a repeated picture in a bar.



Pictures stretched to fit bars **Pictures repeated** **Pictures repeated and overlapped**

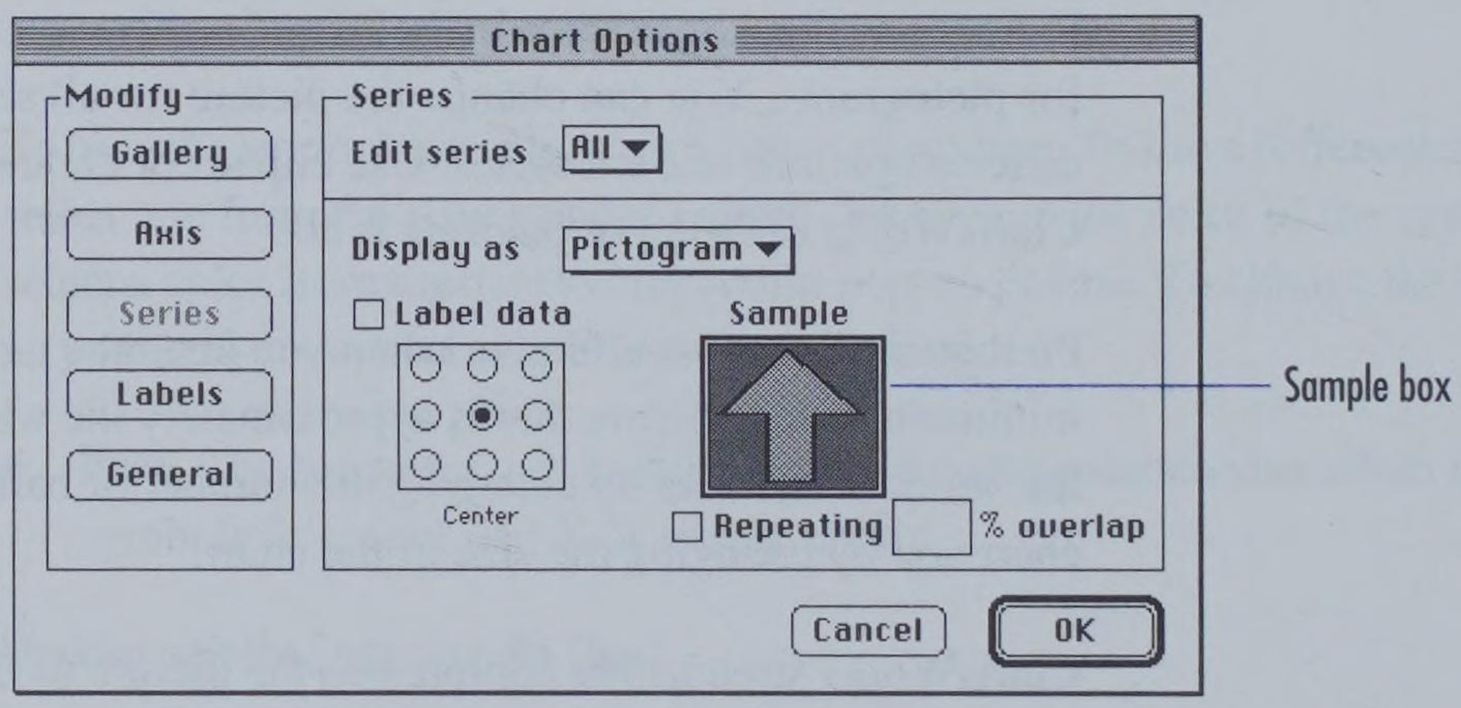
To remove the bars and show only the pictures, set the pen width for the series to None.

- **Note** To keep file size to a minimum, use a draw picture rather than a paint image; this is particularly important if you are creating a large chart or using the Repeating option in the bars.

To change the picture for a series:

1. Copy the picture to the Clipboard.
2. Select the chart, choose Modify Chart from the Options menu, and then click Series.

   You see the Series options for pictograms in the Chart Options dialog box.



3. Choose a series from the Edit Series pop-up menu.

   Choose All to change the picture for all series.

4. Click the Sample box to select it and choose Paste from the Edit menu.
5. To repeat the picture in the bar, select Repeating.

   If you want the picture to overlap in the bar, enter a percentage of overlap in the text box.

6. Click OK.

- **Tip** To change the picture quickly for a series, click the series box in the chart legend to select it and paste the contents of the Clipboard.

Adding Shadow and 3-Dimensional Effects

You can add a shadow effect to the series for all charts and a 3-dimensional effect to series in bar and pictogram charts. These effects apply to all series in the chart. To add a shadow or a 3-dimensional effect to the chart's series, double-click in the chart frame to open the Chart Options dialog box and display the Gallery options. Then select the Shadow or 3-dimensional checkboxes.

You can also add a shadow effect to text elements on the chart, such as the title and axes labels by Command-clicking the text. Shadow text is most effective when used with large font sizes or bold text.

Displaying Series as Rows or Columns

When you create a new chart, ClarisWorks minimizes the number of data series displayed in the chart by plotting the series from values in either the rows or the columns. You can change the way data series are represented in a chart by specifying whether the values come from the rows or columns.

To change the display of series to rows or columns:

1. **Select the chart and choose Modify Chart from the Options menu.**

   You see the Chart Options dialog box.

2. **Click General in the Modify area.**
3. **Under Series in, select Rows or Columns.**

   The series names for the rows or columns are listed in the Series names scrolling list.

4. **Click OK.**

Using Numbers for Series or Division Labels

ClarisWorks uses text in the left column and the top row of the chart range for series and division labels. If these cells contain numbers rather than text, ClarisWorks plots the numbers as values in the chart. If you wish, you can use these numbers for the series or division labels.

To use the top row or left column of numbers in a chart range as series or division labels:

1. Select the chart and choose Modify Chart from the Options menu.

   You see the Chart Options dialog box.

2. Click General in the Modify area.
3. Select First row and/or First column, and click OK.

Changing the Chart's Data Range

After you create and refine a chart, you can change its data range. You can, for example, add data to cells that you want to include in the chart. Rather than create and refine a new chart, you can change the existing chart's data range.

To change the chart's data range:

1. Select the chart and choose Modify Chart from the Options menu.

   You see the Chart Options dialog box.

2. Click General in the Modify area.
3. Enter a new range in the Chart Range text box, and click OK.

Adding Text or Graphics

You can add explanatory notes, labels, and pictures to a chart using text frames and the drawing and painting tools. When you add text or a graphic to a chart, you should group the objects with the chart using the Group command on the Arrange menu. For more information on text frames see "Working with Frames" in chapter 8. For more information on drawing and painting, see chapters 4 and 5.

Modifying a Chart as a Graphic Object

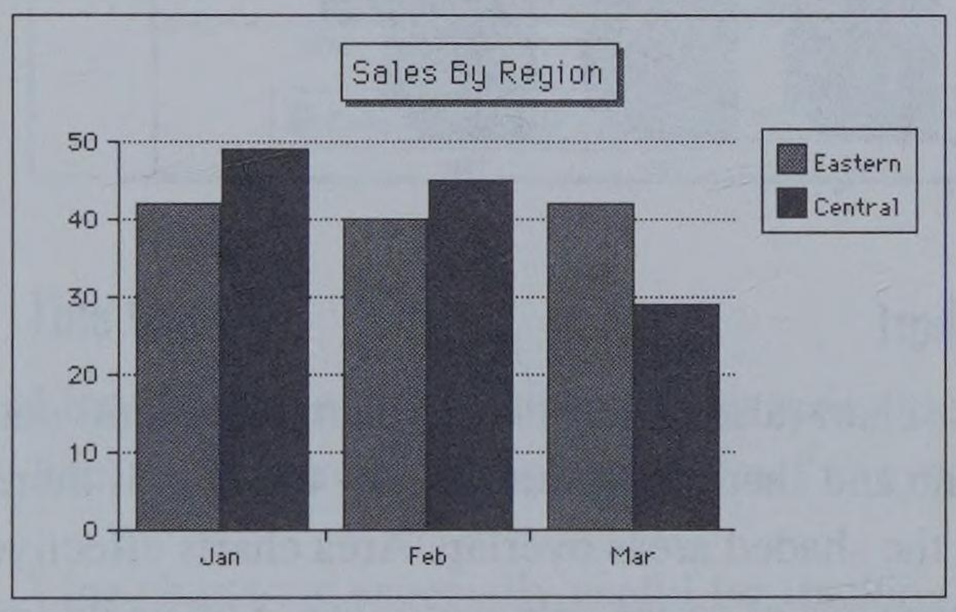
You can modify any part of a chart the same way you modify graphic objects. To do so you must first sever its link to the spreadsheet data by cutting and pasting the chart. Then choose Ungroup Picture from the Arrange menu. You may have to do successive ungroups on chart objects to modify them.

Types of Charts

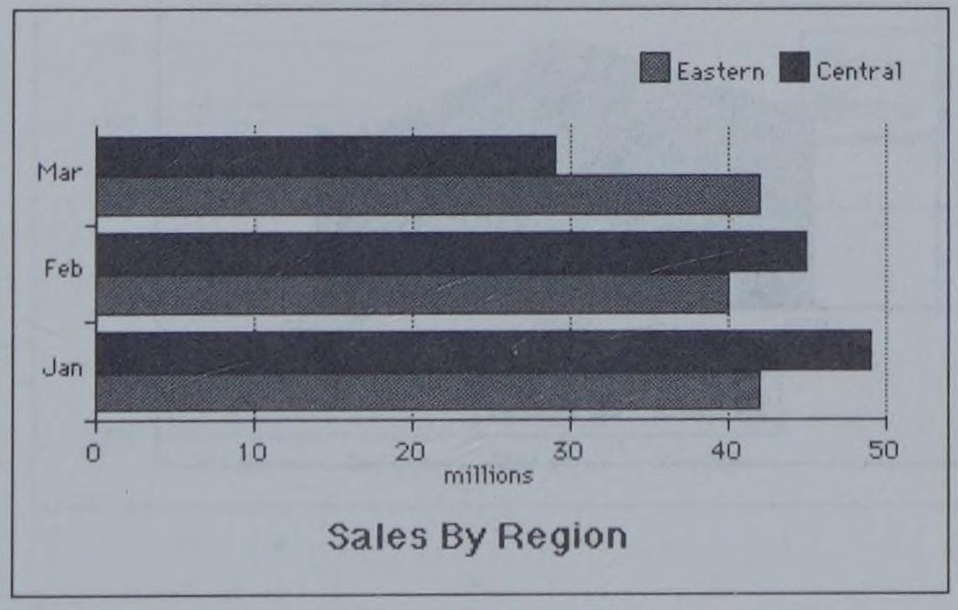
ClarisWorks provides twelve types of charts that you can use to plot your spreadsheet data. The examples in this section have been formatted using the techniques described earlier.

Bar Charts

Bar charts show values in colored or patterned bars. A set of bars with the same color or pattern represents a data series. The bars are grouped into divisions and each series within a division is represented by its own bar. Bar charts are useful for comparing values because you see the values side by side.

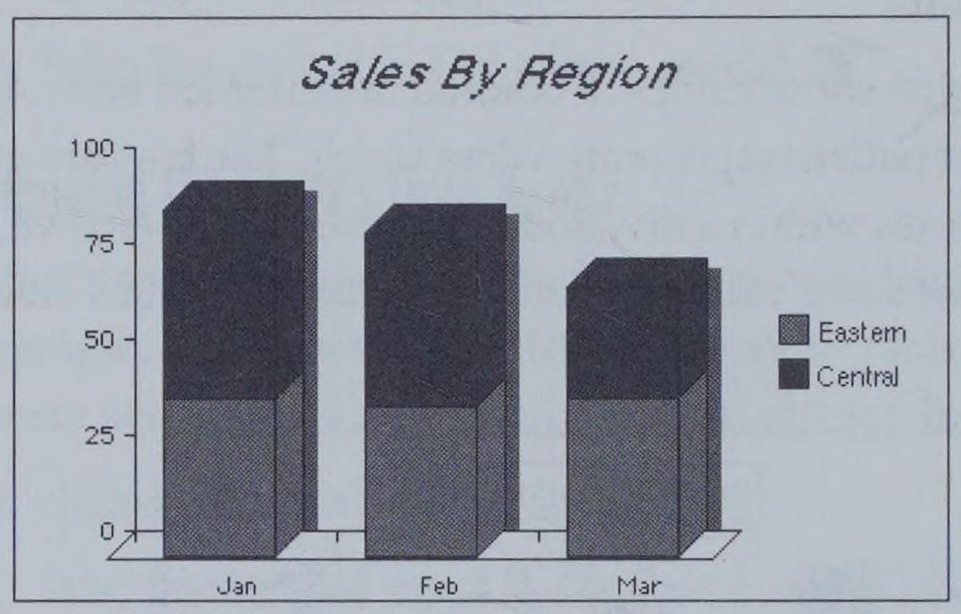


The bars can be vertical or horizontal. To make a horizontal bar chart, select Horizontal in the Gallery options in the Chart Options dialog box.



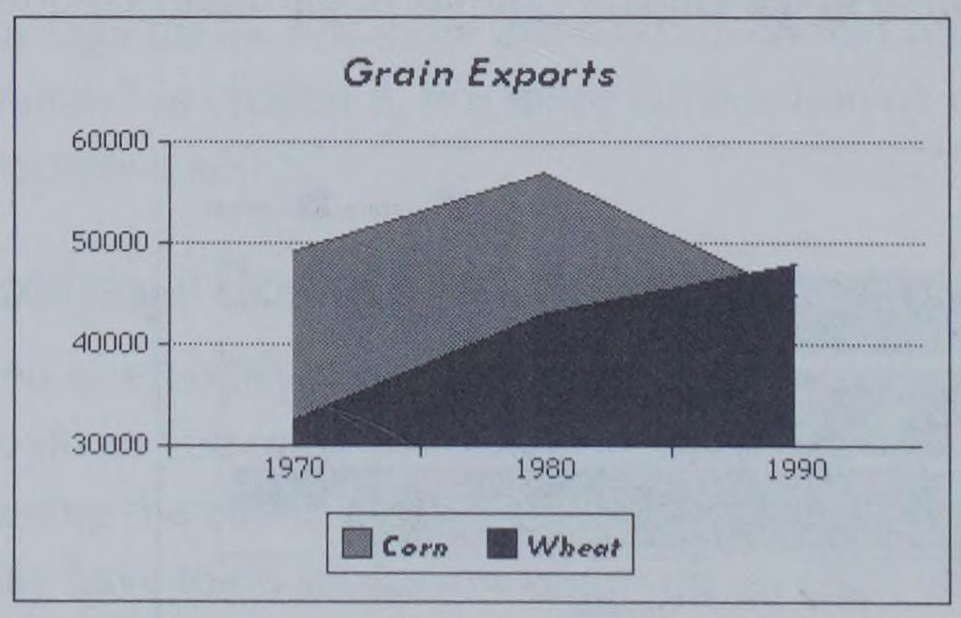
Stacked Bar Charts

A stacked bar chart shows the cumulative values for each division. The data series within a division are stacked on top of each other, so that each division is represented by one bar.



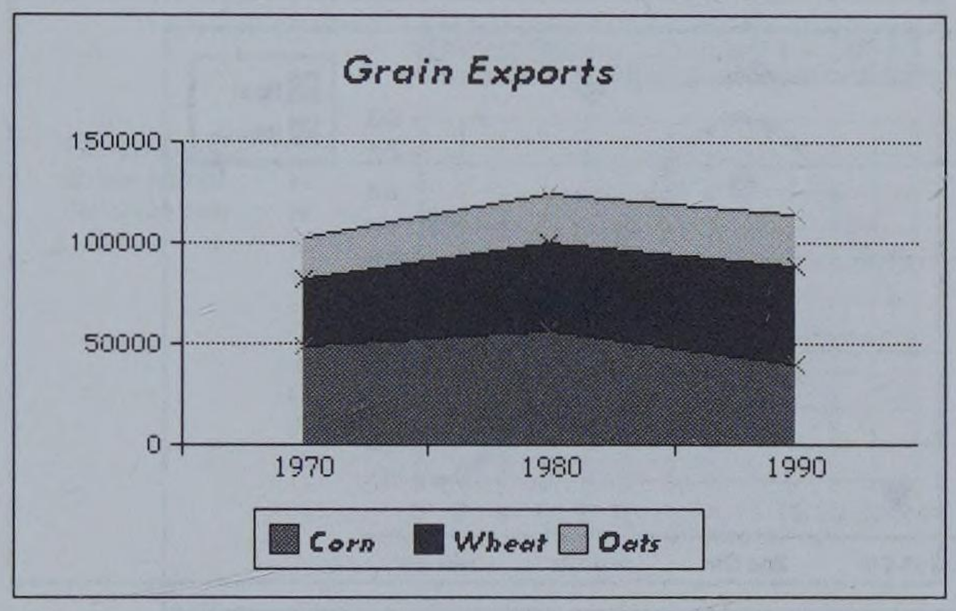
Area Chart

An area chart (also called a layer chart) represents data by plotting a data series on a line and shading the area below the line. If there is more than one data series, the shaded areas overlap. Area charts effectively show the relative size or importance of series data over time. You could use an area chart, for example, to illustrate the relative importance of two export commodities.



Stacked Area Charts

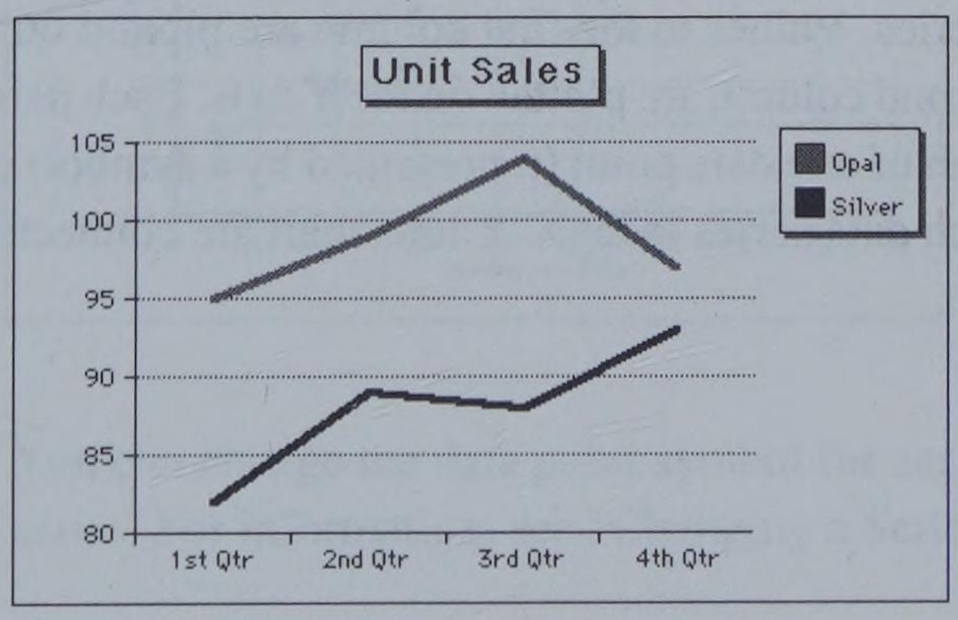
A stacked area chart is similar to an area chart, except that instead of overlapping the areas from different data series, the areas are added together and the chart shows cumulative values.



Line Charts

Line charts plot the values in a data series to points and connect the points in a line. Each point is represented by an "x" symbol.

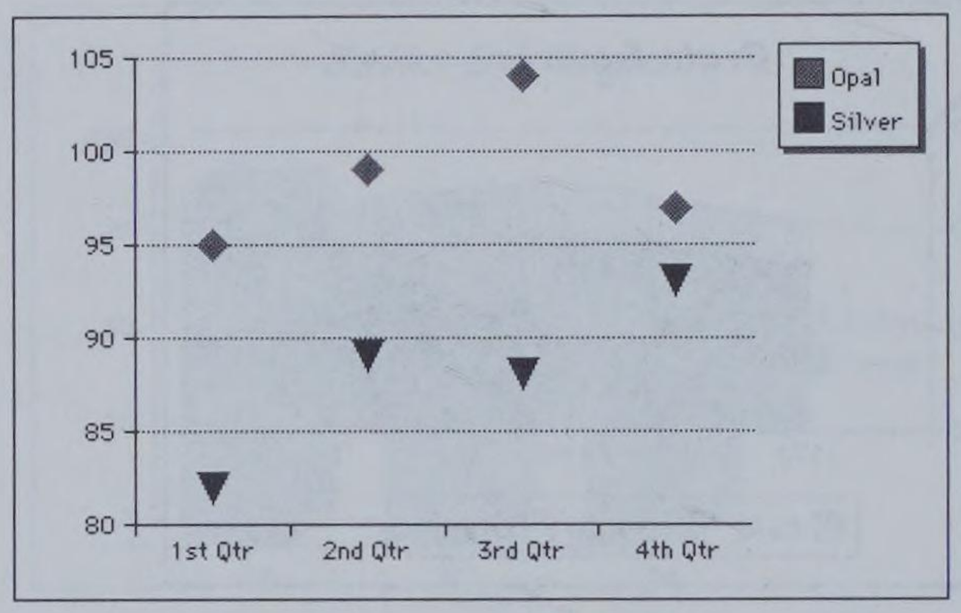
Line charts are especially useful for tracking how data changes over time. Values are usually plotted on the vertical (Y) axis, and time is represented on the horizontal (X) axis, as in the following example.



You can change or remove the data point symbols. For instructions, see "Changing a Series Data Symbol" on page 6-46.

Scatter Charts

Scatter charts plot the values of a data series to points in the chart. Each point is represented by an "x" symbol. In the following example, the data point symbols for each series were changed to help distinguish the series.

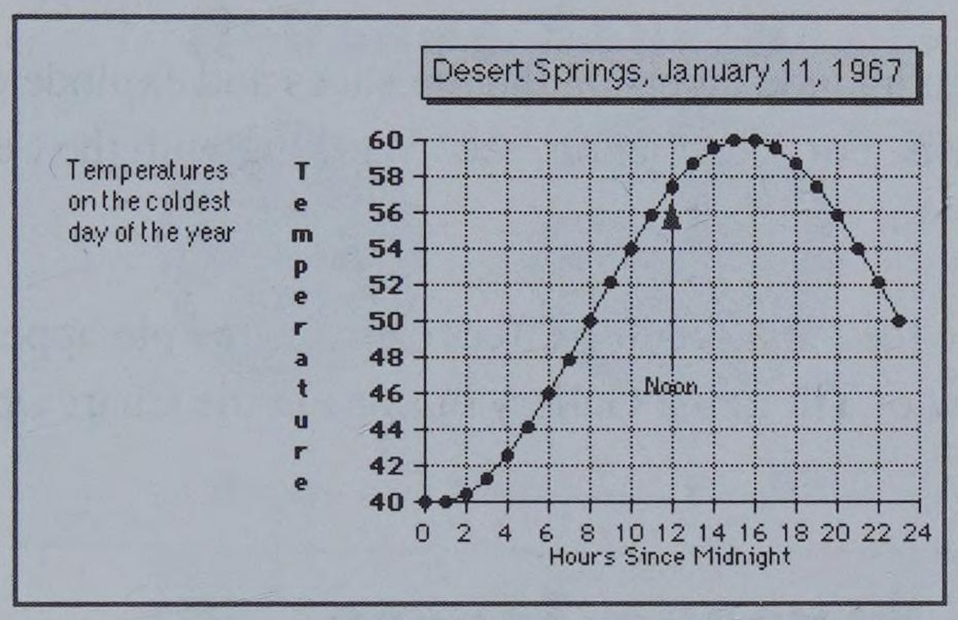


X-Y Line and X-Y Scatter Charts

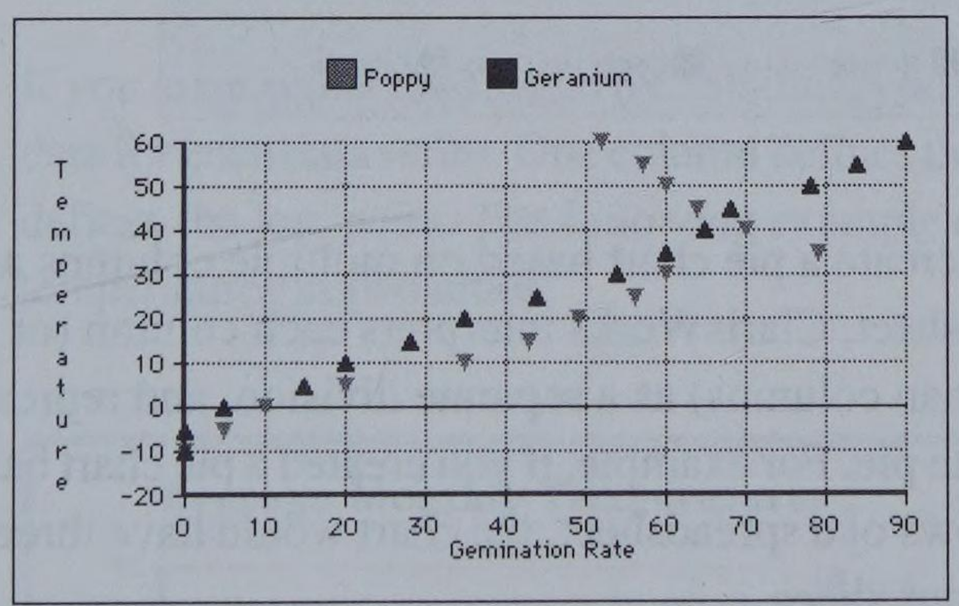
X-Y charts plot pairs of numbers as points in an XY-coordinate system. They show the relationship of a pair of values to other pairs of values in a data series. They also show how a change in the value of one variable is reflected in the value of another variable. X-Y charts are useful for seeing statistical samplings of data.

An X-Y line chart uses two columns of spreadsheet data to plot values for each data series. Values in the first column are plotted on the X axis and values in the second column are plotted on the Y axis. Each pair of values determines the position of one data point (represented by a symbol) on the chart. The symbols for each data series in an X-Y line chart are connected by a line.

If you select more than one pair of columns in the spreadsheet, the X-Y line chart plots more than one series of data. For example, if you select four columns in a spreadsheet, columns one and two are shown on the chart as one data series. Columns three and four are shown as a second data series.



An X-Y scatter chart is the same as an X-Y line chart except that the chart symbols are not connected. In a X-Y scatter chart you can directly control the symbol line symbol line width with the pen palettes.



You can change the data point symbol for each series to help distinguish the series. For information, see "Changing a Series Data Symbol" on page 6-46.

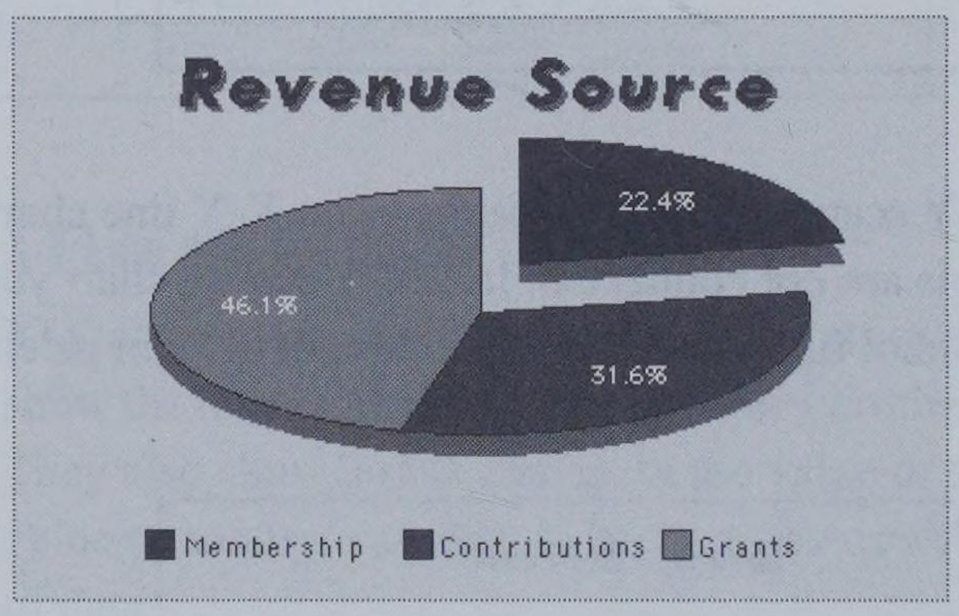
To use a square grid pattern for an X-Y line or X-Y scatter chart, select Square grid in the Gallery options in the Chart Options dialog box.

Pie Charts

A pie chart shows each data value as a percentage or proportion of a whole. A pie chart usually plots a single division of data (a single row or column from a spreadsheet). The division is represented by the whole pie and each data series is represented by a slice of the pie.

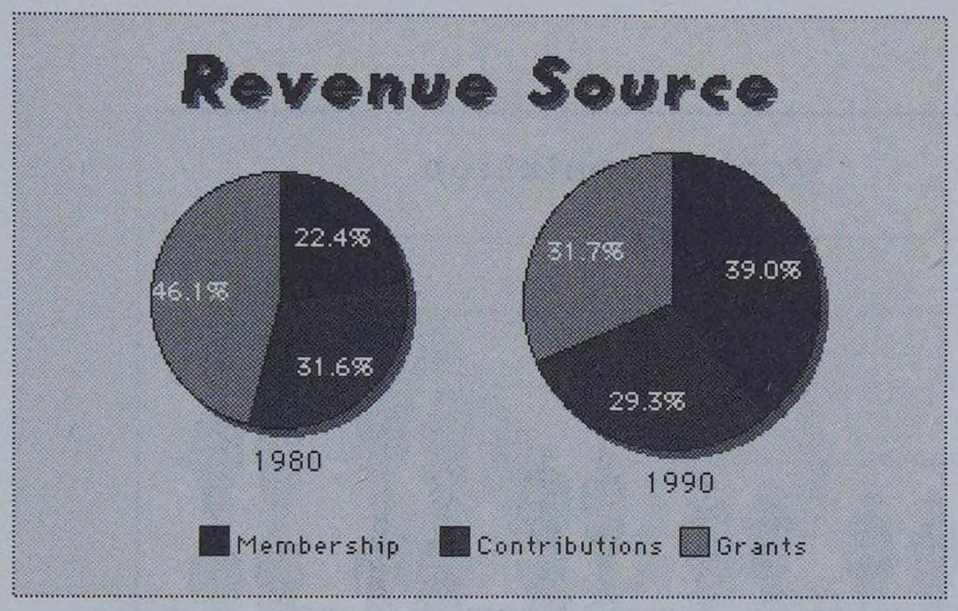
You can include labels on the pie slices and explode one or more slices to add emphasis. For information, see "Working with the Series in a Pie Chart" on page 6-46.

To give the pie a shadow effect or make the pie appear at an angle, select Shadow or Tilt in the Gallery options in the Chart Options dialog box.



If you create a pie chart based on multiple columns and rows of data in a spreadsheet, ClarisWorks interprets each column (or row, if there are fewer rows than columns) as a separate division, and represents it in the chart by a separate pie. For example, if you created a pie chart based on three columns and four rows of a spreadsheet, the chart would have three pies and each pie would have four slices.

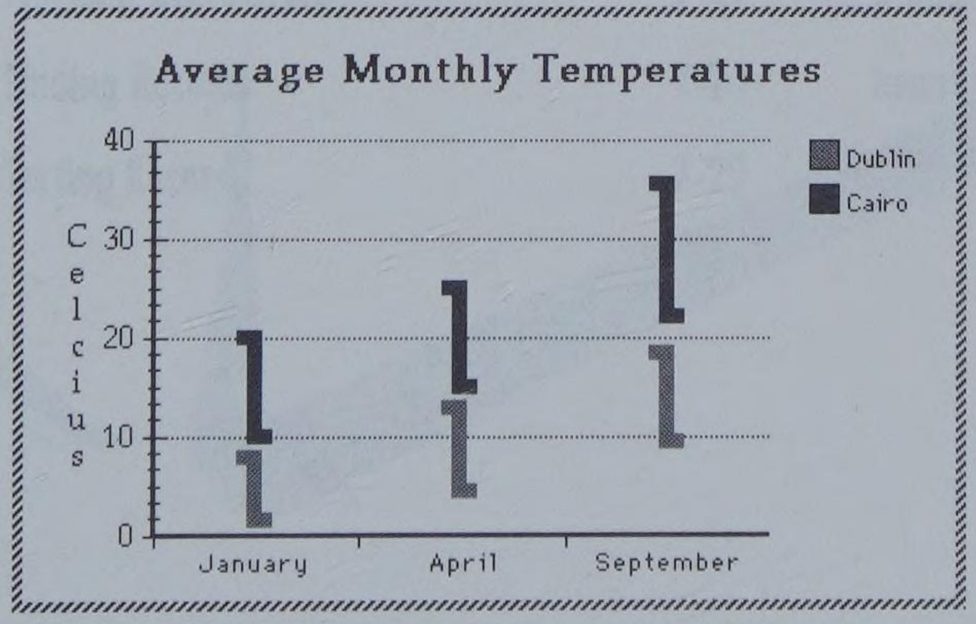
Normally the pies in a multiple pie chart are the same size. To create pies of different sizes that represent the sizes of the divisions, select Scale Multiple in the Gallery options in the chart Options dialog box.



Hi-Low Charts

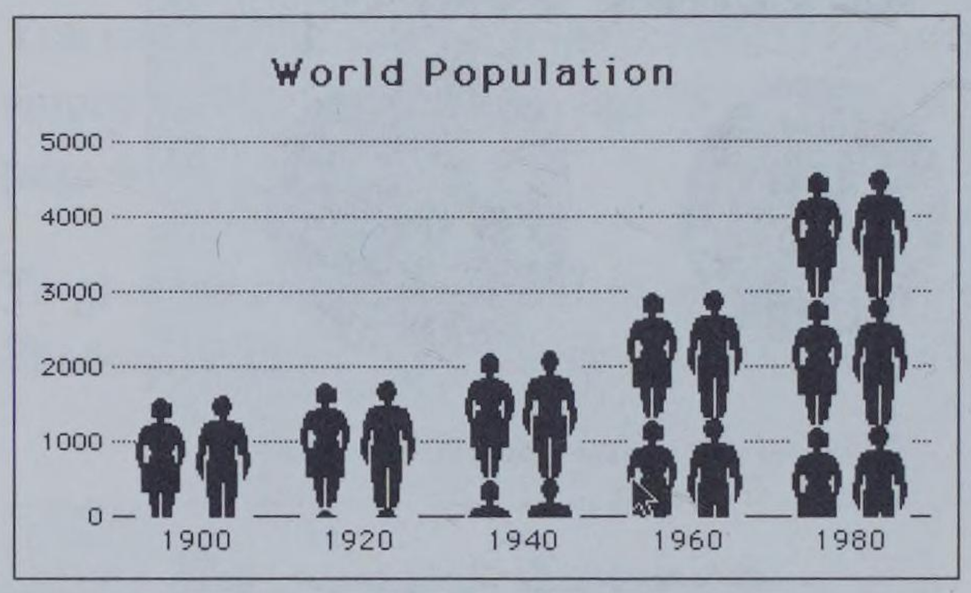
A hi-low chart plots a high point and a low point for each data series. You could use a hi-low chart, for example, to plot the high and low prices of a stock each day. The high and low points are shown on the chart as tick marks; a line connects the two tick marks.

If you are plotting data series by columns, you need two columns of spreadsheet data for each data series. One column defines the high point and the other column defines the low point. The following example charts the high and low temperatures in two cities.



Pictogram and Stacked Pictogram Charts

A pictogram chart is a bar chart with pictures or images on the bars. A stacked pictogram chart, like a stacked bar chart, shows the cumulative value for a division in a single bar.



For information about changing the picture in a pictogram, see "Working with Pictograms" on page 6-47.

Chapter 7

Working with Databases

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Chapter 7

Working with Databases

This chapter gives step-by-step instructions for using database documents and working in the ClarisWorks database environment.

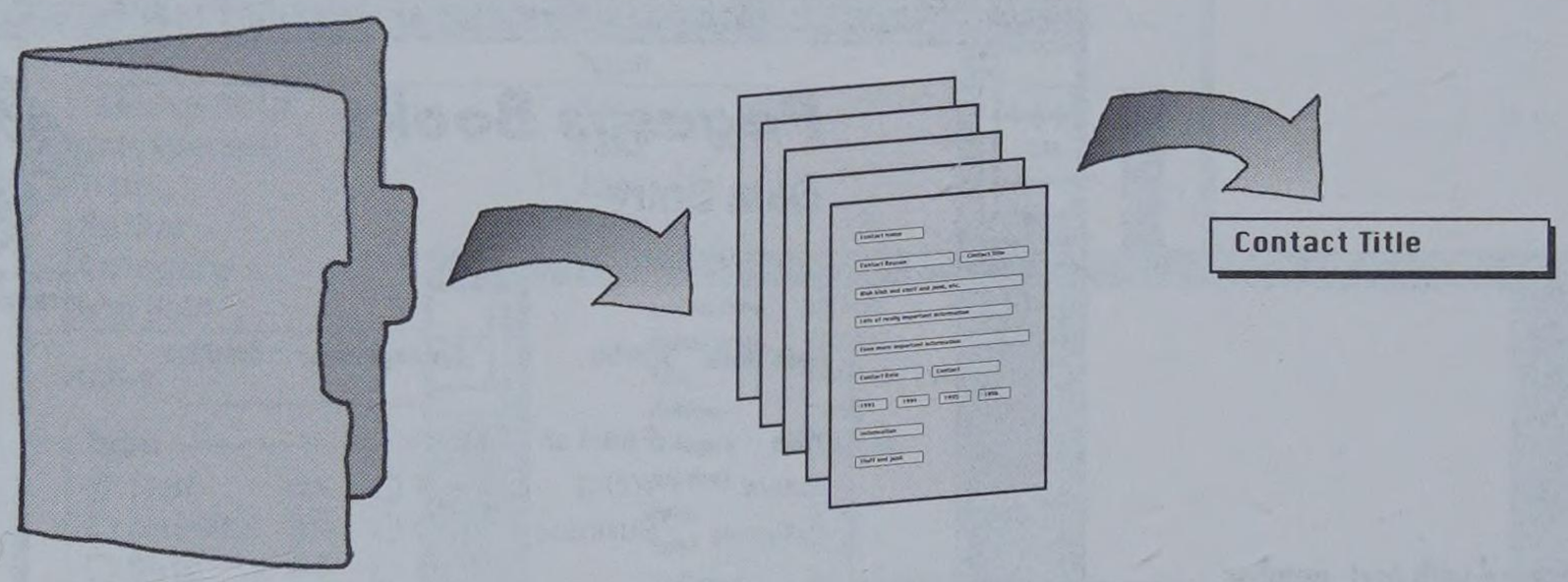
A ClarisWorks database document helps you manage information easily, allowing you to:

- find information quickly
- update and maintain information
- print documents such as forms, mailing labels, and invoices
- analyze information using onscreen and printed reports

Database Concepts

Before you begin to work with ClarisWorks database documents, you should be familiar with general database concepts. If you're new to databases, read this section. If you're familiar with databases, but not familiar with ClarisWorks, you can skip to "ClarisWorks Database Concepts" on page 7-4.

A **database** is like a file folder. For example, you might keep all the related information about sales contacts in a file folder. In a contacts file folder, the information about one sales contact is called a **record**. So, a file folder contains a group of related records.

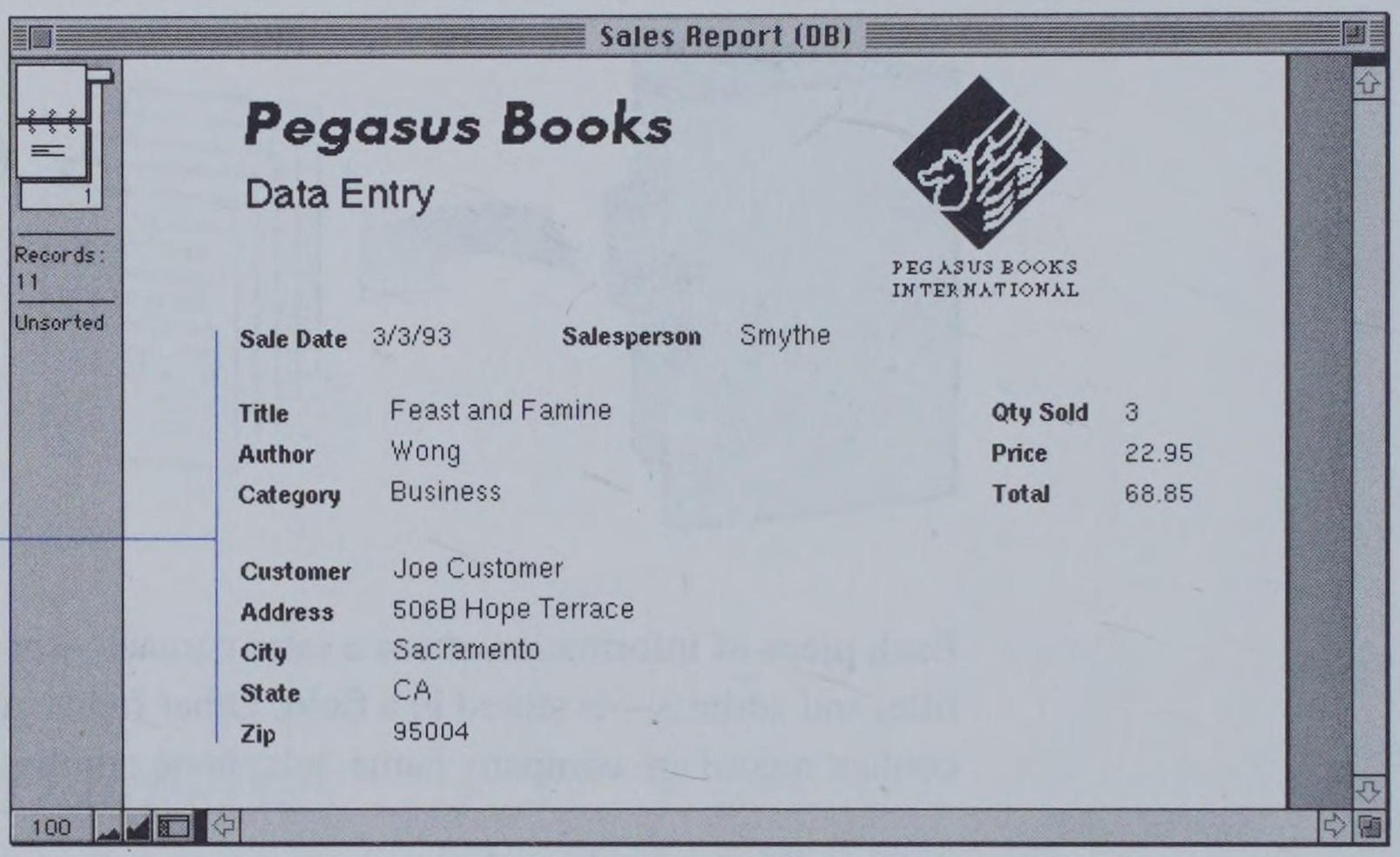


Each piece of information about a sales contact—for example, contact name, title, and address—is stored in a **field**. Other fields you might find in a sales contact record are company name, telephone number, and last contact date.

A ClarisWorks database document is a group of related records stored electronically. Other examples of database documents include a catalog of books, a collection of recipes, and a household inventory. A familiar non-electronic database is a telephone directory.

ClarisWorks Database Concepts

Like any database, a Clarisworks database document is a group of related records. The records consist of fields.



A record with text, number, date, calculation, and summary fields

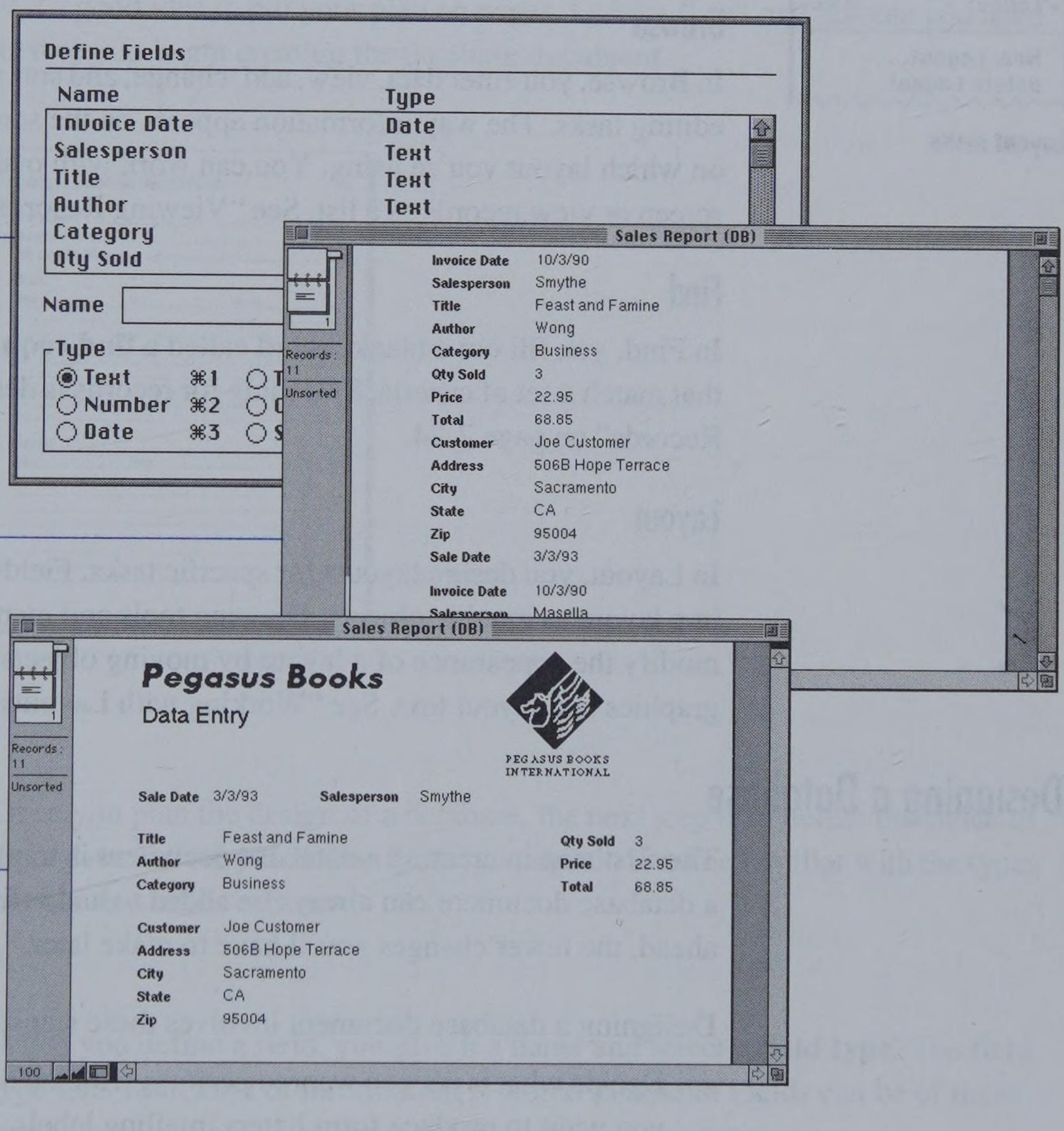
Field Definitions

A **field definition** is comprised of a field's name, its field type, and any other attributes. A field definition determines the sort of work you can do with a field. For example, you can define a field to hold only numbers or only dates. Or you can define a field to perform a calculation based on the contents of other fields.

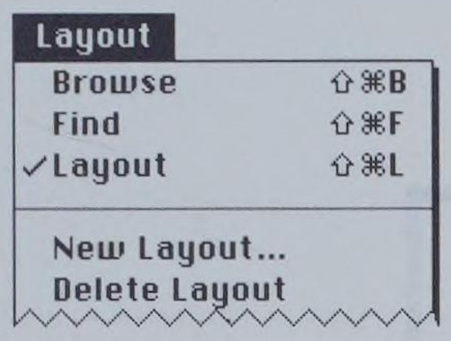
Layouts

Layouts are the way you enter and view data in a ClarisWorks database document. They also determine how information looks when you print it. In other words, layouts determine how you present information, not how you store it.

After you define the fields for a database, a standard layout appears, which you can use "as is" or modify to suit your needs. You can also create new layouts for reports, mailing labels, and so forth.



Browse, Find, and Layout



Layout menu

In a database document, you work with data and layouts in three different ways, using the Browse, Find, and Layout commands on the Layout menu.

Browse

In Browse, you enter data, view, add, change, and sort records, and do the usual editing tasks. The way information appears on the screen in Browse depends on which layout you're using. You can work with one record at a time on the screen or view records as a list. See "Viewing Records as a List" on page 7-24.

Find

In Find, you fill out a blank record called a **find request** to search for records that match a set of criteria**.** Searching for records is described fully in "Finding Records" on page 7-24.

Layout

In Layout, you design layouts for specific tasks. Fields and field names appear in a layout as graphic objects. Drawing tools and menus are active so you can modify the appearance of a layout by moving objects around or adding new graphics and layout text. See "Working with Layouts" on page 7-31.

Designing a Database

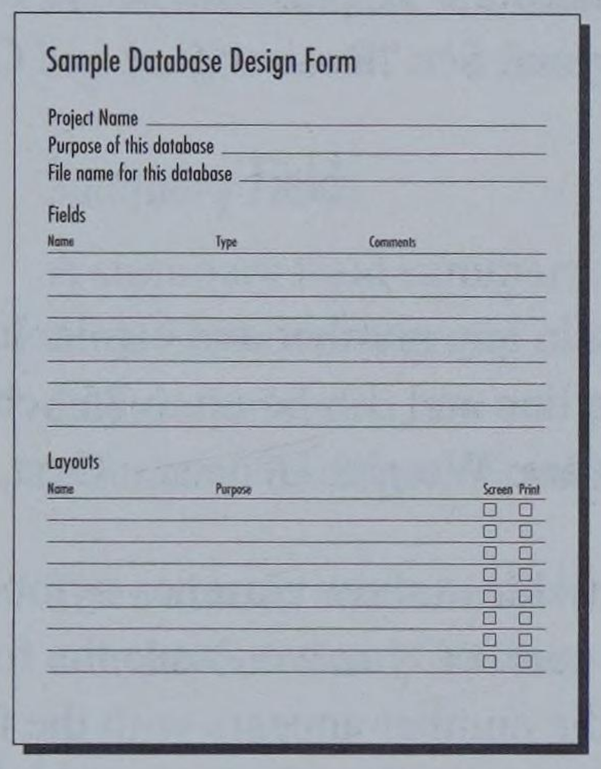
The first step in creating a database document is to plan its design. Although a database document can always be added to and refined, the more you plan ahead, the fewer changes you'll have to make later.

Designing a database document involves these steps:

- Decide what tasks you want to perform with the database. For example, do you want to produce form letters, mailing labels, and reports?
- Decide what information you want to store in the database. To perform the tasks you've selected, list the field names you'll need to accomplish those tasks. For example, to print invoices you need fields for the billing address, shipping address, quantity, product code, product description, and unit price. You also need calculated fields for subtotal, sales tax, shipping charge, and invoice total.

- Decide what layouts you need. You need a layout for each task you want to perform—for example, data entry, order entry, printing mailing labels, and printing form letters. You also need a layout for each type of report you want to produce.

It's a good idea to put your plan on paper. List the fields and layouts you need before you begin creating the database document.



Sample Database Design Form

Project Name _____
Purpose of this database _____
File name for this database _____

Fields

Name	Type	Comments

Layouts

Name	Purpose	Screen	Print
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Working with Fields

Once you plan the design of a database, the next step is to define the fields to store data. Before you define fields, you should become familiar with the types of data that fields can store.

Field Types

When you define a field, you give it a name and select a **field type**. The field type tells what kind of information is stored in a field. Fields can be of these types: text, number, date, time, calculation, and summary.

The field type determines not only the kind of data you can type in a field, but also the work you can do with that data. For example, if you want to do arithmetic calculations, you use a number field. Normally, fields for money, measurement, and temperature data would be defined as number fields.

- **Note** When you give a name to a field and select a field type in the Define Fields dialog box, you're creating a **field definition**.

Text Fields

A text field can contain any characters—letters, numbers, or symbols. You can enter about 500 characters (fewer with style changes). Examples of field names for text are: Last Name, Description, City, Product Name.

If the amount of text you type exceeds the field borders, ClarisWorks shows all the text—if the field is selected. When that field isn't selected, you see only the text within the field borders. To print the whole field, you must adjust the size of the field on the layout. See "Rearranging and Customizing Layouts" on page 7-38.

Number Fields

A number field can contain any number and can include a decimal point. Numbers must fit on one line and can be up to 254 characters. Examples of field names for numbers are: Weight, Distance, Cost, Temperature.

You can format number fields to show currency symbols, percent signs, and so forth. When you enter a number, you won't see the formatting until you leave the number field. Then the number appears with the format you specify. See "Changing the Way You Express Numbers, Dates, and Times" on page 7-45.

Date Fields

A date field can contain one date and must be on one line. You can't mix a date with other kinds of information. Examples of field names for dates are: Hire Date, Start Date, Date of Birth.

You can change the way a date appears in a field. See "Changing the Way You Express Numbers, Dates, and Times" on page 7-45.

Time Fields

A time field can contain one time and must be on one line. You can't mix a time with other kinds of information. Examples of field names for times are: Hours Billed and Time of Order.

You can enter a time in 12-hour or 24-hour format. See "Changing the Way You Express Numbers, Dates, and Times" on page 7-45.

Calculation Fields

A calculation field stores the result of a calculation computed by ClarisWorks using other values. You create a formula that uses data from other fields, functions, or constants. ClarisWorks computes the result and puts it in the calculation field. Examples of field names for calculations are: Due Date, Total Cost, Sales Tax.

A formula can use the values in text, number, date, time, and other calculation fields. The result of a formula can be text, numbers, a date, or a time.

Summary Fields

A summary field summarizes the data (for example, totals or averages the data) for a field over a group of records. The contents of summary fields, like calculation fields, are computed by ClarisWorks. Examples of field names for summary fields are: Total Regional Sales and Average Monthly Temperature.

The value in a summary field changes depending on which part you place it in on a layout. See "Creating Summary Parts" on page 7-50.

Defining Fields

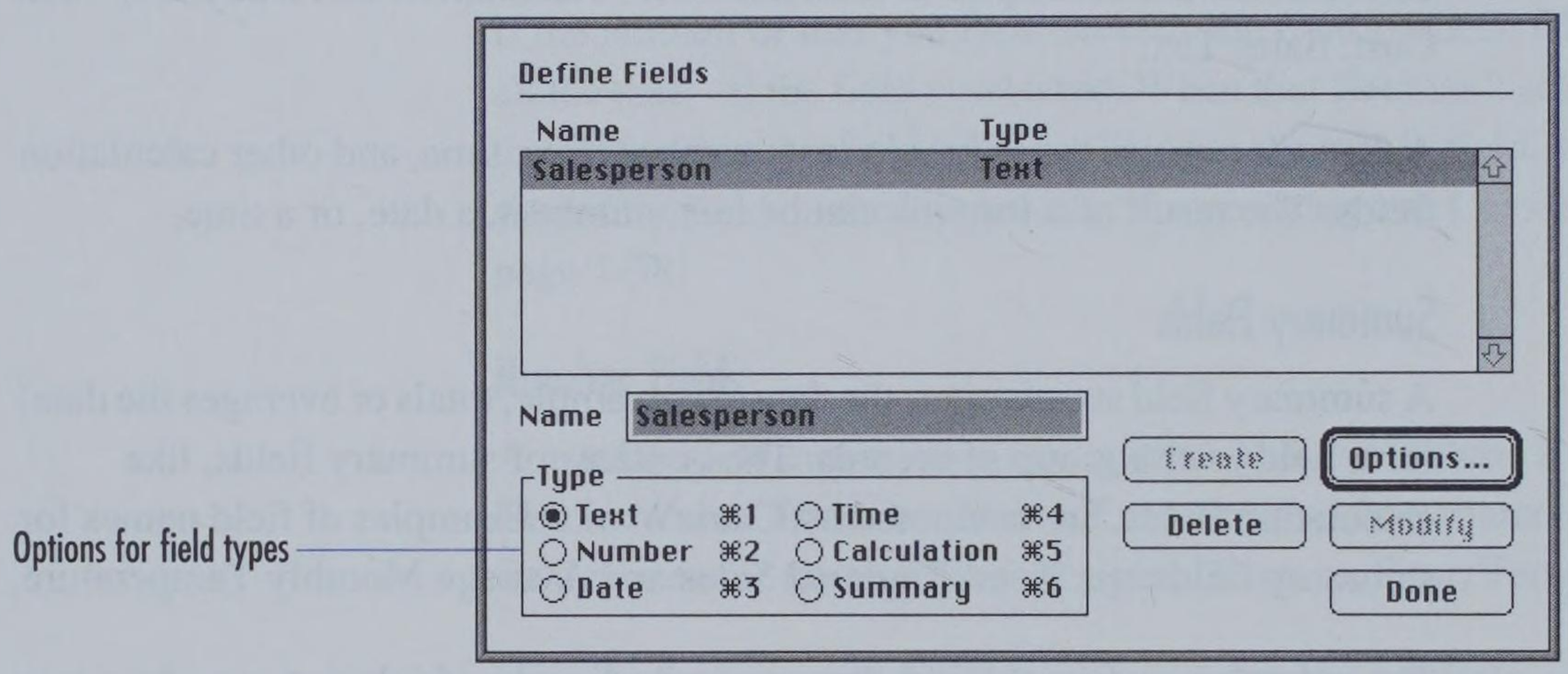
When you create a new database document, the Define Fields dialog box opens automatically so you can define new fields. You can also add fields to an existing database.

This section tells you how to define text, number, date, and time fields. The next section tells you how to define a calculation field. Because it's part of a larger process, defining summary fields is described in "Creating Summary Parts" on page 7-50.

To define fields:

1. Create a new database document or choose Define Fields from the Layout menu.

   You see the Define Fields dialog box.



2. In the Name box, type a name for the field.

   A field name can be up to 63 characters long.

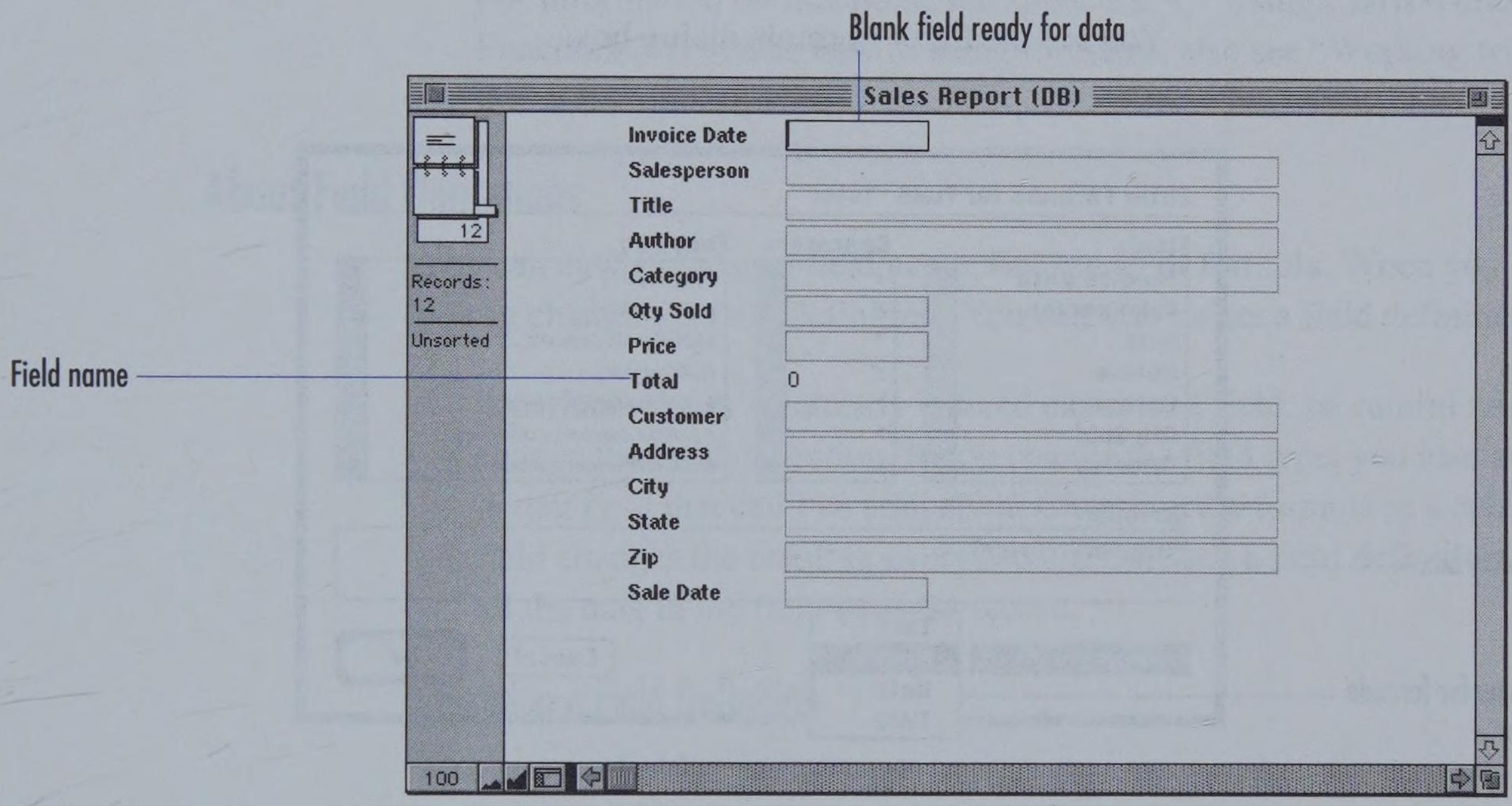
3. Select a field type from the radio buttons and then click Create.

   The Name box remains selected—ready for you to type the next field name.

   If you define a calculation field, the Calculation dialog box opens. The steps for defining a calculation field appear in the next section.

4. When you have finished defining fields, click Done.

   The new fields appear in a standard layout, with all fields and field names stacked vertically.



5. To enter data, click anywhere in a field and begin typing, tabbing to the next field when the entry is complete.

   Press Shift-Tab to move to the previous field.

   For more information on data entry, see "Entering Data in Fields" on page 7-19.

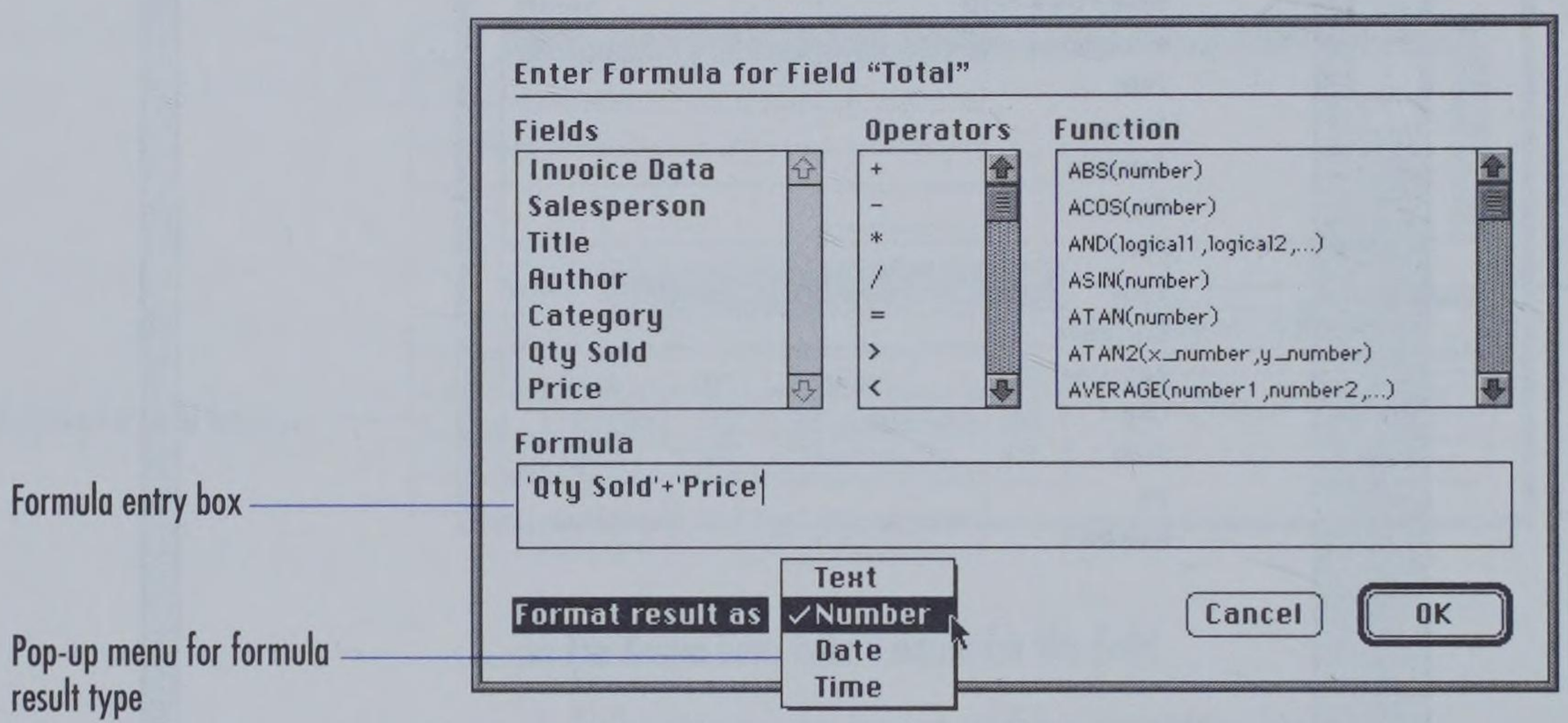
Defining a Calculation Field

You define a calculation field by entering a formula that computes a value. For example, if an invoice record contains fields called Unit Price and Quantity, you can define a calculation field called Amount Due and enter a formula that multiplies Unit Price by Quantity. The result appears in the Amount Due field.

To define a calculation field:

1. Choose Define Fields from the Layout menu.
2. In the Define Fields dialog box, name a new field, click Calculation, and then click Create (or select an existing field name, click Calculation, and then click Modify).

   You see the Enter Formula dialog box.



3. Enter a formula by clicking field names, operators, and functions.

   You can type a field name, but you must be exact. It's best to click the field name and let ClarisWorks enter it for you.

   You can press Command-C to copy and Command-V to paste a calculation formula from a spreadsheet or from another source.

   When you click a field name to enter it in a formula, ClarisWorks automatically inserts a single quotation mark (') at the beginning and end of the name. If you type a field name in a formula, you must add the quotation marks.

◆ **Note** To edit the formula for a calculation field, in the Define Fields dialog box simply double-click the name of the field to display the Calculation dialog box.

4. Choose the type of result you want from the Format result as pop-up menu.
5. Click OK to confirm the formula and return to the Define Fields dialog box.

   ClarisWorks checks the formula and alerts you if you have made errors. If there are no errors, ClarisWorks computes the result for that field in every record in the document.

The formula now appears to the right of the field name in the list of fields.

6. Click Done.

◆ **Note** You can use numerous ClarisWorks functions for database formulas. For information on functions, see appendix A, "Using ClarisWorks Functions." If you're new to using formulas, also see "Working with Formulas" in chapter 6.

About Field Definitions

You can easily change a field name, field type, or formula. When you do, you're changing a field definition. You can also delete a field definition.

◆ **Important** If you've already entered data into a field, be careful when you change the field definition. If you change the field type, you lose any data in that field that can't be converted. Changing the formula in a calculation field changes the result in every record. Deleting a field definition erases all the data in the field in every record.

Changing a Field Definition

To change a field definition:

1. Choose Define Fields from the Layout menu.
2. In the Define Fields dialog box, select the name of the field you want to change.

   The field name appears in the Name box.
3. Edit the name or change the field type and then click Modify.

   The list is updated to show the new name or field type. If you selected a calculation field, or if you changed a field to a calculation field, the Calculation dialog box opens when you click Modify. You can revise the formula in the dialog box, as described in "Defining a Calculation Field" on page 7-11.

◆ **Note** When you change a text field to a number, date, or time field, ClarisWorks puts the data on one line, deleting any data after the first 254 characters. Number, date, and time fields must be on one line and are limited to 254 characters. Date and time fields must contain dates and times. For more information on field types, see "Field Types" on page 7-7.

Deleting a Field Definition

Deleting a field definition deletes the field from all layouts that contain that field and deletes the data in that field from every record in the database document. So be certain that you don't need the information in a field before deleting its field definition.

To delete a field definition:

1. In the Define Fields dialog box, select the name of the field you want to delete.
2. Click Delete.

   After asking for confirmation, ClarisWorks completely removes the field and all its data.

- **Important** You can remove a field from a particular layout without affecting other layouts or the rest of the database. If you want to remove a field from the layout, but not from the database, *do not delete the field in the Define Fields dialog box*. Information on removing fields from layouts appears in "Adding and Deleting Fields in a Layout" on page 7-39.

Customizing Fields for Data Entry

As you define fields, you can select entry options that make entering data fast and accurate. These entry options reduce typing and keep your data consistent by:

- automatically entering data in new records
- checking data for accuracy
- displaying a list of values to choose from

Entering Data Automatically

You may need to know when a record was added to a database document, when it was last modified, or who added or modified it. Or, you may want to keep track of records using serial numbers. ClarisWorks gives you options to enter this information automatically.

You can have ClarisWorks automatically enter:

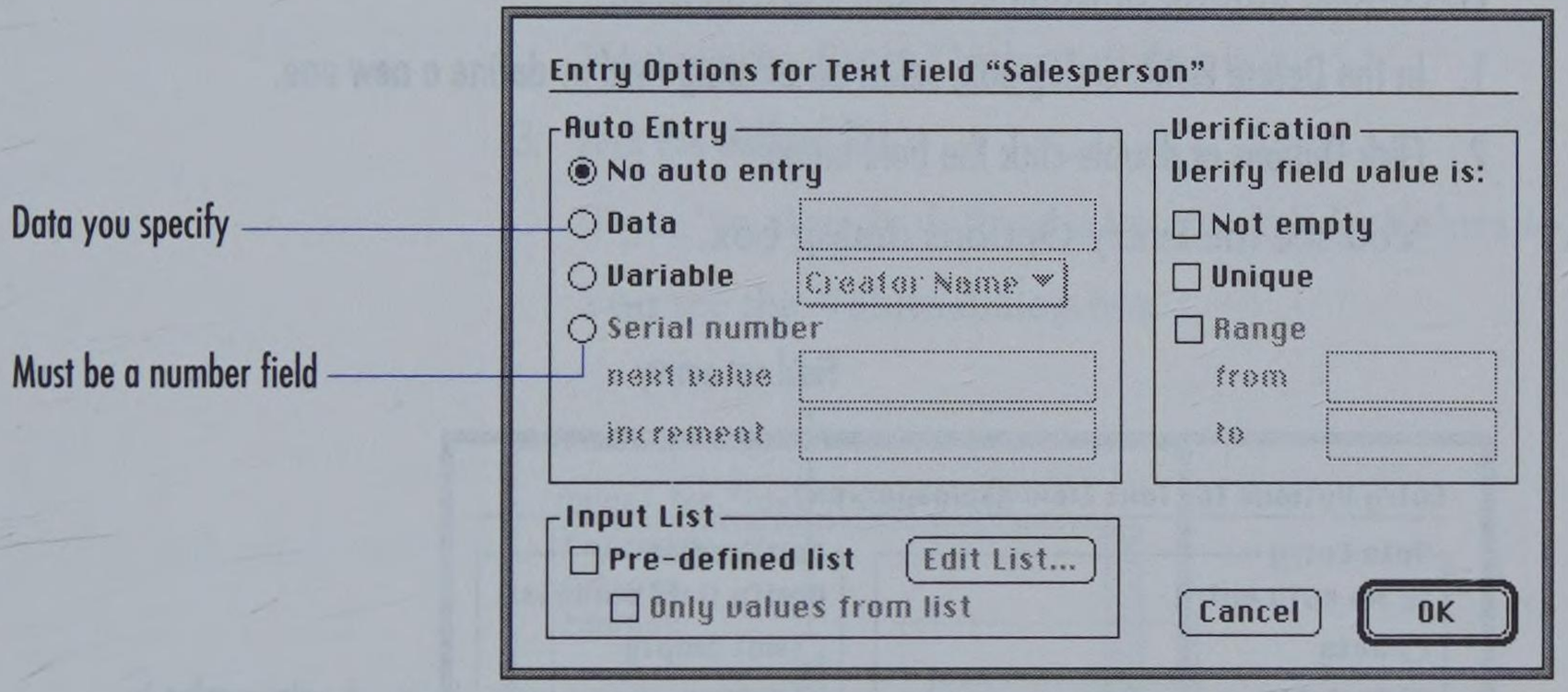
- the date or time a record is created
- the date or time a record is modified
- the name of the person who creates or modifies a record

- a serial number for the record
- data you specify

To choose among options for automatic data entry:

1. In the Define Fields dialog box, select an existing field or define a new one.
2. Click Options or double-click the field name.

   You see the Entry Options dialog box, where "No auto entry" is selected.



3. Click the button for the value you want entered automatically.

   Your choices are limited by the field type you are defining.

   - *Data*—Type the data you want automatically entered. The data must match the field type.
   - *Variable*—Choose an option. Creation time and date are the time and date the record was created. The creator name is the user name when the record was created. Modified date, time, and name are automatically updated when the record is changed. (The user name is taken from the Chooser if you are running System 6 and Sharing Setup if you are running System 7.)
   - *Serial number*—Type the starting value in the "next value" box. Then type a value (if other than 1) in the "increment by" box. Serial numbers can contain only numbers.

4. Click OK.

   You return to the Define Fields dialog box.

Checking for Accuracy

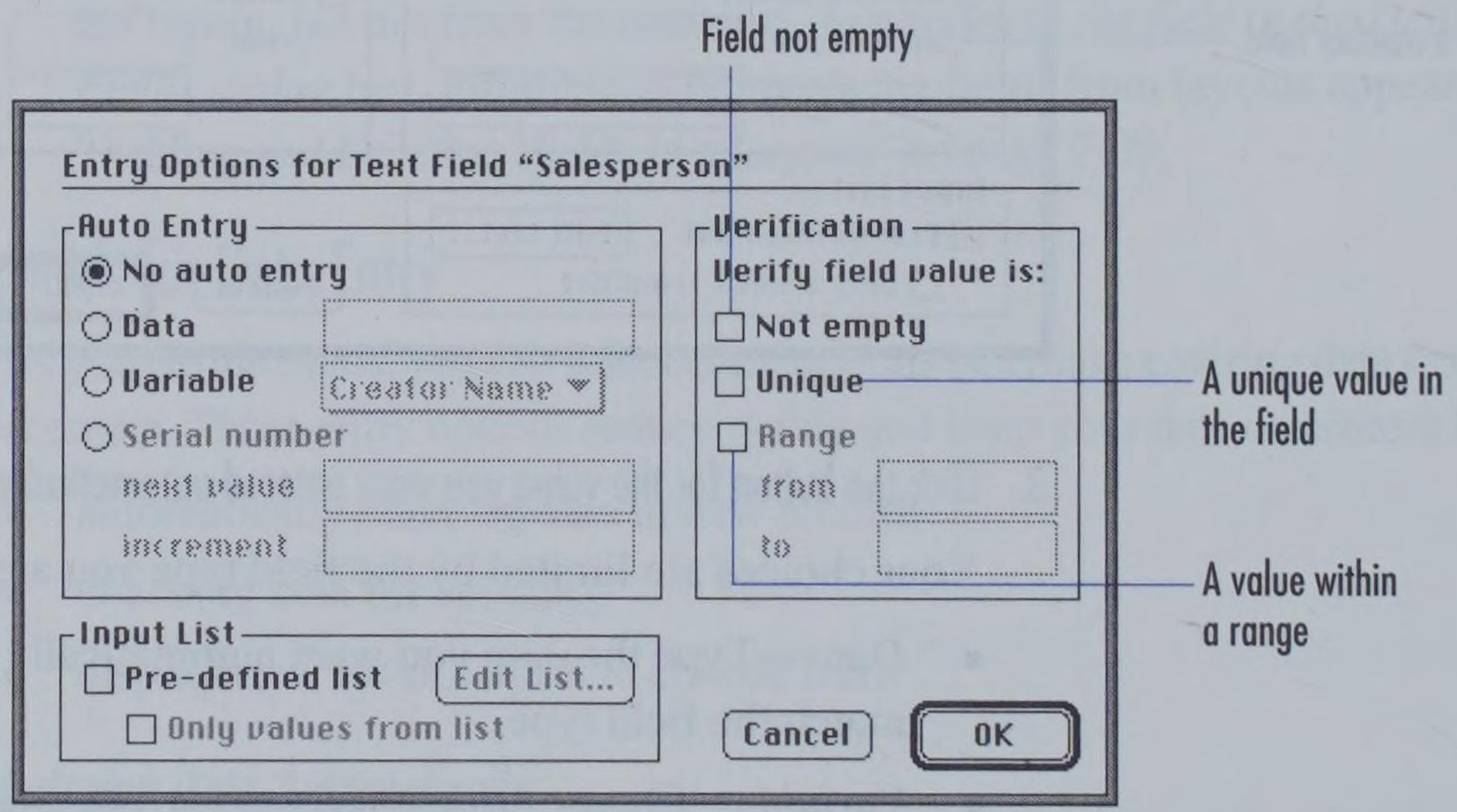
You can choose entry options that verify data. For example, ClarisWorks can check to make sure a field isn't empty, as well as check to see if a value is a unique value or within a certain range.

When these options are set, data is verified as you enter it. If you enter a value that doesn't match the field's requirements, you get an alert. You can revise the value or override the alert.

To choose among options for data verification:

1. In the Define Fields dialog box, select an existing field or define a new one.
2. Click Options or double-click the field name.

   You see the Entry Options dialog box.



3. Click the checkbox you want—you can choose more than one for a field.
   - *Not empty*—The field must contain a value.
   - *Unique*—The value must differ from other values in this field in other records.
   - *Range*—The number must be within the range that you specify for "from" and "to." This option is available for number, date, and time fields.
4. Click OK.

   You return to the Define Fields dialog box.

Creating a List of Values for a Field

If you enter the same values again and again for a field, you can define those values as a list that's displayed when you tab to (or click in) that field. For example, if there are five states in your sales region, you could choose those states' names from a list that you define. This makes data entry faster and more accurate.

To create a list of values:

1. **In the Define Fields dialog box, select an existing field or define a new one.**
2. **Click Options or double-click the field name.**

   You see the Entry Options dialog box.
3. **Click Pre-defined list.**

   If you've already defined a list, click Edit Values to edit the list.

   You see the Values dialog box.



4. **Type the values you want to appear in the list.**

   Type a value in the text box and then click Create to add the value to the list. To change a value, select the value in the list, type the change, and then click Modify. To delete a value from the list, select it and click Delete.

   When you've added all the values for the list, click Done. You return to the Entry Options dialog box.
5. **If you want only values from the list entered in the field, select Only values from list.**

6. Click OK.

   You return to the Define Fields dialog box.

   In Browse, the field displays as a pop-up list. To choose a value from the list, tab to the field to display the list and double-click the list item you want. Or you can select the value in the list and press Return.

Changing the Tab Order

The **tab order** is the sequence of fields through which the insertion point moves when you press Tab. The order is preset to the order in which you created the fields. For convenient data entry, you may want to change the order.

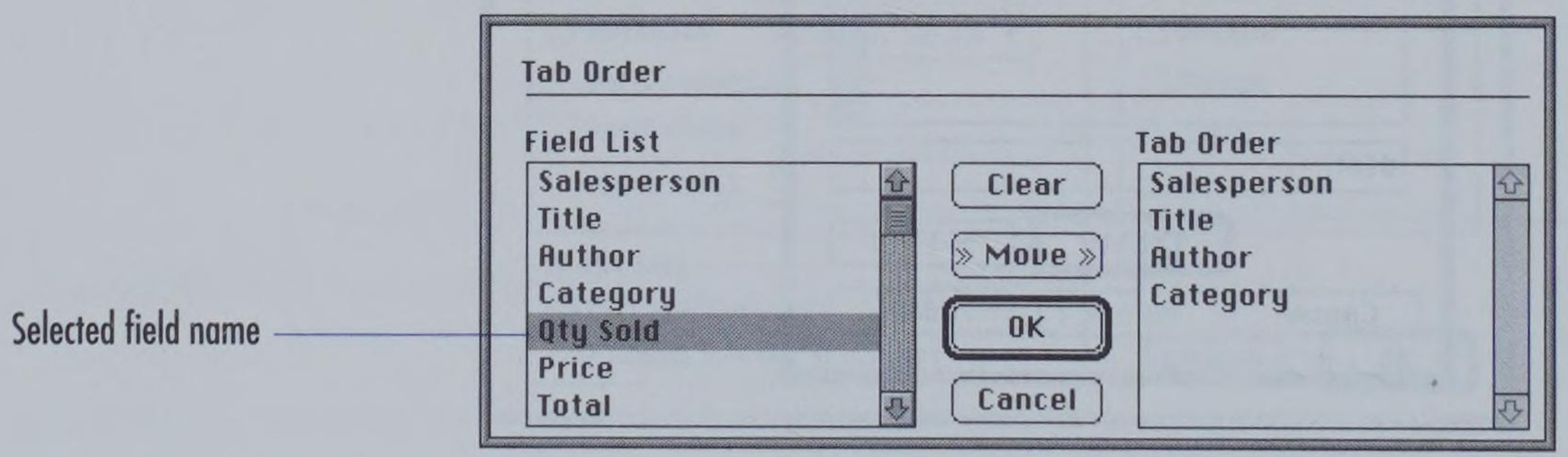
To change the tab order:

1. Choose Tab Order from the Layout menu.

   You see the Tab Order dialog box.

2. Click Clear to remove all field names from the current Tab Order list.
3. Select the field name you want first in the tab order and click Move.

   You can also double-click the field name. You see the Tab Order dialog box.



4. Select the remaining field names and move them to the Tab Order list in the order you want.

   If you don't move a field name into the tab order list, the insertion point skips the field when you press Tab.

   To move several fields at once, Shift-click to select them and then click Move.

   Double-click a field name in the Tab Order list to remove it from the list.

5. Click OK.

   You return to the document. When you tab through fields, the new order is in effect.

Entering Data in Fields

Only one record at a time is active in a database document. Similarly, only one field can be selected at a time. To type data in a field, you must first activate the record and then select the field. Also, you must be in Browse to enter data in a record or Find to enter a Find request. If you don't see the expected arrangement of fields, you may have more than one layout for the file. Check the bottom of the Layout menu to see which layout you're using.

- **Note** You can't type in Calculation or Summary fields. ClarisWorks computes the results and fills the fields.

A database document is preset to show records in a list, one below the other on the screen. The current record is marked by a solid bar on the left when Page View is not on. To view records one at a time, deselect List View on the Layout menu. See "Viewing Records as a List" on page 7-24.

You can enter data with Page View switched on or off. With Page View on, you see records within the page guides as they will be printed. With Page View off, you see only the current record, or list of records if List View is checked. For information on Page View, see "Viewing Pages" in chapter 2.

Making a Record Active

In Browse, click any field in a record to make that record active.

ClarisWorks activates the record and selects the field you clicked in. A solid border indicates that the field is selected (unselected fields have dotted or solid gray borders). Tabbing to a field also selects a field.

For directions on creating new records and moving from record to record, see "Adding a New Record" on page 7-21 and "Moving from Record to Record" on page 7-22.

Typing in a Text Field

Tab to (or click in) the text field and type any characters you want.

Numbers typed in a text field are treated as text.

Placing a Tab in a Field

Press Command-Tab to enter a tab within a field.

A tab is placed in the field, without moving the insertion point to the next field.

Typing in a Number Field

Tab to (or click in) a number field and type a number.

Numbers can be positive or negative.

Typing in a Date or Time Field

Type the date or time as numerals, in the format set for the field.

To verify the format, switch to Layout and double-click the date or time field to open the Date or Time Format dialog box. For more information, see "Changing the Way You Express Numbers, Dates, and Times" on page 7-45.

Entering the Current Date or Time

Tab to (or click in) the date or time field and type Command-hyphen.

Choosing a Value from a Value List

Tab to (or click in) the field to display the value list. Then double-click the list item that you want. Or select the value in the list and press Return.

If "Only values from list" wasn't selected when the value list was defined, you can type a value different from those in the list. Press Return to close the list and then type the value.

Editing Text in a Field

Use standard text-editing methods.

To delete a character, place the insertion point to the right of the character, and then press Delete. To replace a block of text, drag through the text to select it and then type the replacement.

Copying and Moving Data

To copy and move data from one field to another:

1. Select the field contents you want to copy or move.
2. Choose Cut or Copy from the Edit menu.

   Copy places a copy of the field contents on the Clipboard, leaving the original intact. Cut removes the selection and places it on the Clipboard.

3. If necessary, move to the record where you want to paste the data.
4. Select the field you want and choose Paste from the Edit menu.

   A copy of the data appears in the field.

Working with Records

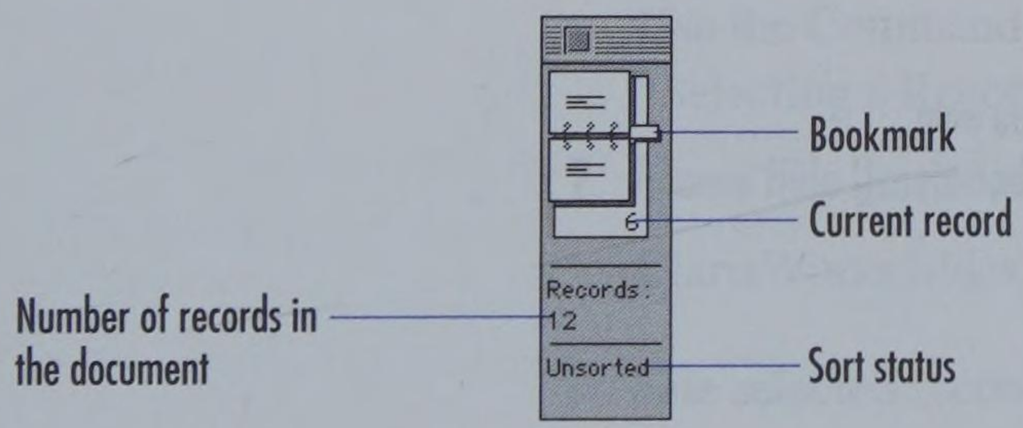
When you have defined and worked with the fields you need, you can begin adding and working with records.

Adding a New Record

You need a new record for each person, transaction, product, or similar information that you're tracking in the database document. You must be in Browse to add a new record.

To add a new record, choose New Record from the Edit menu or press Command-R.

ClarisWorks adds a new record, displays it in the current layout, and increases the number in the status area by one. The insertion point appears in the first field so you can start entering data.



Duplicating a Record

To duplicate a record, in Browse, choose Duplicate Record from the Edit menu or press Command-D.

ClarisWorks makes a duplicate of the current record. This saves time if records are similar; you can change only the fields that are different and avoid retyping information in the other fields.

Moving from Record to Record

As you add new records, ClarisWorks numbers the records consecutively and shows the numbers on the book in the status area. When you sort, search for, or hide records, the active records are renumbered as a set, beginning with 1 for the first record in the current set.

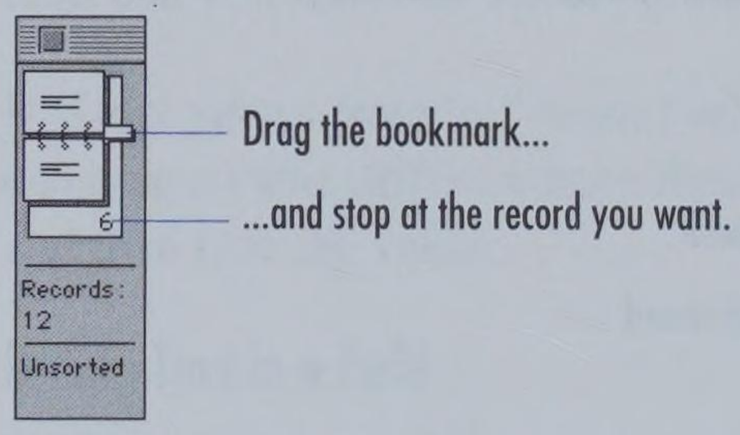
To move one record at a time:

- Click the bottom page of the book to move forward or the top page of the book to move backward through the records.

If you press Command-Return, you can advance to the same field in the next record. Press Command-Shift-Return to go back to the same field in the previous record.

To move several records at a time, drag the bookmark in the status area down or up to move forward or backward to a specific record.

The record number changes as you drag. In List View you can also scroll through the records.



Selecting a Record

You can select an individual record or select a group of records. Then you can cut, copy, and paste whole records or groups of records.

To select a record click anywhere in the record, outside of a field.

To select multiple records:

- Drag through the records you want to select.
- Shift-click to extend the selection.
- Command-click to select or deselect records individually in a selection.

To deselect records, press Enter.

Deleting, Copying, and Pasting Records

Use the same commands in the Edit menu that you use to cut, copy, and paste text.

For more information, see "Revising Text" in chapter 3.

Hiding Records

After you select records, you can hide those you selected or hide the ones you didn't select. For example, you could select the records for customers you want to call and then hide the records for those you don't want to call.

To hide unselected records:

1. **In Browse, select the records you want to work with.**

   Use the Command-click or Shift-click techniques described earlier in "Selecting a Record."

2. **Choose Hide Unselected Records from the Organize menu.**

   ClarisWorks hides the records you didn't select.

To hide selected records:

1. **In Browse, select the records you want to hide.**
2. **Choose Hide Selected Records from the Organize menu.**

   ClarisWorks hides the selected records.

To view all records, choose Show All Records from the Organize menu or press Command-Shift-A.

Viewing Records as a List

In List View, records appear one after the other. You can scroll through them on the screen. A database document is preset to show records in a list. If you deselect List View you see one record at a time (unless Page View is on).

To view records as a list (if you're not already in List View), choose List View from the Layout menu.

To return to viewing records one at a time, choose List View again.

Finding Records

As your database grows larger, you often need to find and isolate a specific group of records so you can view them together, update individual records, or print only a particular group of records. The ability to work with a subset of your records is one of the key advantages of an electronic database.

ClarisWorks database documents give you two ways to find records. In the first method, you use a find request to find the records you want. Other records are hidden. The second method, called *record matching*, selects the found records rather than hiding the records that don't match the search criteria. See "Doing Complex Searches" on page 7-54.

Creating a Find Request

To find records, you provide a description of what you want to find. The characters you type in this description are known as the **search criteria.** You type the search criteria in a **find request**—a blank record that contains the same fields as the current layout. The records you locate with a find request are called the **found set**.

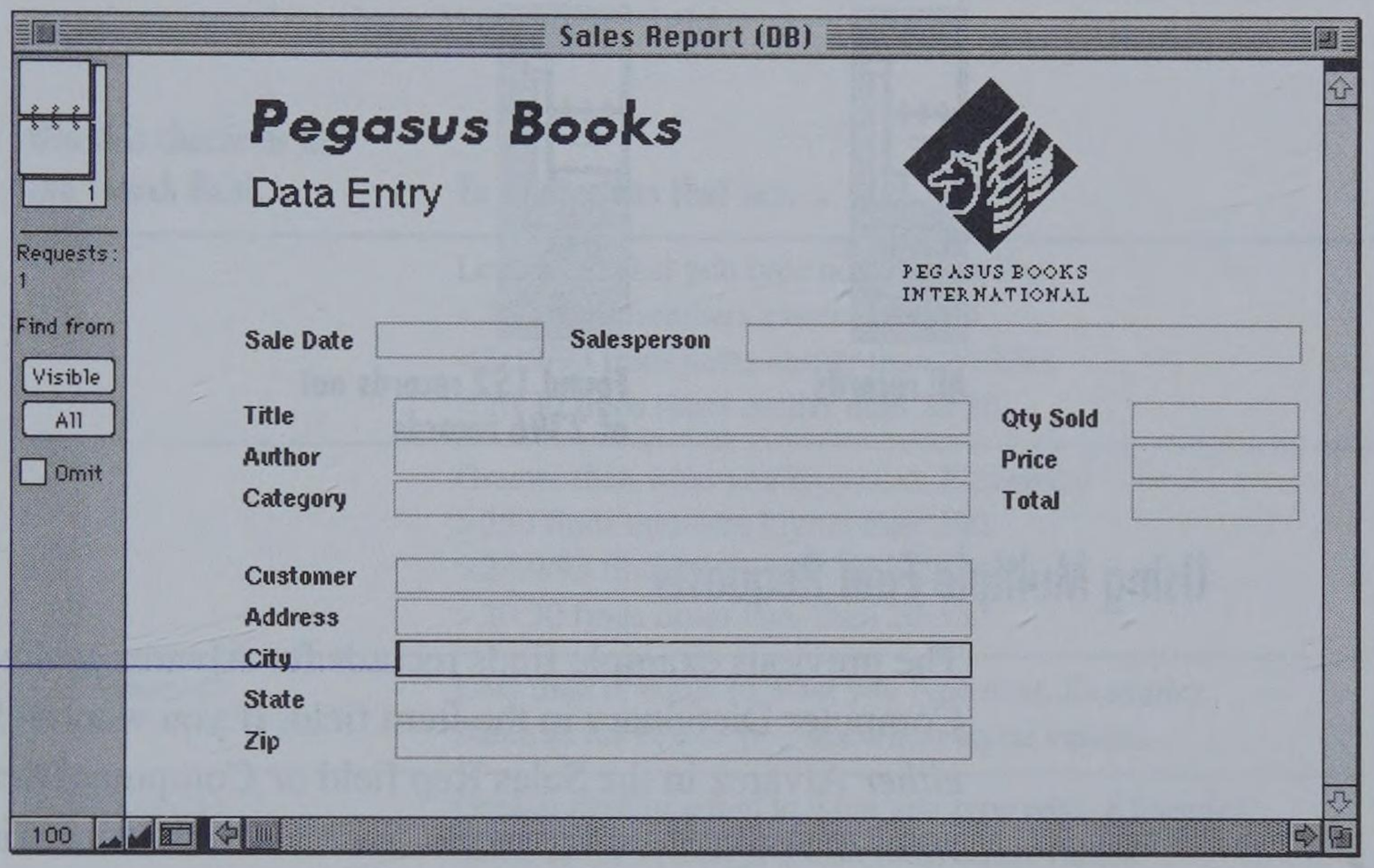
To create a find request:

1. **Make sure you're in the layout you want to use to find records.**

   The layout must include each field in which you want to enter search criteria. For information on switching layouts, see "Rearranging and Customizing Layouts" on page 7-38.

2. Choose Find from the Layout menu.

ClarisWorks displays a blank find request.



Type the search criteria in one or more fields.

3. Type the search criteria in one or more fields.

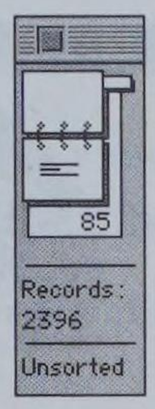
The fields in which you enter search criteria are called the search fields. You can use as many criteria as you need to make your request specific. For example, you could type Alvarez in the Sales Rep field and Computer Dictionary in the Item field. This request finds all records in which Alvarez sold the item called Computer Dictionary.

4. Click Visible to search only the visible records or All to search both visible and hidden records.

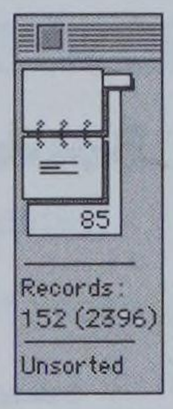
ClarisWorks finds the records that match the search criteria. You can work with only the records in the found set—all other records are hidden.

To see all the records again, choose Show All Records from the Organize menu.

- **Note** The status area shows the number of records found and puts the total number of records in the whole database in parentheses.



All records



Found 152 records out of 2396 records

Using Multiple Find Requests

The previous example finds records for Alvarez in the Sales Rep field *and* Computer Dictionary in the Item field. If you want to find records that contain *either* Alvarez in the Sales Rep field *or* Computer Dictionary in the Item field, you use multiple find requests. Such a search would find records of sales made by Alvarez, regardless of item, and records of sales of the Computer Dictionary, regardless of salesperson.

To use multiple find requests:

1. Create the first request using the first set of search criteria.
2. Before clicking Visible or All, choose New Request from the Edit menu (or press Command-R).

   ClarisWorks opens a second request.
3. Type the search criteria for the second request.
4. When you've created and filled in as many requests as you need, click Visible or All.

   ClarisWorks finds the records that match the requests.

Using Operators for Special Searches

You can use ClarisWorks operators in a search field to narrow your search for records. For example, the expression <250 in a field finds records that contain numbers smaller than 250 in that field.

Use this character in the search field...	To find values that are...
<	Less than what you type next. *Examples:* <250 finds numbers lower than 250. <2/19/93 finds dates earlier than 2/19/93. <20:30 finds times earlier than 20:30.
>	Greater than what you type next. *Examples:* >250 finds numbers higher than 250. >2/19/93 finds dates later than 2/19/93. >20:30 finds times later than 20:30.
≤ (Option-<)	Less than or equal to what you type next. *Examples:* Same as for <, except ≤ also finds equal values.
≥ (Option->)	Greater than or equal to what you type next. *Examples:* Same as for >, except ≥ also finds equal values.
=	An exact match. *Examples:* =Tom finds the value Tom (does not find Tomm). =250 finds the number 250. =2/9/93 finds this date. =13:30 finds this time.

Omitting Records

Sometimes you may want to exclude certain records from the set you're working with. For example, in a sales management database, you may want to set aside all records for a particular salesperson. You can set aside records temporarily by omitting them. Omitting records doesn't delete them from the document—it hides them.

To omit records:

1. Create a new find request.
2. Type the search criteria for the records you want to omit temporarily.

   For example, to omit Huan Do's sales, you would type Do's name in the Salesperson field.

3. **Click Omit and then click Visible or All.**

   ClarisWorks finds the records that match the request and hides them.

- **Note** If you click Omit in one find request, ClarisWorks applies the Omit command to all the find requests. This allows you to create multiple omit requests. In this case, all records found are omitted, so you can display only the records you want.

To bring back omitted records, choose Show All Records from the Organize menu or press Command-Shift-A.

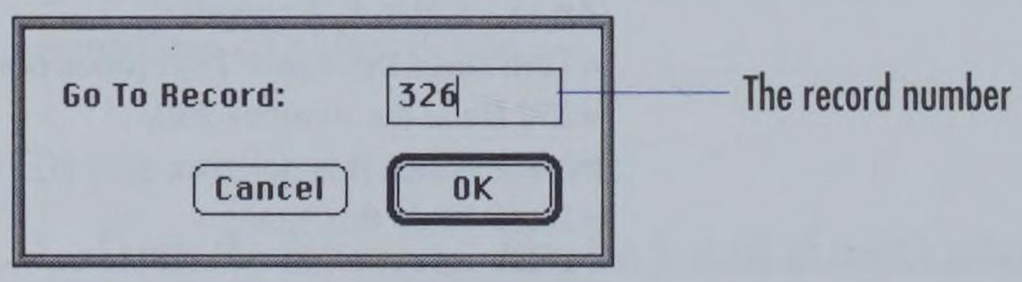
Moving Quickly to a Specific Record

If you know a record's number, you can move immediately to that record.

To move to a specific record:

1. **In Browse, choose Go To Record from the Organize menu or press Command-G.**

   You see the Go To Record dialog box.



2. **Type the number of the record and click OK.**

   You move to that record.

   Remember that records are renumbered sequentially in a found or sorted set of records. Record 143 in the total group of records may become record 18 in the found set.

- **Note** You can also move to a specific record by highlighting the record number in the book in the status area. Then type the number of the record you want to move to and press Enter.

Sorting Records

You can easily rearrange records by sorting them. You can sort records by more than one field. For example, you could sort a list of names alphabetically by last name and also sort their postal codes in ascending numeric order—all in the same sort operation.

- **Note** When you sort, the records are rearranged in the database, not just in the layout you're viewing. If you want records sorted differently for different layouts, you must resort them accordingly.

Creating a Sort Order and Sorting

Records are sorted based on the fields you select and on the sort order you choose (ascending or descending). For example, you can sort the Sales Rep field alphabetically from A to Z or from Z to A.

Records are sorted first by the contents of one field (for example, the Sold To field) and then by the contents of any other fields included in the sort order (for example, the Sales Rep field). In this case, records are first sorted by last name, and any records with the same last name are also sorted by postal code.

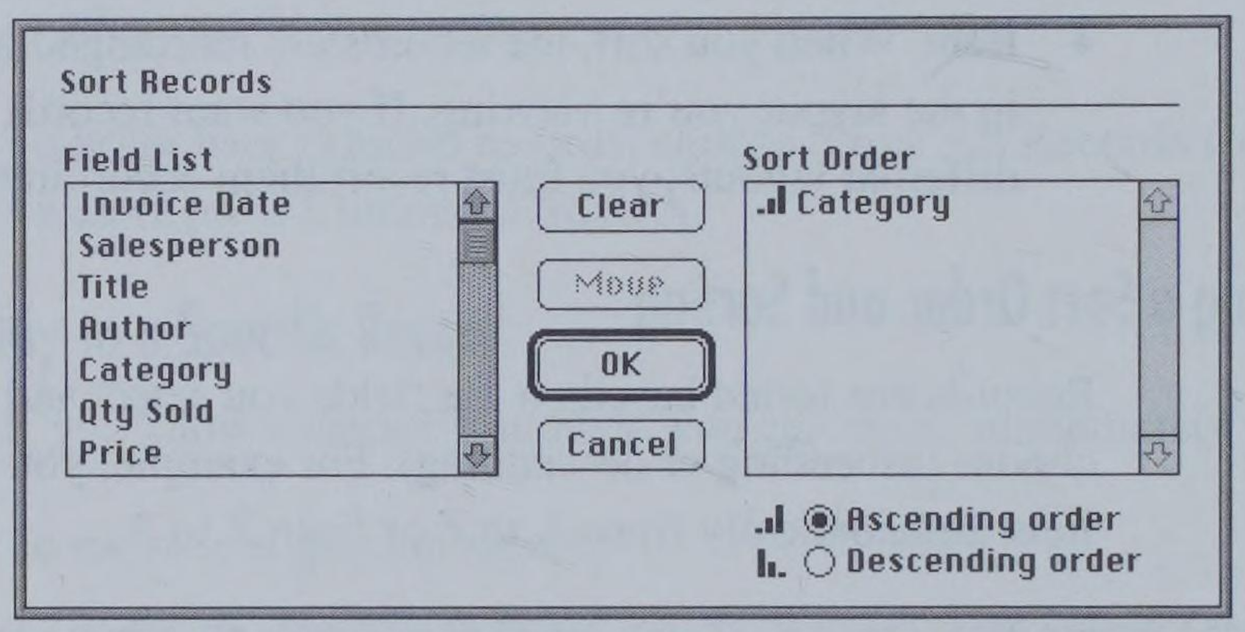
Ascending and Descending Order

- *Ascending*—sorts in alphabetical order (A to Z) for words, lowest-to-highest order for numbers, and earliest to latest for dates or times
- *Descending*—sorts in reverse alphabetical order for words (Z to A), highest-to-lowest order for numbers, and latest to earliest for dates or times

To sort records:

1. In Browse, make sure the records you want to sort aren't hidden.
2. Choose Sort Records from the Organize menu or press Command-J.

   You see the Sort Records dialog box.



3. Under Field List, select the name of the first field by which you plan to sort.

   When you want to sort by more than one field, start with the most important field and proceed to the least important.
4. If necessary, change the sort order (click Ascending order or Descending order).
5. While the field name is still selected, click Move (or double-click the name).

   The field name is copied to the Sort Order list. A chart-like icon indicates ascending or descending order.
6. Add any additional fields to the sort order using the same method.

   To move several fields at once, Shift-click to select them.

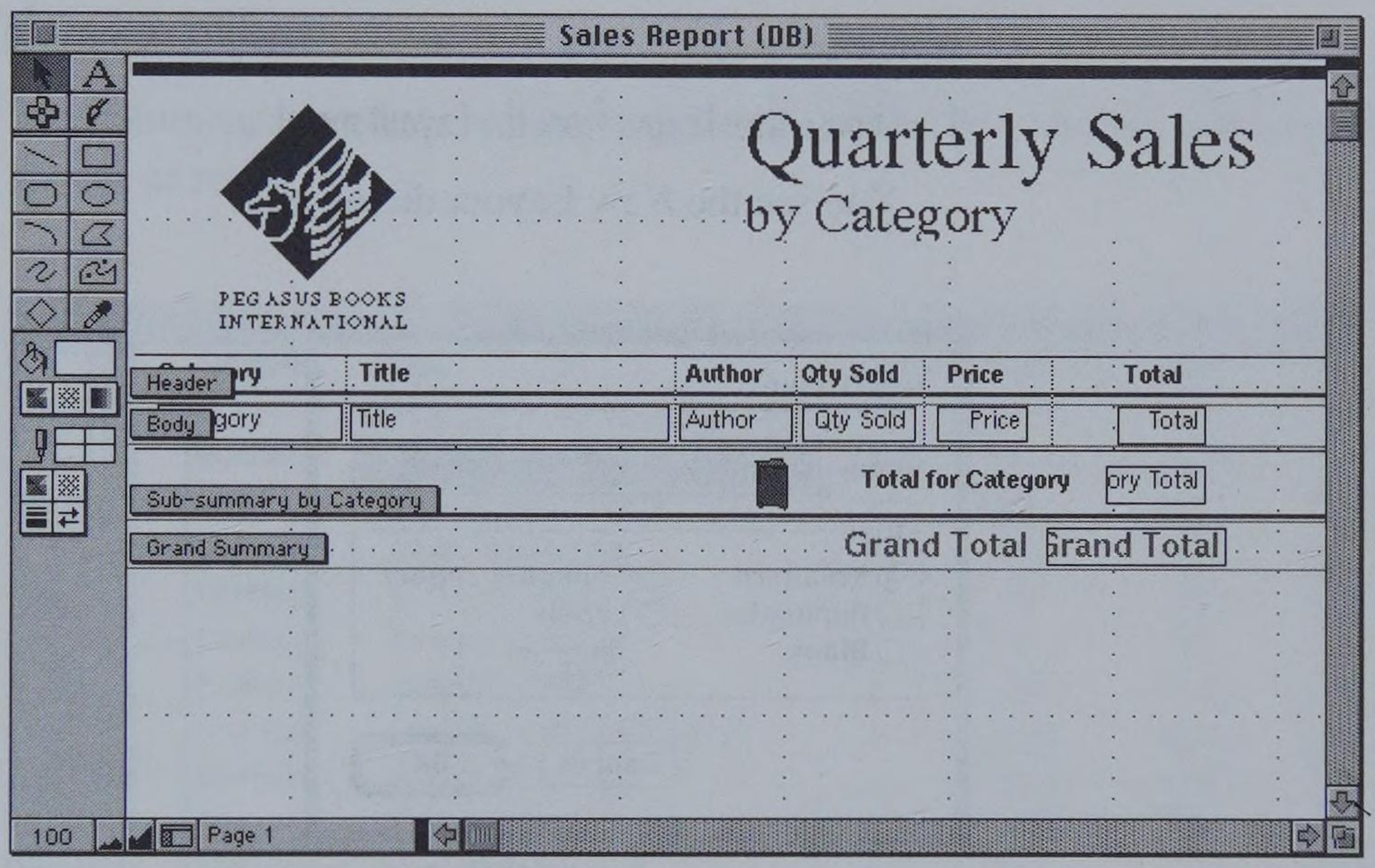
   To remove a field name from the Sort Order list, double-click the field name.
7. Click OK.

   ClarisWorks sorts the records and returns you to the document. The status area indicates that the records have been sorted.

◆ **Note** Records are renumbered sequentially when you sort.

Working with Layouts

A **layout** is a graphic arrangement of fields, field labels, and other objects that determine the way data appears in records and reports.



The data in records is independent of any layout. A layout simply changes the way you organize and present data. A database document can have many different layouts. You can show some fields in one layout but not in another. Different layouts can have different graphic and font treatments. You can also add layout parts, which summarize data when you print.

To work with an existing layout, you select the Layout command from the Layout menu. In Layout, you're in the draw environment, where fields and field labels are treated as graphic objects. You can add other graphic or text objects by drawing them or by copying and pasting from a compatible application. See "Rearranging and Customizing Layouts" later in this chapter. For complete information on the draw environment, see chapter 4, "Working with Drawings."

◆ **Note** You don't have to be in Layout to create a new layout.

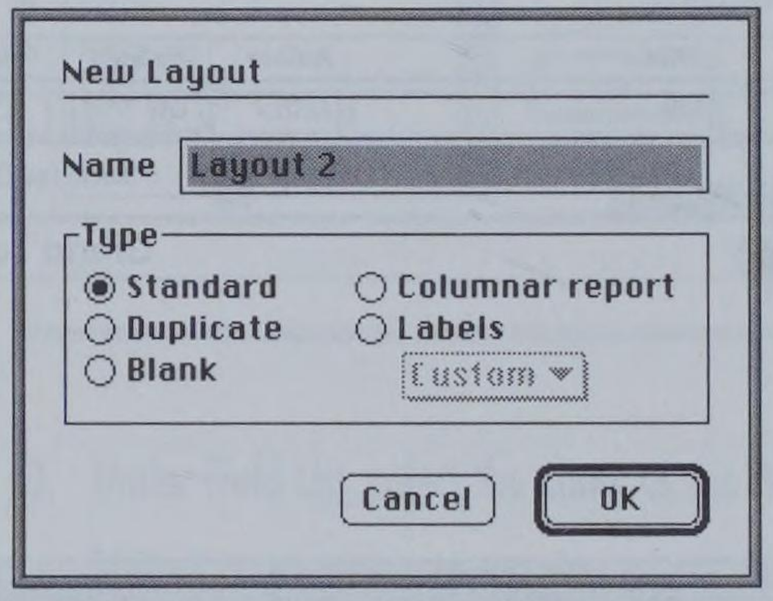
Creating a New Layout

When you create a new database document, ClarisWorks creates the first layout, called a **standard layout**, automatically. You don't have to alter the layout if it suits your needs. For example, the standard layout may be useful for data entry.

To create a new layout:

1. Choose New Layout from the Layout menu.

   You see the New Layout dialog box.



2. Type a name for the new layout.

   ClarisWorks automatically names new layouts as Layout 1, Layout 2, and so on, if you don't type a name.

3. Click the type of layout you want and click OK.

   ClarisWorks creates the new layout, returns you to the document, and adds the name of the new layout to the bottom of the Layout menu.

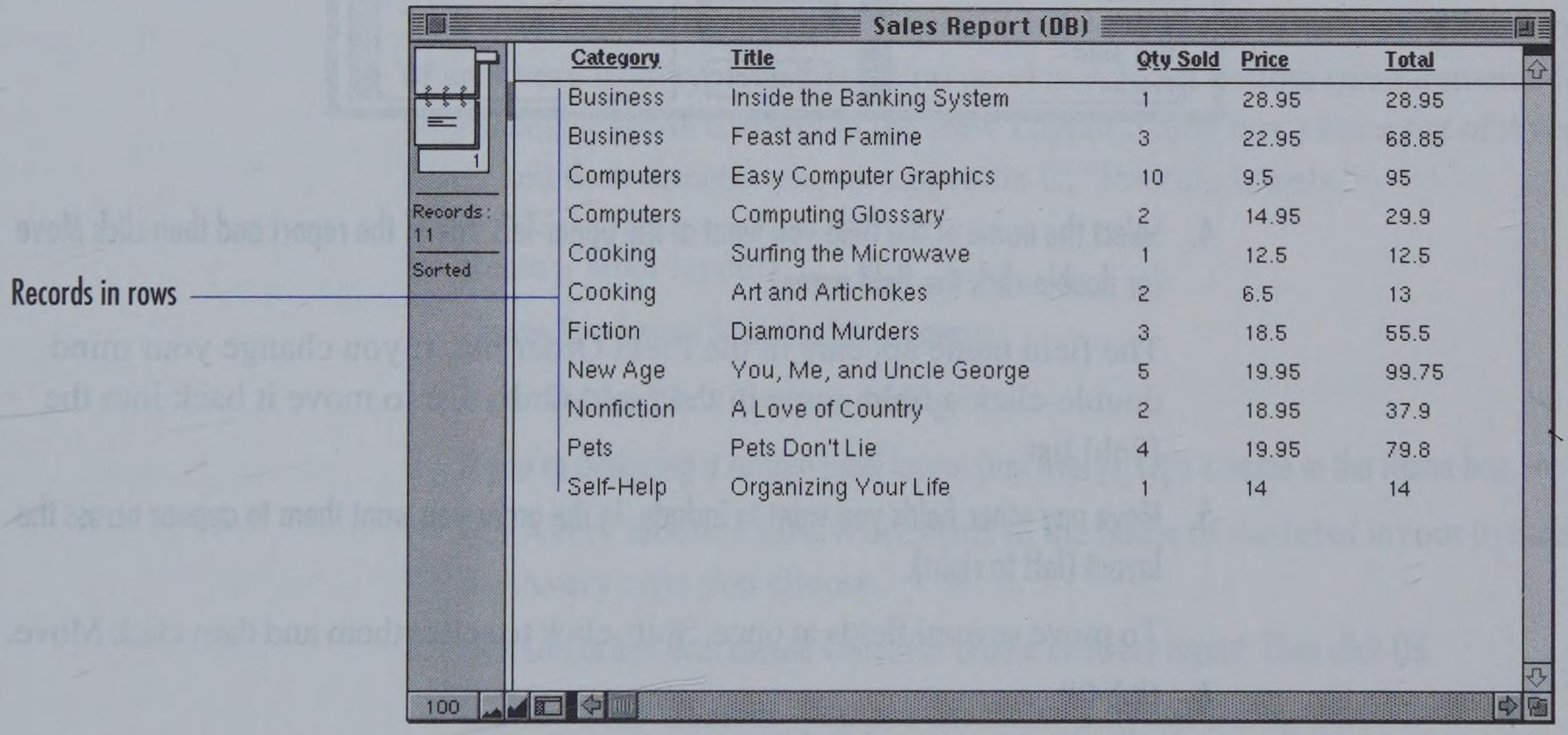
Layout Types

- *Standard*—contains all the fields you have created for the document, in the order you created them, with each field on a separate line and the fields stacked vertically. The field name appears to the left of each field.
- *Columnar*—shows and prints fields in columns. Each record appears as a row. See "Creating a Columnar Layout" on page 7-33.
- *Blank*—contains no fields. You add the fields you want to use. See "Adding and Deleting Fields in a Layout" on page 7-39.

- *Labels*—shows and prints field contents arranged for use in mailing labels. See "Creating Labels" on page 7-35.
- *Duplicate*—creates a copy of the layout you're using when you choose New Layout

Creating a Columnar Layout

In a columnar layout, field names appear at the top of columns, and records appear as rows.



To create a columnar layout:

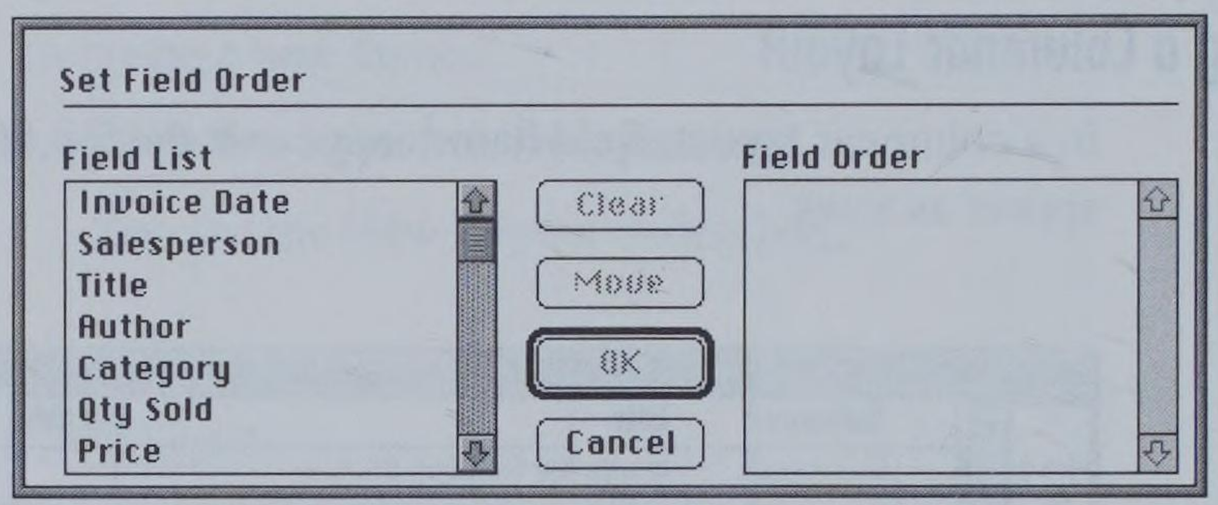
1. **Choose New Layout from the Layout menu.**

   You see the New Layout dialog box.

2. **Type a name for the new layout.**

3. **In the New Layout dialog box, click Columnar report and then click OK.**

   You see the Set Field Order dialog box. The Field List shows all the fields for the document.



4. **Select the name of the field you want at the upper-left side of the report and then click Move (or double-click the field name).**

   The field name appears in the Field Order list. If you change your mind, double-click a field name in the Field Order list to move it back into the Field list.

5. **Move any other fields you want to include, in the order you want them to appear across the layout (left to right).**

   To move several fields at once, Shift-click to select them and then click Move.

6. **Click OK.**

   ClarisWorks creates the columnar report and returns you to the document, where you can enter data in the new layout. For information on customizing your columnar report, see "Rearranging and Customizing Layouts" on page 7-38.

- **Note** If you include too many fields to fit the width of a columnar layout, the lines in your report wrap to the next line. To avoiding wrapping, you can reduce the widths of the fields in the layout (see "Changing the Size of a Field" on page 7-41), change the Page Setup to landscape orientation, or reduce the number of fields in the layout.

Creating Labels

You can use a database document to create mailing labels. ClarisWorks includes over 50 preset Avery label sizes to make creating labels easy. You can also create your own custom label layout.

To use Avery labels, match the number on your label stock to one of the Avery numbers listed in the New Layout dialog box. When you choose an Avery label, ClarisWorks prepares a layout based on those preset dimensions. For a list of Avery labels and their dimensions, see appendix C, "Printing Labels."

To use non-Avery labels, measure your labels and match them to the dimensions of an Avery label type. If there is no good match, set custom measurements for your labels (choose Custom in the New Layout dialog box.) For a list of Avery labels and their dimensions, see appendix C, "Printing Labels."

To create a label layout:

1. **Choose New Layout from the Layout menu.**

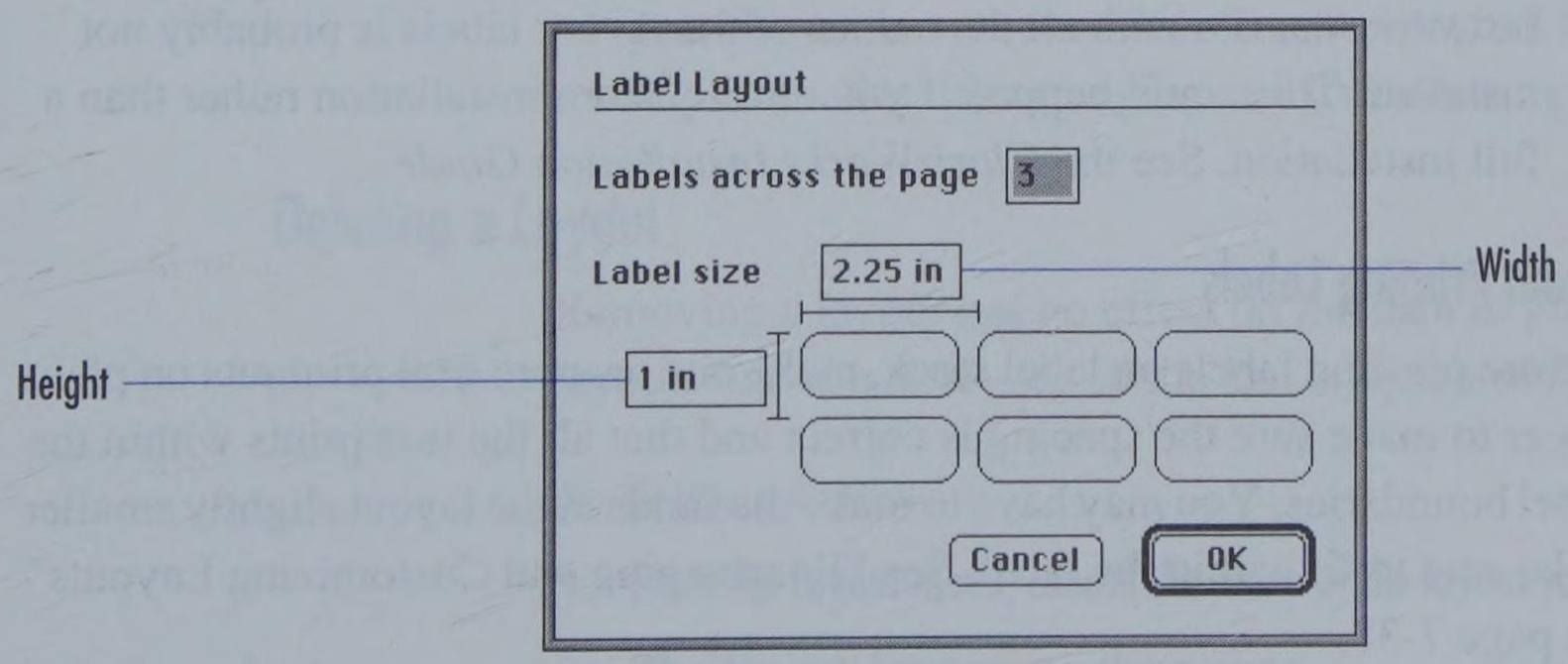
   You see the New Layout dialog box.

2. **If you're designing a custom label layout (not Avery), type a name in the Name box.**

   For Avery labels, ClarisWorks fills in the name of the label layout to match the Avery type you choose.

3. **Click Labels and then choose Custom or choose an Avery layout. Then click OK.**

   If you chose Custom, you see the Label Layout dialog box.



4. **If you chose an Avery label, skip to step 5. For custom labels, type the number of labels you want to appear across the page, type values for width and height, and then click OK.**

   Label width is measured from the left edge of one label to the left edge of the next label. Label height is from the top edge of one label to the top edge of the next label.

   You see the Set Field Order dialog box.

5. **In the Set Field Order dialog box, click the name in the Field List that you want at the top of the label. Then click Move (or double-click the field name).**

   The field name appears in the Field Order list. If you change your mind, double-click a field name in the Field Order list to move it back into the Field List.

6. **Move the rest of the fields you want in the label to the Field Order list and click OK.**

   To move several fields at once, Shift-click to select them and then click Move.

   ClarisWorks returns you to the document and displays each field on a separate line.

7. **Resize and rearrange the fields the way you want them to print on the labels.**

   When you print labels, ClarisWorks automatically closes up the space caused by empty fields. But the fields in the label layout must be aligned precisely. See "Closing Up Space When You Print" on page 7-41.

   For information on resizing and rearranging fields on layouts, see "Rearranging and Customizing Layouts" on page 7-38.

◆ **Note** If the list of Avery labels doesn't appear in the New Layout dialog box, then the file with all the names of the Avery labels is probably not installed. This could happen if you did a custom installation rather than a full installation. See the *ClarisWorks Installation Guide*.

About Printing Labels

Before printing labels on label stock, make one or more trial printouts on plain paper to make sure the spacing is correct and that all the text prints within the label boundaries. You may have to make the fields in the layout slightly smaller to be sure to fit within the label. See "Rearranging and Customizing Layouts" on page 7-38.

If you're printing on a PostScript LaserWriter or on an ImageWriter, see appendix C, "Printing Labels," for additional information. Also see appendix C for Avery label dimensions and troubleshooting.

Custom Labels and Margins

If your labels require it, you can have different custom label layouts with different margins in the same database document. Choose Document from the Format menu to set the margins.

You may need to increase or decrease the amount of vertical space between labels. For more information, see "Resizing and Deleting Parts" on page 7-54.

For more detailed information on printing custom labels, see appendix C, "Printing Labels."

Duplicating a Layout

When you want to change only a few aspects of a layout without starting a whole new layout, you can duplicate it. Then you can simply make the few changes in the duplicate layout.

To duplicate a layout:

1. **From the Layout menu, choose the name of the layout you want to duplicate.**

   The layout opens on the screen.

2. **Choose New Layout from the Layout menu.**

   You see the New Layout dialog box.

3. **Type a name for the layout.**

4. **Click Duplicate and then click OK.**

   ClarisWorks creates an exact copy of the layout you were using when you chose New Layout. You can now switch to Layout and modify the duplicate. See "Rearranging and Customizing Layouts" on page 7-38.

Deleting a Layout

Removing a layout has no effect on the data in your records. You can delete layouts one at a time—up to the last layout, which can't be deleted.

To delete a layout:

1. **From the Layout menu, choose the name of the layout you want to delete.**

   The layout appears on the screen.

2. Choose Delete Layout from the Layout menu.

   ClarisWorks asks if you want to remove the layout permanently. Click OK. The Delete Layout command is dimmed if you have only one layout.

Renaming a Layout

You can rename a layout at any time.

To rename a layout:

1. From the Layout menu, choose the name of the layout you want to rename.
2. Choose Layout Info from the Layout menu.
3. Type a new name and click OK.

Rearranging and Customizing Layouts

Once you've created a layout, you can rearrange it by moving fields and field labels, adjusting the sizes of fields, adding text and graphics, or by choosing to display records in columns.

You can change text attributes and draw boxes around fields with various line widths, line and fill colors, and fill patterns. The changes you make in a layout affect the display and printing of all records using that layout.

With a little imagination and practice, you can create a wide variety of easy-to-use layouts and produce attractive printed documents.

Geographic Zone	1st Responder	MYA
East	PD	Yes
West	FD	No
East	FD	No
North	PD	Yes
North	FD	No



Graphic pasted in a columnar layout

To work with a layout, you must be in Layout (not Browse or Find). In Layout, you're in the draw environment. Field and field labels appear as graphic objects. The tool palette appears in place of the status area.

Changes you make to a layout that are specific to the database environment are described in the following sections. For complete information on the draw environment, see chapter 4, "Working with Drawings."

- **Note** When you work in Layout, it's often convenient to use two views of the document—one in Browse and the other in Layout. That way you can see immediately how your changes look. To create a new view, choose New View from the View menu. For information on tiling windows for multiple views, see "Arranging Windows" in chapter 2.

Switching to Layout from Browse or Find

To switch to Layout, choose Layout from the Layout menu or press Command-Shift-L.

You must be in Layout to make changes to a layout.

Switching from One Layout to Another

When you create new layouts, their names are added at the bottom of the Layout menu.

To use a different layout, choose the name of the layout you want from the Layout menu.

Adding and Deleting Fields in a Layout

You can add an already defined field to a layout or remove a field without affecting the field data.

- **Note** This section describes adding defined fields or deleting them from a layout. For information on defining a new field or deleting a field and its data from the database, see "Working with Fields" on page 7-7.

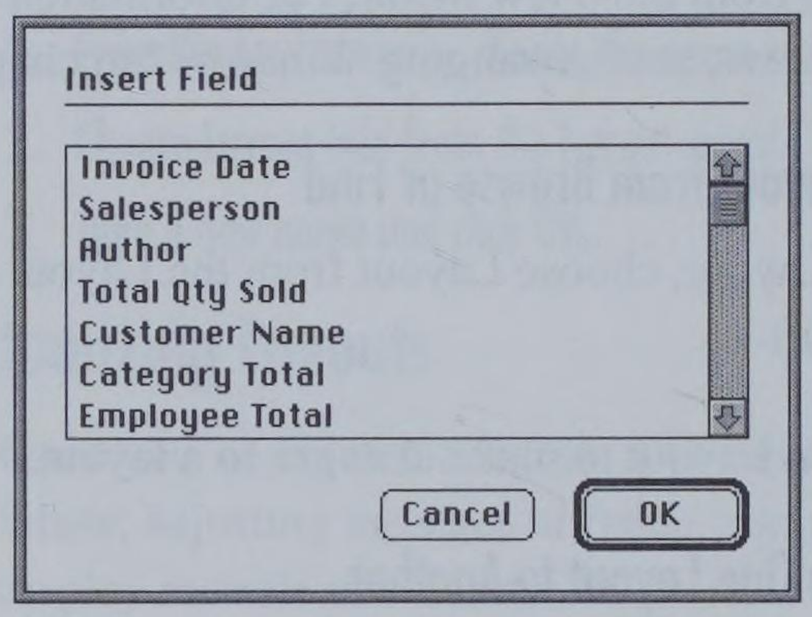
Adding a Field to a Layout

Before you add a field to a layout, you must have defined it by choosing Define Fields from the Layout menu.

To add a field to a layout:

1. Choose Layout from the Layout menu and then choose the layout you want from the bottom of the menu.
2. Choose Insert Field from the Layout menu.

   You see the Insert Field dialog box.



3. Select the name of the field you want to add.

   You can scroll to see field names that are out of view.

   If no field names appear in the dialog box, the current layout contains all the defined fields in the document. To add a new field to the layout you must first define it. A field can be used only once in the layout.
4. Click OK.

   The field appears in the layout.

Deleting a Field from a Layout

When you delete a field from a layout, it affects only that layout. The field still exists in the database document.

To delete a field from a layout:

1. In the layout, select the field you want to delete (click the field).
2. Press Delete.

   The field disappears from the layout. You must remove the field label separately or use Shift-click to select it with the field before pressing Delete.

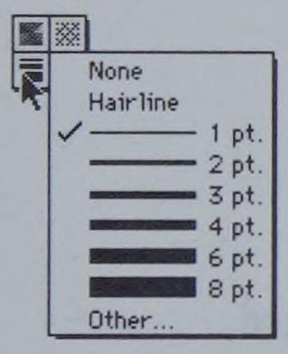
Changing the Size of a Field

Fields are graphic objects, so you resize them as you would any graphic object. See "Resizing Objects" in chapter 4. Also see "Arranging Objects" in chapter 4.

Adding Borders Around Fields

To add emphasis to a particular field, you can add a border around the field. You can draw a border in the layout, using the drawing tools, or you can add one automatically.

When you first open a layout in Layout, the fields appear as boxes. These boxes are for layout purposes only. They don't appear on records.



Line Width submenu

Field labels appear next to fields (on the left in a standard layout). Field labels are automatically generated as text objects. You can edit the field labels if necessary.

To add a border automatically:

1. In Layout, select the field you want to add a border to.
2. Choose a line width from the Line Width tear-off palette of the pen tool.

   ClarisWorks draws a border around the selected field with the line width you choose.

Closing Up Space When You Print

In a database document, you can make special adjustments that apply when you print. When you have separate fields for related information—such as first name and last name—you will usually want to close the gap between the two fields when you print.

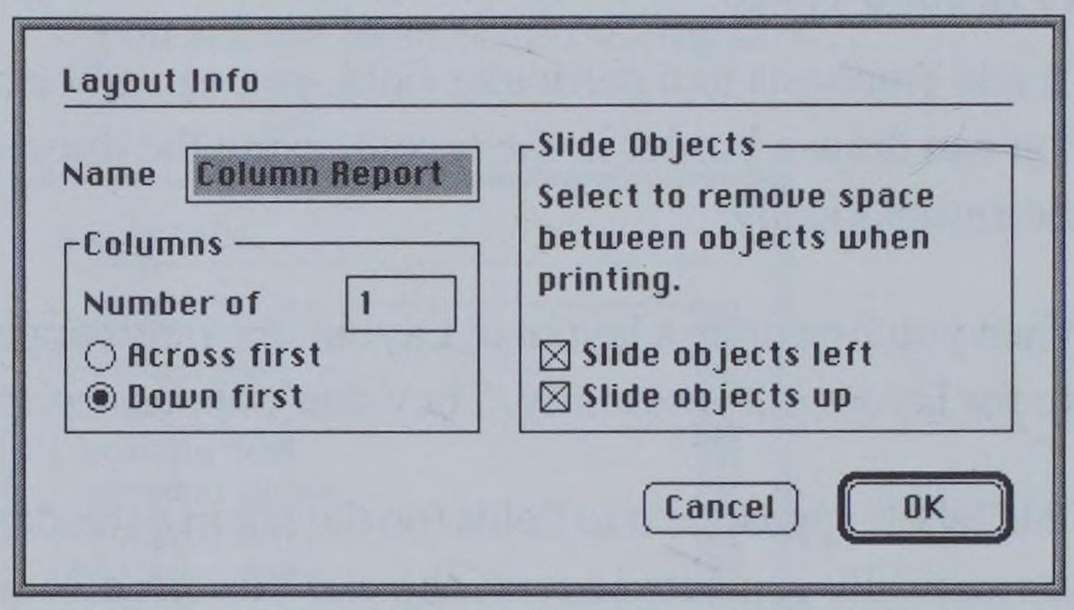
A database document is preset to print fields as they appear on the screen. An exception is when you create labels, described in "Creating Labels" on page 7-35. When you create labels, ClarisWorks automatically closes up the space caused by empty fields. (See the important note at the end of this section—it applies to labels also.)

Closing up space applies to the whole layout. You don't see the effects in Layout or in Browse—only when you print.

To remove space between fields when you print:

1. Choose Layout Info from the Layout menu.

   You see the Layout Info dialog box.



2. Click one or both of the two Slide Objects boxes, if they aren't already checked.

   ClarisWorks closes up any extra space between fields when you print.

- **Important** You can control which objects slide by resizing them. Objects don't slide toward objects that are smaller. For example, an object can't slide left toward an object that is even slightly shorter than itself. An object can't slide up toward an object that is even slightly narrower than itself. Fields need to be precisely aligned at their top edges to slide left and at their left edges to slide up (see "Aligning Objects to Each Other" in chapter 4). Fields that touch won't slide.

Arranging Records in Columns

You can set up a layout so records are printed in columns. If Page View is checked, you can also view them in columns. You can fill the columns down first or across first.

To arrange records in columns:

1. Choose Layout Info from the Layout menu.

   You see the Layout Info dialog box.

2. **Type the number of columns you want in the Columns box.**

   The columns will be of equal width. You can also specify how columns are filled. See the next section, "Changing the Fill Order for Columns."

3. **Click OK.**

   In the layout, a gray vertical line marks the right side of the first column. All fields, text, and graphics in the body part of the layout must be placed within the first column. For information on parts, see "Understanding Parts" on page 7-48.

Changing the Fill Order for Columns

You can change the fill order for columns so that information flows from column to column "down first" or "across first."

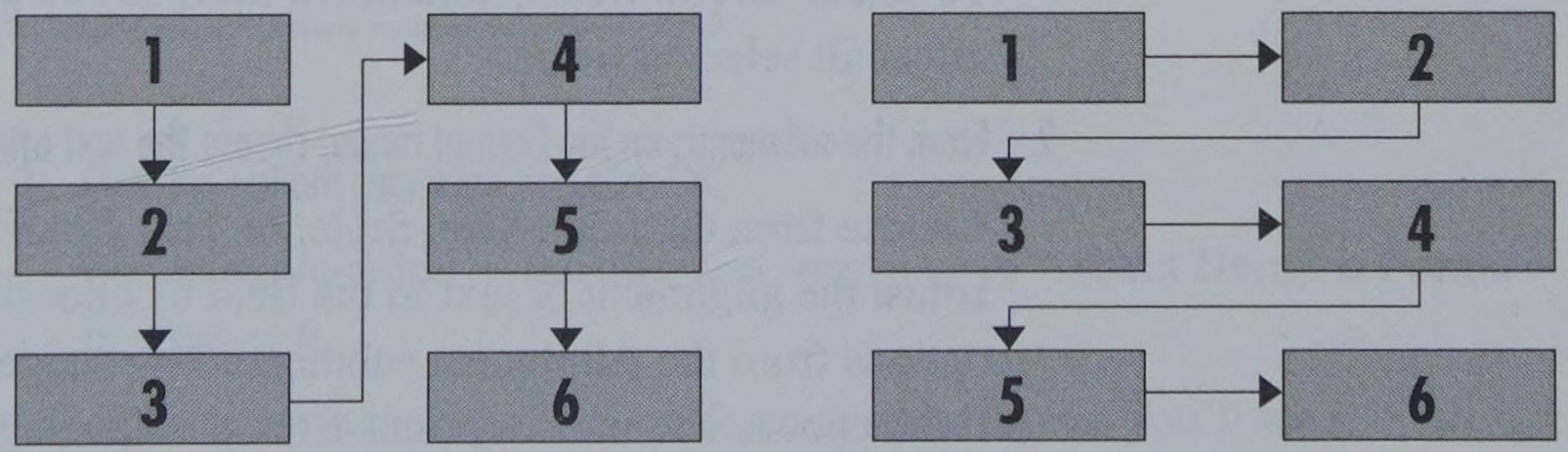
To change the fill order:

1. **Choose Layout Info from the Layout menu.**

   You see the Layout Info dialog box.

2. **Click Down first or Across first.**

   You see the effects only in Browse with Page View on or when you print.



Down first **Across first**

Changing the Appearance of Data

You can change the way text, numbers, dates, and times appear in Browse and when you print. The layouts created by ClarisWorks are preset for a clean, simple appearance. You can work with layouts as they are or change them to suit specific purposes.

Setting Text Attributes

Text attributes determine how characters—including the characters used in numbers, dates, and times—appear in Browse and when you print. Text attributes include:

- font, size, style, and color
- alignment of text characters in a field
- text line spacing

In a layout, you can set text attributes for a field so data in that field, in all records, appears as you specify.

To set text attributes:

1. **In Layout, select the field you want to modify (click once in the field).**

   To select several fields, hold down Shift as you click. Changes you make affect all selected fields.

2. **From the submenus on the Format menu, choose the text attributes you want.**

   Choose from the Font, Size, Style, or Text Color submenus. You can also adjust the alignment of text in the field by choosing one of the alignment options from the Alignment submenu. To change line spacing in a text field, choose one of the options from the Spacing submenu.

3. **Choose Browse to resume data entry.**

   Data you type reflects the new attributes you specified.

Changing the Way You Express Numbers, Dates, and Times

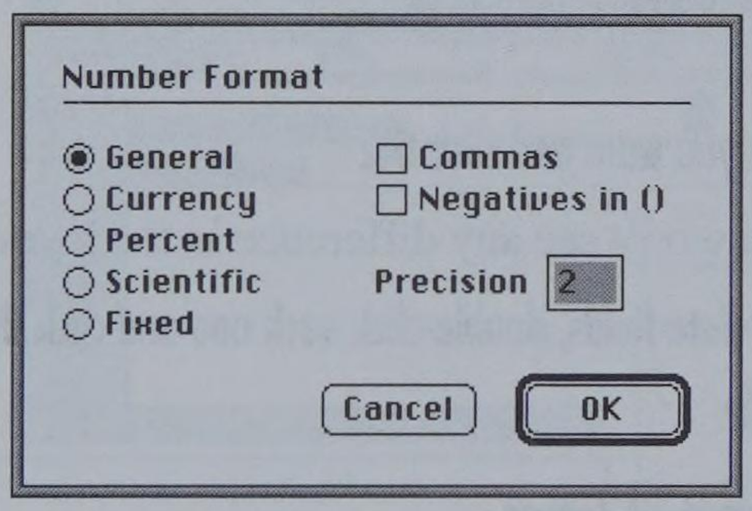
You can set up number, date, and time fields so that—no matter how you type the data—the numbers appear in a consistent format in Browse and when you print. For example, in a certain field you can show dates in the format July 2, 1993. Even if you type 7/2/93, ClarisWorks expresses the date as July 2, 1993, when you leave the field. You can choose different formats for different layouts.

Changing the Format of Numbers

To change the way numbers appear in a field:

1. **In Layout, within the layout you want to change, double-click a number field or select the field and choose Field Format from the Options menu.**

   You see the Number Format dialog box.



2. **Click the options you want and click OK.**

   For an explanation of the different formats, see "About Numeric Formats" in chapter 6.

   Although you won't see any difference in the layout, you'll see it in Browse.

3. **To change other number fields, double-click each one and click the appropriate options in the dialog box.**

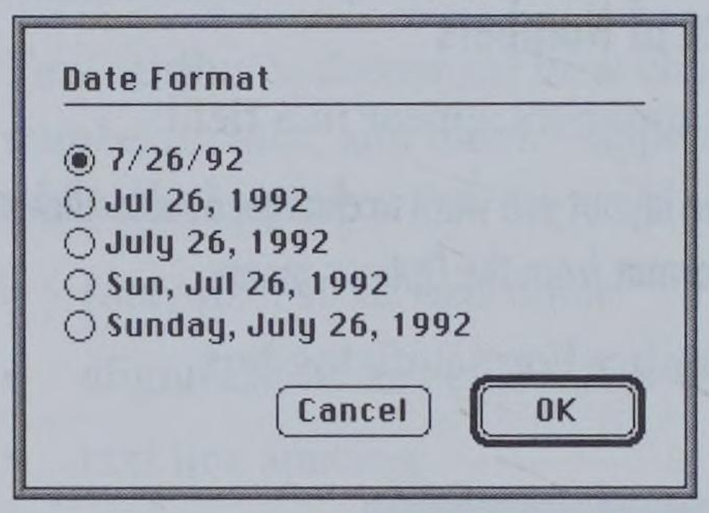
◆ **Note** When you enter numbers in a formatted number field, ClarisWorks doesn't apply formatting until you tab to leave the field or click in another field.

Changing the Format of Dates

To change the way dates appear in a field:

1. In Layout, within the layout you want to change, double-click a date field or select the field and choose Field Format from the Options menu.

   You see the Date Format dialog box.



2. Click the options you want and click OK.

   Although you won't see any difference in the layout, you'll see it in Browse.

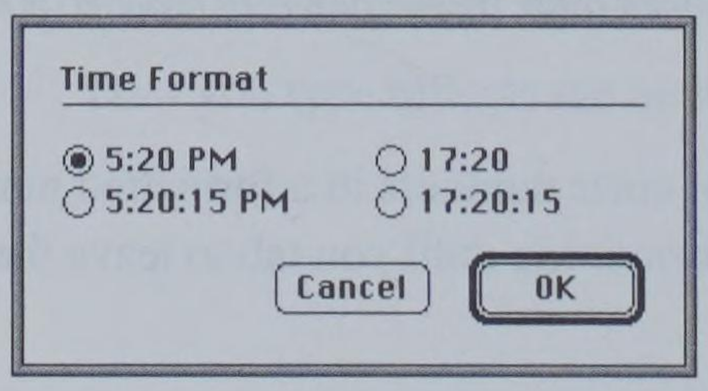
3. To change other date fields, double-click each one and click the appropriate options in the dialog box.

Changing the Format of Times

To change the way times appear in a field:

1. In Layout, in the layout you want to change, double-click a time field or select the field and choose Field Format from the Options menu.

   You see the Time Format dialog box.



2. Click the options you want and click OK.

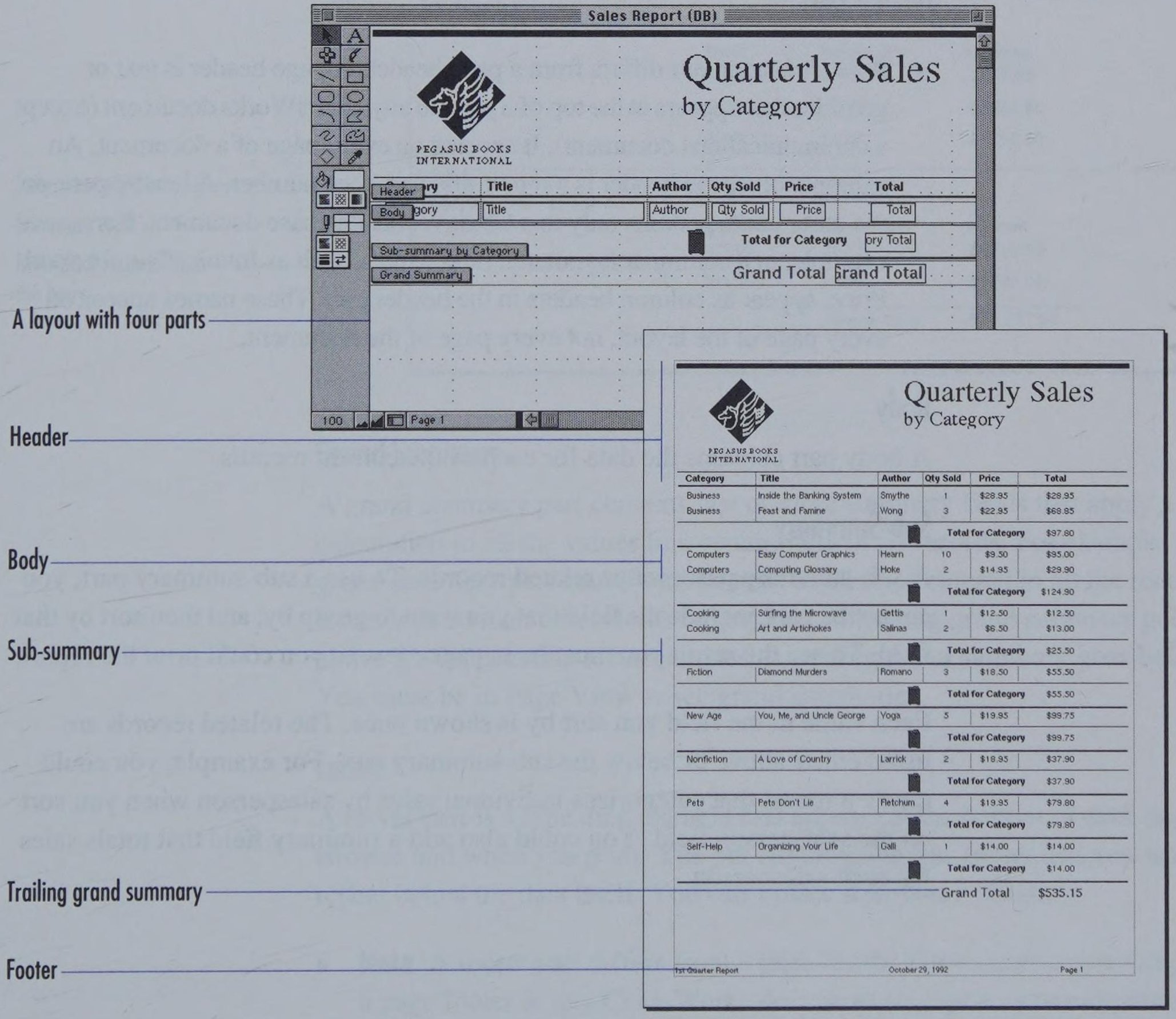
   Although you won't see any difference in the layout, you'll see it in Browse.

3. To change other time fields, double-click each one and click the appropriate options in the dialog box.

Presenting and Summarizing Data

In ClarisWorks, you use **parts** to display data in onscreen and printed reports. Parts help you present and summarize data. A standard layout has one part—a body. Other parts you can add are a header, sub-summaries, a grand summary, and a footer.

You decide which fields, field labels, or graphics to place in each part based on where you want those items to appear in Browse or when you print.



Understanding Parts

You can choose among four different parts to add to your layout: a header, sub-summary, grand summary, and a footer. (A body is automatically part of any layout.)

Header

A header part is a repeating element that appears at the top of each page in Browse and when you print. Put anything into the header that you want to repeat above the data itself. You can place text or graphics, such as a logo, in a header part.

- **Note** A header part differs from a page header. A page header is text or graphics that appears at the top of a page in any ClarisWorks document (except a communications document). It appears on every page of a document. An example of a page header is a report title and page number. A header part, on the other hand, pertains only to a ClarisWorks database document. For example, in a columnar layout, the field names, such as Invoice Number and Price, appear as column headers in the header part. These names appear on every page of the layout, not every page of the document.

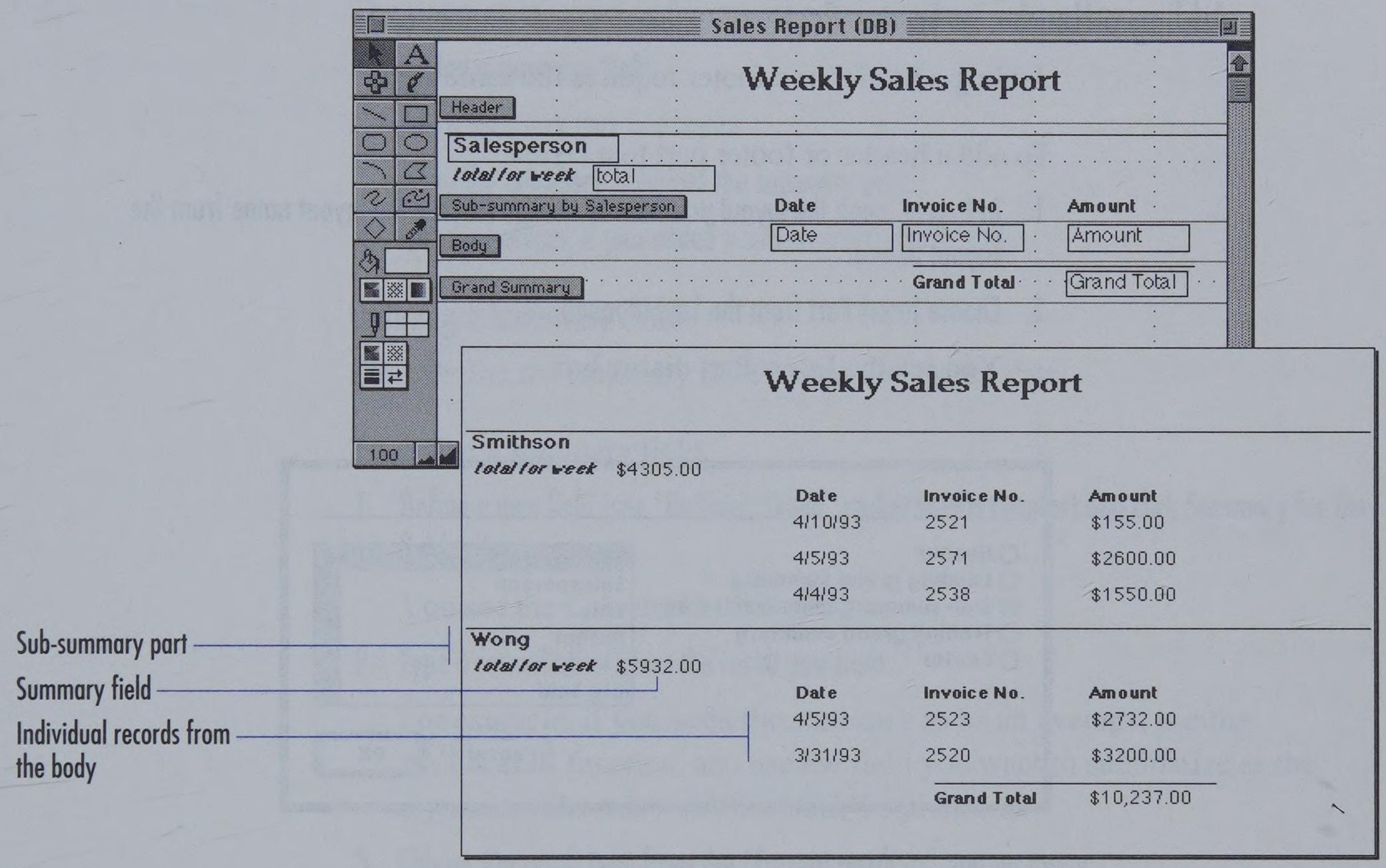
Body

A body part contains the data for each of the current records.

Sub-Summary

A sub-summary part groups related records. To use a sub-summary part, you create the part, include the field that you want to group by, and then sort by that field. To see the result you must be in page view or you could print the report.

Each value in the field you sort by is shown once. The related records are listed either above or below the sub-summary part. For example, you could create a report that categorizes individual sales by salesperson when you sort on the salesperson field. You could also add a summary field that totals sales for each salesperson.



Grand Summary

A grand summary part contains one or more summary fields that apply a calculation to all the values in a certain field in all records. For example, a grand summary part could report a total of all sales entered in all the records. It can also contain other fields or graphics. A leading grand summary goes above the information it summarizes. A trailing grand summary goes below. You must be in Page View to see grand summaries.

Footer

A footer part is a repeating element that appears at the bottom of each page in Browse and when you print. You put anything into the footer that you want to repeat below the data itself. You can't place a field in a footer.

- **Note** A footer part differs from a page footer. For example, you can put a page footer in any ClarisWorks document (except a communications document). The page footer appears on every page of the entire document. A footer part, on the other hand, appears only on a specific layout.

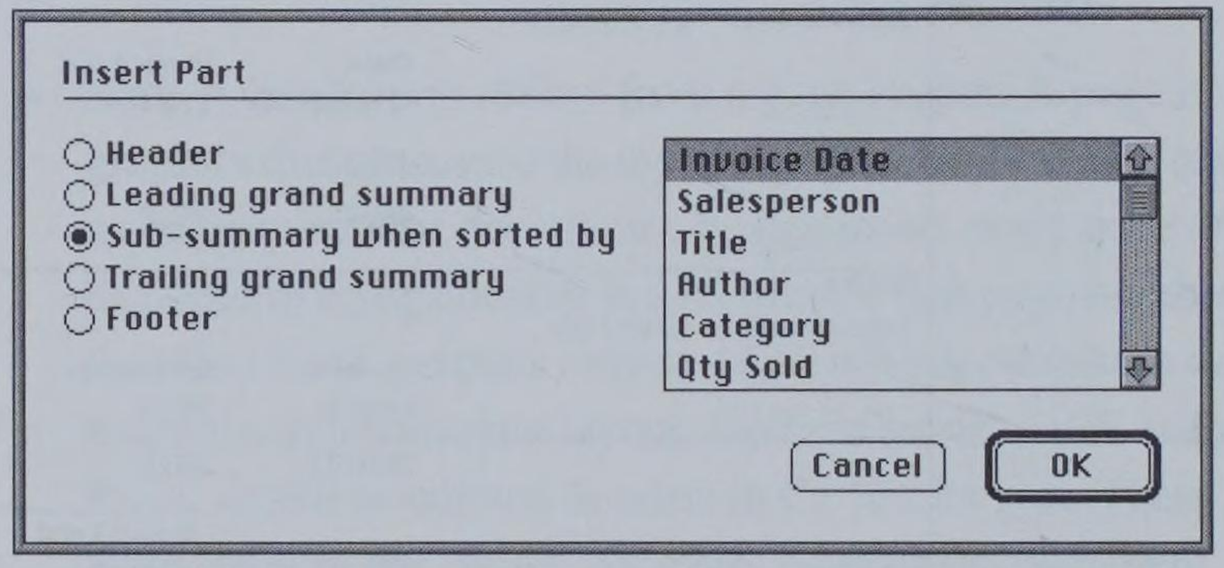
Adding a Header or Footer Part

Adding a header or a footer requires the same steps.

To add a header or footer part to a layout:

1. In Layout, open the layout you want to change (choose the layout name from the Layout menu).
2. Choose Insert Part from the Layout menu.

   You see the Insert Part dialog box.



3. Click the type of part you want to use—Header or Footer.

◆ **Note** If you want to create summary parts, see the next section, "Creating Summary Parts."

4. Click OK.

   ClarisWorks returns you to the layout. You can now drag the new part up or down to resize it, and add text or graphics to the part.

Creating Summary Parts

When you want to summarize data in one field over a *group* of *sorted* records, you use a sub-summary part. For example, you could sort records by the Salesperson field. You could then total—that is, summarize—all the amounts in the Total Sales field, for each salesperson.

When you want to summarize data over *all* records in a document, you use a grand summary part. For example, you could total all amounts in all records for the Total Sales field to arrive at a grand total for sales.

The process of creating summary parts involves four steps:

1. Define a summary field.
2. Add a summary part to a layout.
3. Move the summary field into the summary part.
4. Sort the records, if you added a sub-summary part.

Defining a Summary Field

First, define the summary field to summarize the data.

To define a summary field:

1. Define a new field (see "Defining Fields" earlier in this chapter) and click Summary for the field type.

   You see the Calculation dialog box.

2. Type a formula that gives the result you want.

   For example, if you want the summary to be an average, use the AVERAGE function, and use the field you want to summarize as the argument, like this—AVERAGE('Total Sales').

3. Choose the result type from the "Format result as" pop-up menu.
4. Click OK and then click Done in the Define Fields dialog box.

   ClarisWorks returns you to the document.

Adding a Summary Part to a Layout

Add the summary part that you're going to place the summary field in.

To add a summary part:

1. In Layout, choose the layout you want to modify.
2. Choose Insert Part from the Layout menu.

   You see the Insert Part dialog box.

3. In the dialog box, click Leading grand summary, Trailing grand summary or Sub-summary when sorted by.

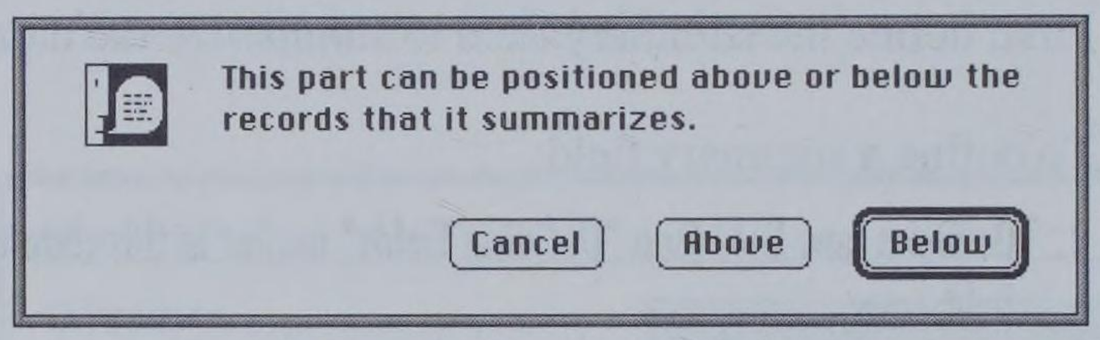
   For a description of leading and trailing grand summaries and sub-summaries, see "Understanding Parts" on page 7-48.

4. **If you checked Sub-summary when sorted by, choose a sort field name from the list on the right.**

   This is the field by which your records will be grouped. For example, sort by Last Name to summarize all records with the same last name.

5. **Click OK.**

   If you clicked Sub-Summary when sorted by, the Part Position dialog box opens. Click Above or Below.



   ClarisWorks returns you to the layout, where you can see the new part.

Adding the Summary Field to a Summary Part

Add the summary field to the summary part in the layout.

To add the summary field:

1. **Choose Insert Field from the Layout menu.**

   You see the Insert Field dialog box.

2. **Select the name of the summary field you created and click OK (or double-click the field name).**

   The field and field label appear in the layout. You can also add any other fields you want.

3. **Drag the summary field and its field label into the summary part.**

   Switch to Browse and Page View to see the effects for leading or trailing grand summary parts. If you added a sub-summary part, go to the last step, "Sorting Records for a Sub-Summary Part."

◆ **Tip** You don't have to place a summary field in a sub-summary part. Instead, you can use the part as a divider for sorted records by adding a solid line in the sub-summary part.

Sorting Records for a Sub-Summary Part

For sub-summaries to display correctly, you must sort the records.

To sort the records:

1. Switch to Browse and choose Sort Records from the Organize menu.

   You see the Sort Records dialog box.

2. If field names appear in the Sort Order list, click Clear to remove them.
3. Make the field you chose as the "Sort by" field in the Part Definition dialog box the first in the sort order and click Sort.
4. When the sort is complete, switch to Page View.

   You see the contents of the summary field in the position you placed it on the layout. *You must be in Page View to see the summary contents.*

- **Note** You can sort by non-summary fields for a sub-summary part. When sorted by a non-summary field, the information in the field is displayed once for all occurrences of each unique value. This is useful, for example, when you want to print a single label in a mailing list where duplicate records exist.

Copying Summary Data

You may want to copy the data in summary fields to the Clipboard to paste somewhere else. For example, you could copy values from summary fields into a spreadsheet and then display a bar chart using those values.

You can copy data in summary fields when:

- a sub-summary, leading grand summary, or trailing grand summary exists
- you're in Page View

To copy data in summary fields:

1. In a layout with at least one of the summary fields listed here, choose Page View.
2. Choose Copy Summaries from the Edit menu.

   The values in all the summary fields are copied to the Clipboard in the order that they appear in the current layout.

Resizing and Deleting Parts

In Layout, you can make a part larger or smaller so that it can hold more (or fewer) fields, field labels, or other objects. If you find you have created a part you don't need, you can delete it from the layout.

To resize a part:

- Move the pointer to the line that defines the part.

  The pointer changes to a flat bar, the part pointer.
- Using the part pointer, drag the part line up or down to the position you want.

◆ **Tip** You can increase or decrease the vertical space between rows of custom labels by resizing the body part.

To delete a part:

1. Remove all fields, field labels, and other objects from the part.
2. Using the part pointer, drag the part up until you see the part disappear.

   The part is deleted. You can't delete the body.

Doing Complex Searches

You can select records that meet certain criteria by using the Match Records feature.

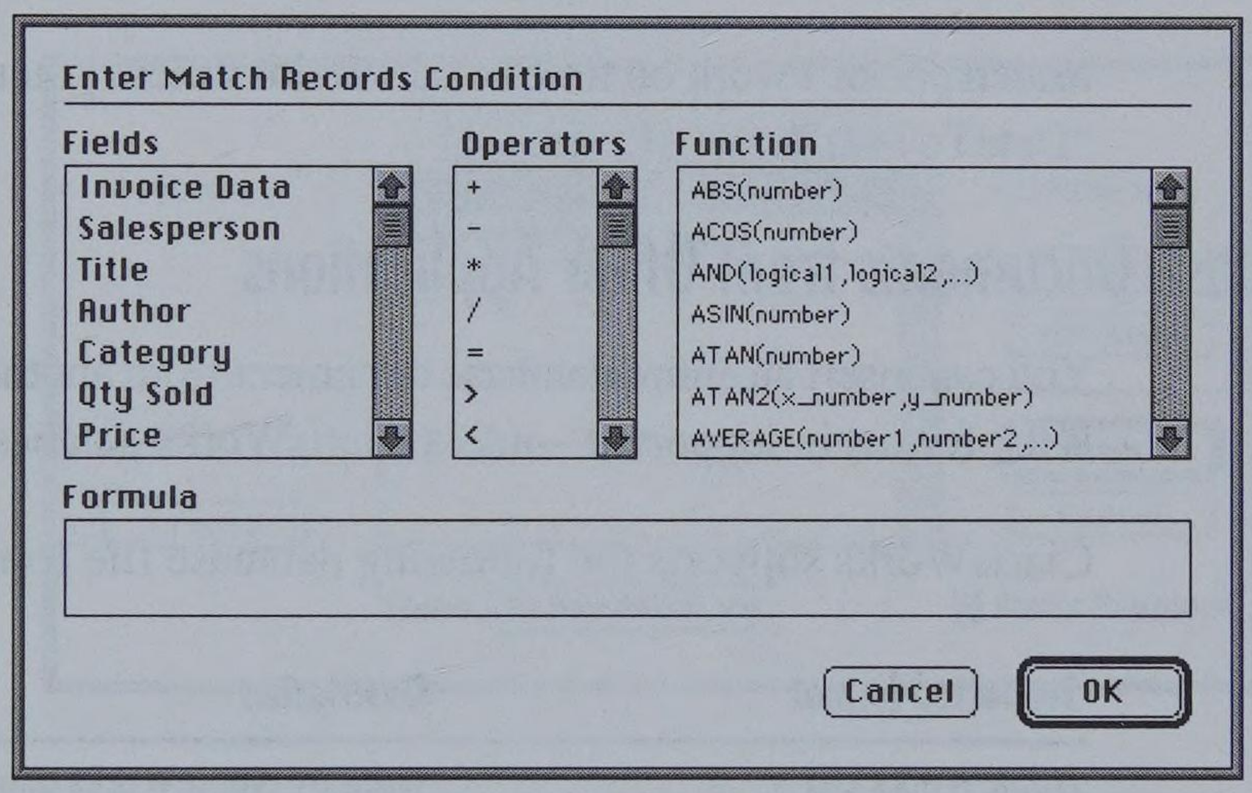
Matching records allows for complex searches that may require numerous find or omit requests. Instead of stacking up requests, you can type a formula for records you want to match, check the formula, and immediately conduct a sophisticated search for matching records. For example, you could look for all the records that had an amount greater than 50 in the Balance Due field and had a date earlier than today's date in the Date Due field.

◆ **Note** When you *match* records, ClarisWorks selects the matching records and leaves all other records in the document open on the screen. When you *find* records, ClarisWorks hides the unfound records. The first record in the found set becomes the current record.

To match records:

1. **In Browse, choose Match Records from the Organize menu.**

   You see the Match Records dialog box. This is the same dialog box you use for defining calculation fields. The difference is that the formula you enter here searches for records according to the field names and criteria you set, rather than performing a computation.



2. **Type the match criteria in the Formula box and click OK.**

   You can also press Command-V to paste a formula you copied from a spreadsheet or from another source.

   ClarisWorks finds any records that match your criteria and selects those records. Formula operators and functions are explained in "Working with Formulas" and "Working with Functions" in chapter 6.

   After matching records, you can hide unselected records so that you can work more conveniently with the selected records. For the reverse effect, you can hide selected records. For information, see "Hiding Records" on page 7-23.

More About Matching Formulas

Formulas for matching should be constructed so that a formula is evaluated for a TRUE result for the records you want to select.

```
'NAME'  =  "TOM"
```

The preceding formula is TRUE whenever the field called NAME contains the text TOM.

```
AND('Balance Due'>50,'Date Due'<TEXTTODATE
("8/11/1993"))
```

This formula finds records with a balance due of more than $50.00 that were due before 8/11/93. (The use of the TEXTTODATE function assumes the Date Due has been defined in the records as a date field type.)

Match doesn't work on time or date fields unless you use a conversion (such as "DateToText").

Inserting Database Documents from Other Applications

You can insert an entire database document from another database application—if the format is supported—into a ClarisWorks database document.

ClarisWorks supports the following database file formats:

Supported format	Description
AppleWorks DB	Used by AppleWorks database files
ASCII Text	Common to most applications
DBF	Used by dBASE files
DIF	Used by some spreadsheet applications, database applications, and AppleWorks
Microsoft Works 2.0 DB	Used by Microsoft Works 2.0 database files
SYLK	Used by applications like Claris Resolve, Wingz, and Microsoft Excel

"Importing, Inserting, and Exporting Documents" in chapter 2 describes the general steps for importing, inserting, and exporting documents from other applications. The process for inserting a database document into ClarisWorks requires a few more steps—so follow these instructions for database documents.

- **Important** You should make a backup copy of your database document before you insert a database from another application.

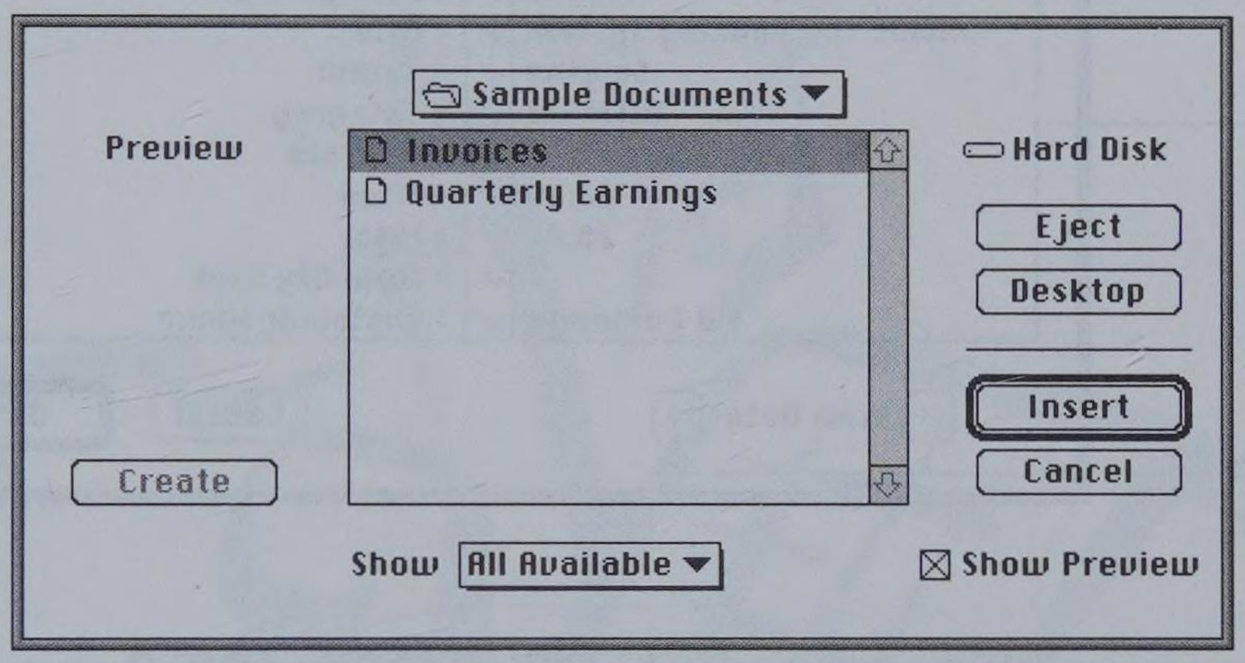
To insert a database into a ClarisWorks database document:

1. **Open the receiving ClarisWorks database document.**

   If you click in a record, it doesn't affect where the new records are inserted. The insertion point can be in any record.

2. **In Browse, choose Insert from the File menu.**

   You see the Insert dialog box.

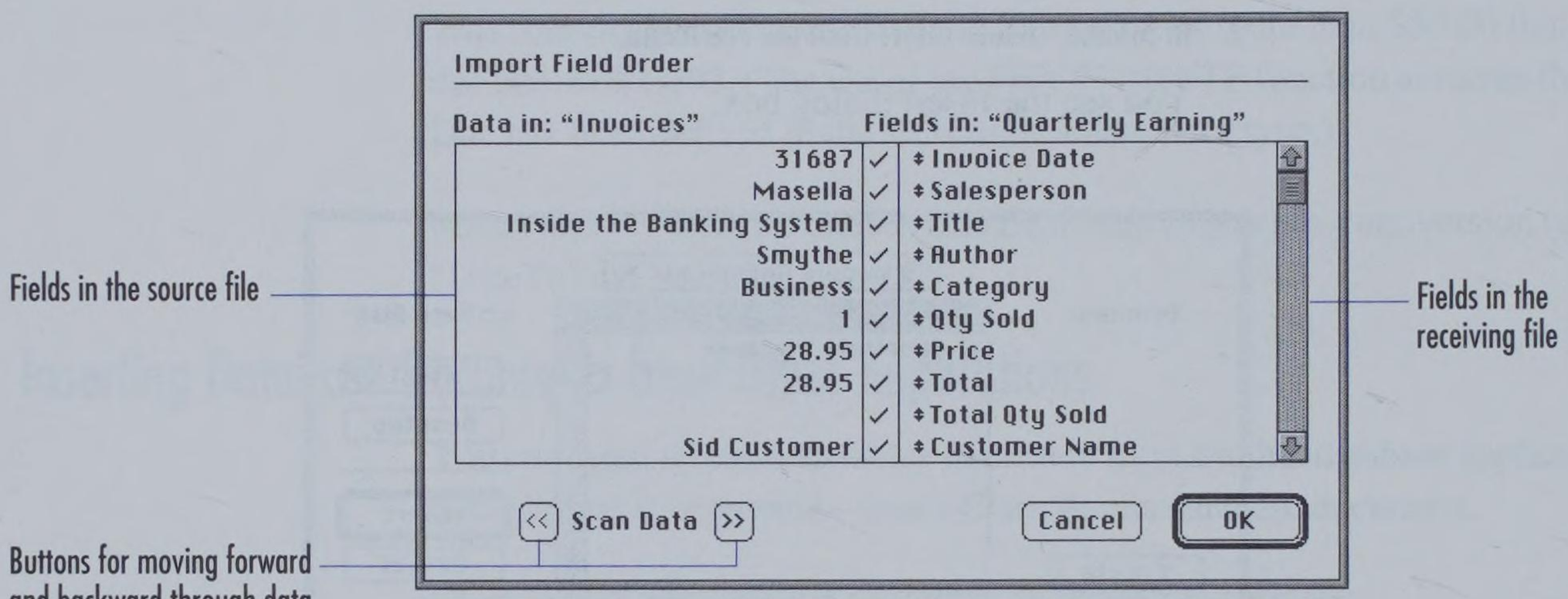


3. **Choose the database document type from the Show pop-up menu.**

   The list of available documents changes to show only documents of the type you chose.

4. Select the name of the database document you want to insert and click Insert (or double-click the filename).

   You see the Import Field Order dialog box.



   If the source database file is DBF or DIF format, the first "record" in the dialog displays all the field names in the source file. Otherwise, the data of the first record is displayed.

   You can scan through the records in the source file by clicking the forward and backward scan buttons. You can scan the data for only the first 10 records.

5. If you want the contents of each field on the left to be placed in the field named on the right, click OK. Otherwise, go to the next step.

   If a source field has data you don't want to import, click the checkmark beside it to deselect it.

   You can insert data from any field type into any compatible field except calculation and summary fields. ClarisWorks computes the contents of those fields according to the formulas in their field definitions.

6. To change the order of fields on the right, move the pointer over the field name until you see the double arrow and drag it to a new position in the list.

7. Click OK.

   The records are inserted in your ClarisWorks database document.

Chapter 8

Using Advanced Features

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Chapter 8

Using Advanced Features

ClarisWorks includes several advanced features that can help you make the most of using an integrated application. With these features, you can combine different document types, make presentations, automate the way you work, and easily share data with other documents and applications. Claris refers to these features as "advanced" not because they are difficult to use, but because they give you a lot of computing power.

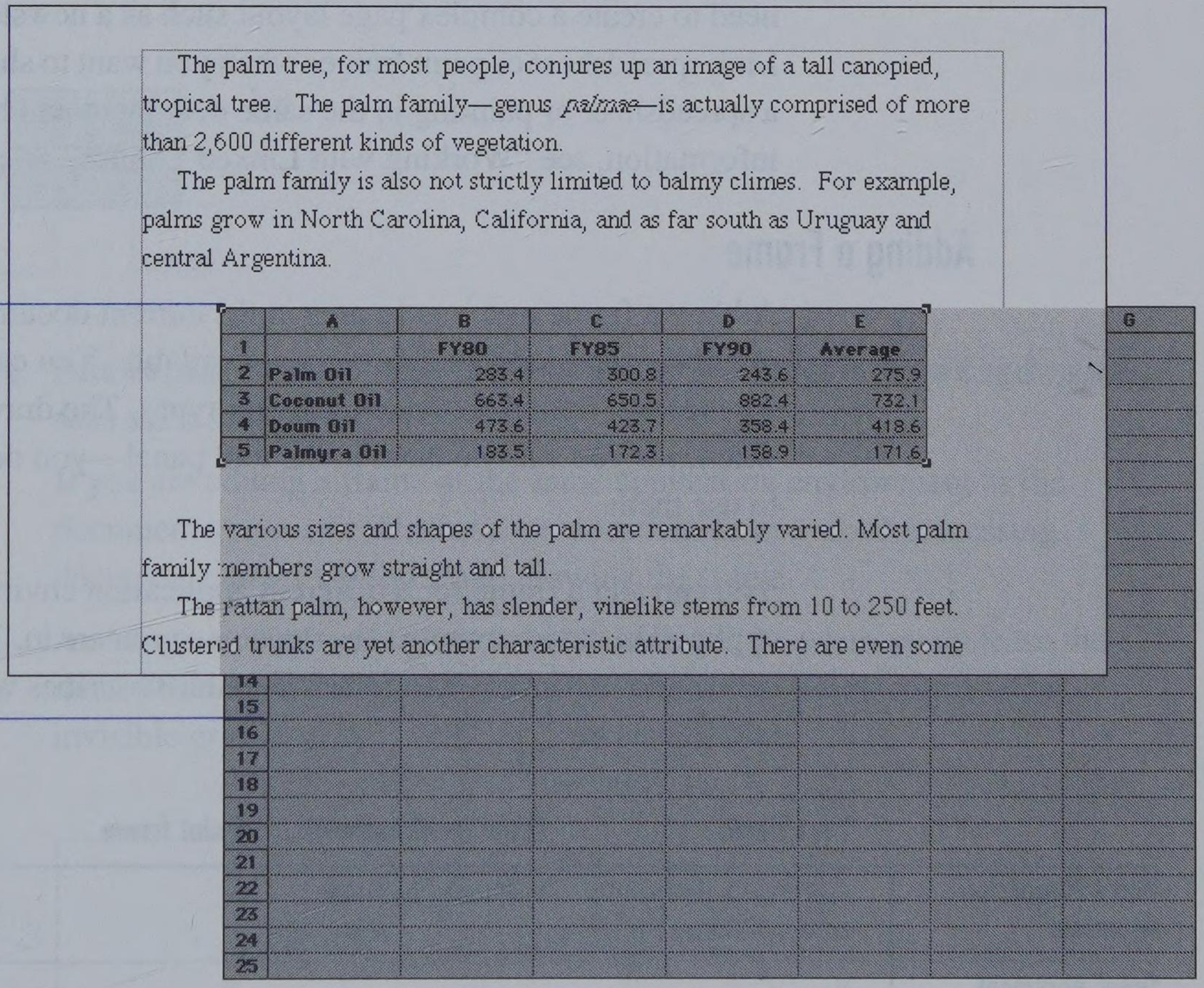
This chapter gives step-by-step instructions for using frames, master pages, the slide show, QuickTime movies, mail merge, shortcuts and macros, and Publish & Subscribe.

Working with Frames

With frames, you can *integrate* (combine) different ClarisWorks application environments in a single document. A **frame** is a special kind of object. You can move, resize, and change its appearance like the other objects you create in the draw environment. Once you go inside a frame, though, you enter its application environment—you have access to the tools and commands in that environment. For example, if you add a paint frame to a word processing document, you can use all the painting tools within that frame—you don't have to leave the word processing document.

From the document, a frame is like any other rectangular object—you can select it and move, copy, or resize it. You can even wrap text around it.

Within a frame, you have full access to tools from another application environment.



The palm tree, for most people, conjures up an image of a tall canopied, tropical tree. The palm family—genus *palmae*—is actually comprised of more than 2,600 different kinds of vegetation.

The palm family is also not strictly limited to balmy climes. For example, palms grow in North Carolina, California, and as far south as Uruguay and central Argentina.

	A	B	C	D	E
1		FY80	FY85	FY90	Average
2	Palm Oil	283.4	300.8	243.6	275.9
3	Coconut Oil	663.4	650.5	882.4	732.1
4	Doum Oil	473.6	423.7	358.4	418.6
5	Palmyra Oil	183.5	172.3	158.9	171.6

The various sizes and shapes of the palm are remarkably varied. Most palm family members grow straight and tall.

The rattan palm, however, has slender, vinelike stems from 10 to 250 feet. Clustered trunks are yet another characteristic attribute. There are even some

When you save a document that contains one or more frames, ClarisWorks stores each frame and its contents as part of that document.

Here are some activities that may be more convenient if you use frames:

- putting a table in a word processing document
- adding an illustration to a word processing, spreadsheet, or database document
- dressing up a database layout
- adding a title or note to a spreadsheet
- creating a newsletter or fancy brochure

You can set up a series of text, spreadsheet, or paint frames so they work together. Doing so is known as **linking** the frames. Link text frames when you need to create a complex page layout such as a newsletter or an annual report. Link spreadsheet or paint frames when you want to show more than one part of a spreadsheet or painting in the same document and hide the rest. For more information, see "Working with Linked Frames" on page 8-11.

Adding a Frame

Adding a frame reserves an area in the current document and makes the tools of another application environment available. You can add text, paint, and spreadsheet frames to most document types. The drawing tools are available whenever you can see them in the tool panel—you don't need to add a frame to use them.

You can add a frame for a different application environment, or for the same application environment as the document you are in. You can also add a frame inside another frame. The following table describes which documents you can add frames to:

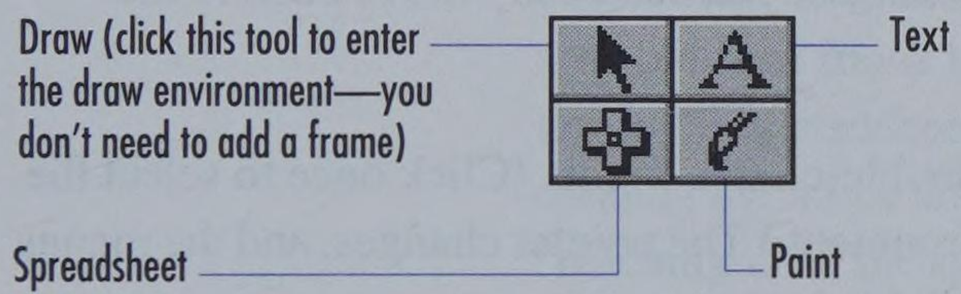
	Text frame	Draw (environment)	Paint frame	Spreadsheet frame
Word Processing document	√ (Press Option while adding a frame.)	Use tools, no frame.	√	√
Draw document	√		√	√
Paint document	√			√
Spreadsheet document	√	Use tools, no frame.	√	√ (Press Option while adding a frame.)
Database document	√ (Layout view only)	Use tools (Layout view only).	√ (Layout view only)	√ (Layout view only)

- **Important** A frame behaves differently in a paint document than it does in other types of documents. When you first add a text or spreadsheet frame to a paint document, you can work normally in it. As soon as you leave the frame, though, it loses its special properties as a frame. The content of the frame becomes part of the paint document and behaves like any other painted image in the document—you can paint over it, erase it, and change its appearance with the palettes, painting tools, and menu commands.

To add a text, paint, or spreadsheet frame:

1. **Select an environment tool from the tool panel.**

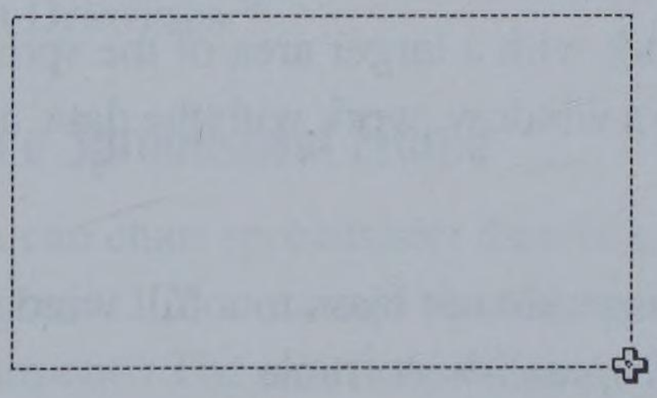
   The pointer changes, depending on the tool you select.



2. **Place the pointer where you want the upper-left corner of the frame to be and drag diagonally down and to the right.**

   If you are adding a frame of the same application environment as the document you are in (for instance, a text frame in a word processing document), press Option while drawing the frame.

   An image of the frame shows what its size will be when you release the mouse button. If the Autogrid is on, the frame boundary aligns to its invisible gridlines.



The new frame is ready for you to start entering information.

- **Tip** You can add text to a draw, paint, spreadsheet, or database (layout view) document without first drawing a frame. To do so, select the text tool, click once where you want the text to begin, and start typing. You can change the frame's width if you need to. For more information, see "Changing the Appearance of a Frame" on page 8-8.

To add a frame inside an existing frame, you must first open the frame. For more information on opening frames, see "Opening or Closing a Frame," below.

Moving In and Out of an Environment

When you want to edit data you have added to a frame, or objects you have drawn in a document, you can move into the appropriate environment. When you are finished making changes, you can easily move back to the document's environment.

To move into an environment, double-click a frame. (Click once to select the frame, and again to enter its environment.) The pointer changes, and the menus and tools change to the ones available in that environment.

To return to the document, click outside the frame. Be sure you click an area in the main document. If you click another frame or an object, you enter another environment.

Opening or Closing a Frame

When you add a spreadsheet or paint frame to a document, you actually add an entire spreadsheet or painting—you see only the upper-left corner of the spreadsheet or painting in the frame. The larger you make the frame, the more you can see of its contents.

If you need to work with a larger area of the spreadsheet or painting, you can open the frame to a window, work with the data, and then close the frame when you're finished.

- **Note** Text frames do not open to a full window. In a paint document, you cannot open a spreadsheet frame.

To open a spreadsheet or paint frame:

1. Select the frame.
2. Choose Open Frame from the View menu (or press Option and double-click the frame).

   You see a separate view of the spreadsheet or painting in its own window. Any changes you make in the view are also made in the frame.

To close the full spreadsheet or paint view, click the close box.

Working with Objects Within Frames

If a frame contains an object, you can edit the object directly from the document containing the frame—you don't have to go into the frame's environment. The object must be *within* the frame, not in front of it. For example, if you've added a spreadsheet frame to a word processing document and then drawn a circle inside the spreadsheet frame (by pressing the Control key while drawing, or by opening the frame and then drawing), you can edit the circle directly by "reaching into" the spreadsheet frame from the word processing document.

◆ **Note** These editing procedures can only be used on a Macintosh that has a Control key.

- To select a drawn object within a frame, press the Control key and click the object. When the object is selected, you can change its fill pattern, line width, or color.
- To move or resize an object within a frame, press the Control key and drag the object (to move the object) or drag one of its selection handles (to resize the object).

For more information on drawing and editing objects, see chapter 4, "Working with Drawings."

Charting Data in a Spreadsheet Frame

You can chart spreadsheet data in a frame, just as you can in a spreadsheet document. (You cannot chart data in a spreadsheet frame within a paint document.) The chart can exist either inside the frame or outside of it as a separate object. In either case, the chart is linked to the spreadsheet data—any changes to the data also show in the chart.

To chart data in a spreadsheet frame:

1. Open the frame and scroll to the data you want. (Choose Open Frame from the View menu to open a frame.)
2. Select the cell range containing the data you want to chart.
3. If you want to keep the chart inside the spreadsheet frame, skip to the next step. If you want the chart to be outside the frame, close the full spreadsheet view.
4. Choose Make Chart from the Options menu, select the chart options you want, and click OK.

   You see the chart. (For more information on chart types and options, see chapter 6, "Working with Spreadsheets.")

- **Tip** You can hide a spreadsheet frame under a chart. Select the chart and choose Move To Front from the Arrange menu. Resize the chart so it covers the frame. To bring the frame back into view, select the chart and choose Move To Back from the Arrange menu.

Changing the Appearance of a Frame

From within a document's environment, a text, spreadsheet, or paint frame is considered an object, so you can use the drawing tools to modify its appearance.

To change a frame's appearance:

1. Make sure you're in the document's environment.

   Click the document's background or choose the appropriate environment tool. (If necessary, choose Show Tools from the View menu to see the environment tools.)
2. If the frame isn't already selected, use the pointer to select the frame you want to change.
3. Use the fill and pen palettes to modify the object.

   You can change the fill color, and the pen width, color, and pattern. For more information on modifying objects, see chapter 4, "Working with Drawings."

To resize a frame, select it and drag one of its selection handles.

Changing the Display of a Frame's Contents

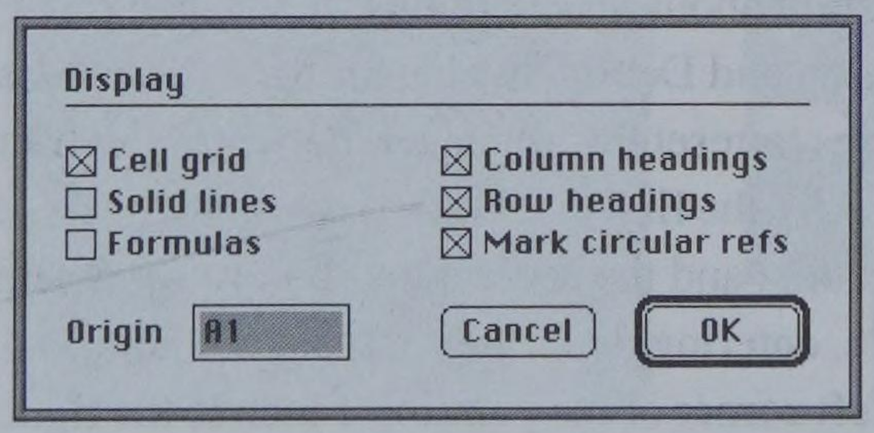
In a spreadsheet frame, you can hide and show column and row headings, the cell grid, and other spreadsheet elements, just as you can in a spreadsheet document. You can also change the cell location at which information starts displaying in the frame (the **point of origin**).

In a paint frame, you can change the resolution and depth of the painting—both of these settings change the amount of detail you see in the painting. **Resolution** is the clarity with which a painting displays—the more pixels per square inch, the clearer the image. **Depth** is the amount of color or grayscale information that displays—greater numbers of colors or shades of gray make a painting look more three dimensional. Just like spreadsheet frames, you can change the point of origin for a paint frame.

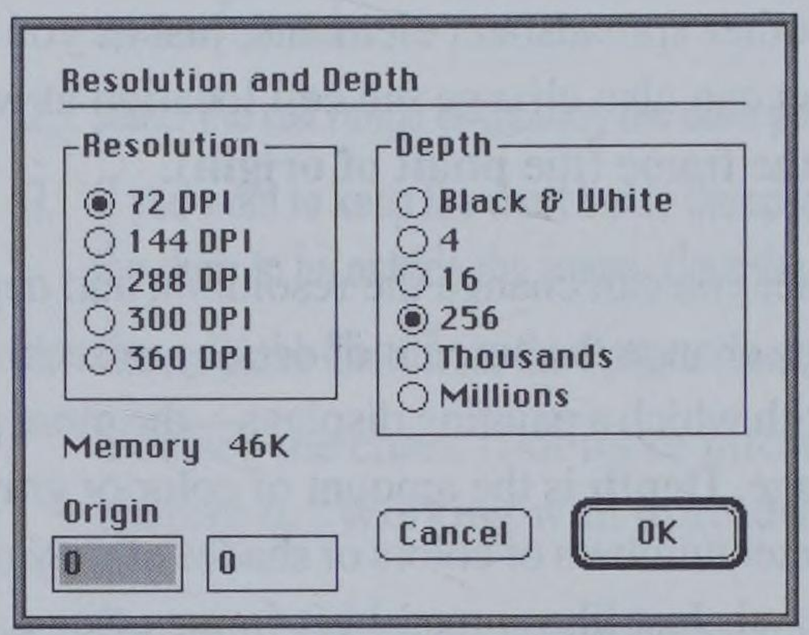
To change the display of a spreadsheet or paint frame:

1. Select the frame.
2. Choose Modify Frame from the Options menu.

   If you selected a spreadsheet frame, the dialog box looks like this:



If you selected a paint frame, the dialog box looks like this:



3. **Set the options you want to use.**

   For a spreadsheet, type a cell address in the Origin text box to set the cell that appears in the top left corner of the frame. Select or deselect other options to hide and show parts of the spreadsheet. For more information about these display options, see "Choosing Display Options" in chapter 6.

   For a paint document, set a resolution, a depth, or both. (For more information about these options, see "Changing Paint Document Resolution and Depth" in chapter 5.) Type values (in pixels) in the Origin text boxes to reset the upper-left corner of the frame. There are 72 pixels in an inch. Use the first text box to set where the left edge of the painting starts in the frame, and the second text box to set where the top edge starts. For example, entering 72 in the first text box and 144 in the second moves the upper-left corner of the painting 1 inch to the right and 2 inches down in the frame (starting from the upper-left corner of the painting's working area).

4. **Click OK.**

   ClarisWorks redisplays the frame's contents using the new settings.

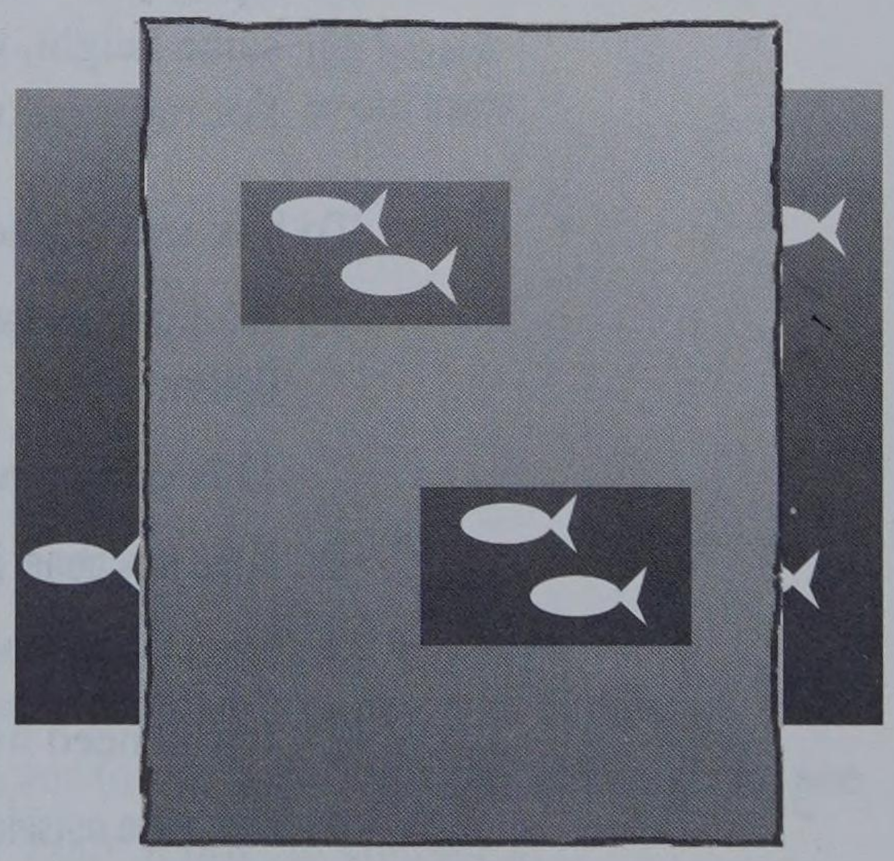
Working with Linked Frames

You can set up a series of linked frames to break up information normally confined to one area into several sections. Linking works differently depending on the type of frame. When you link text frames, text flows from one frame to the next until you run out of frames. Link text frames when you need to create a complex, text-intensive page layout, such as a newsletter or brochure. To set up linked text frames, it's best to create the frames first and then enter the information.

Linked spreadsheet or paint frames provide different "views" of a single spreadsheet or painting—each view is in its own frame. As a result, the size of your document stays smaller than it would if you were to create independent frames to place multiple spreadsheets, tables, charts, or paintings on a page.



Linking in a text frame works like this.



Linking in a spreadsheet or paint frame works like this.

- **Note** You cannot link two existing frames.

- **Note** You cannot link one type of frame to another type, but you can have any combination of linked and unlinked frames of the same type in the same document. (For more information, see "Combining Linked and Unlinked Frames in a Document" on page 8-16.) You cannot link frames in a paint document.

Because frames behave like drawn objects in a document, you can resize and move them separately without disturbing their contents. For example, if you reduce the size of a linked text frame, it has less room for the text it contains—so the extra text spills into the text frame that's linked to it.

Linking Text Frames

With linked text frames, you can break up a body of text so parts of it occupy different areas on a page. Doing so is similar to arranging text in columns in a word processing document—but you can vary the height, the width, or both the height and the width of each "column" of text. As a result, you have a greater variety of ways to arrange the text and combine it with other elements such as pictures and tables.

- **Tip** If you want to create a simple layout with multiple text columns of the same height, you can use regular columns in a word processing document. For more information, see "Working with Columns" in chapter 3.

To link text frames:

1. **In a draw document (or in layout view in a database document), choose Frame Links from the Options menu.**

   This command tells ClarisWorks that you plan to add linked frames.

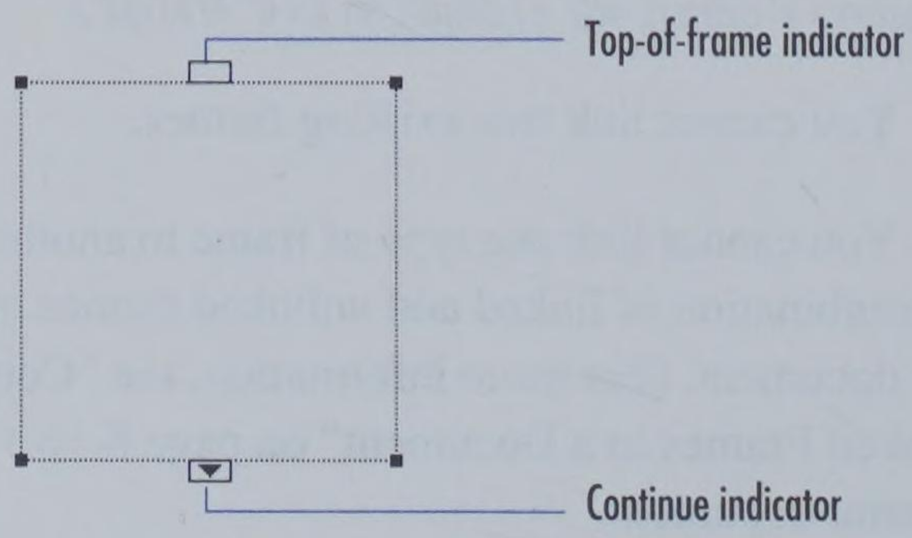
2. **If the tool panel isn't visible, choose Show Tools from the View menu.**

3. **Select the text tool and draw a frame.**

   If you need help drawing frames, see "Adding a Frame" on page 8-4.

4. **Click once outside the frame.**

   The frame shows handles, indicating that it's selected. The selected frame also shows a top-of-frame indicator and a continue indicator.

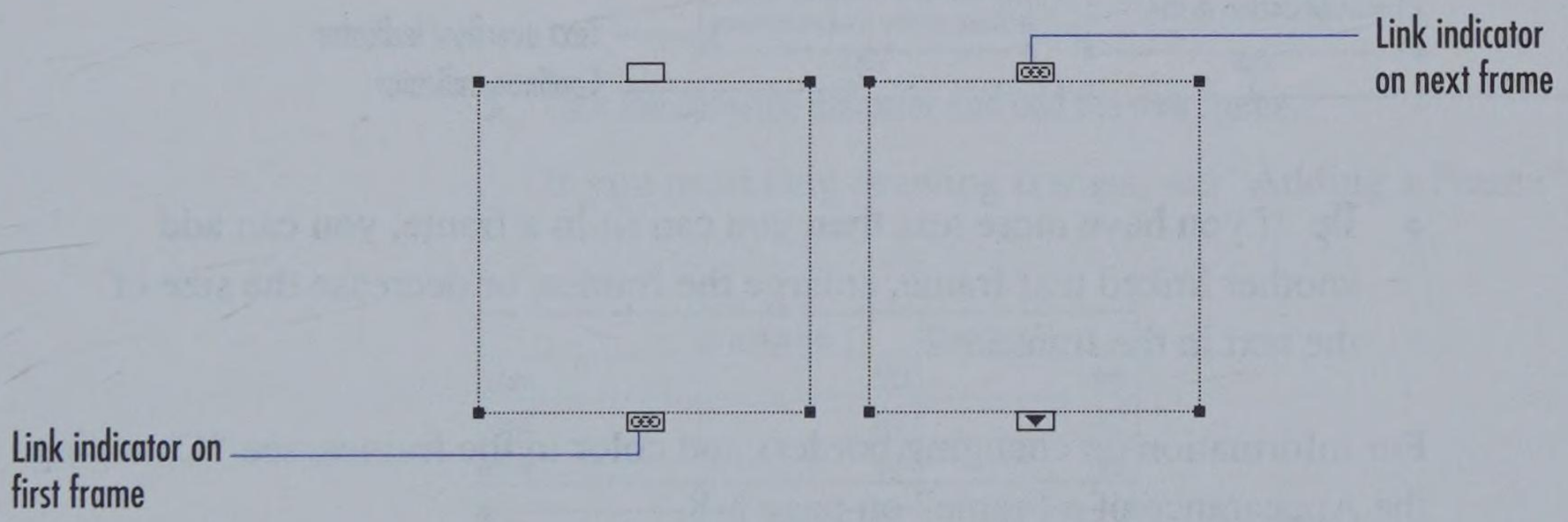


5. Click the continue indicator and draw the next frame.

- **Note** Existing linked text frames do not show when you are adding new ones. Use the gridlines as guides to help you position each frame. For more information on hiding and showing gridlines, see "Using the Graphics Grid" in chapter 4.

6. Repeat steps 3 through 5 until you're finished adding frames.

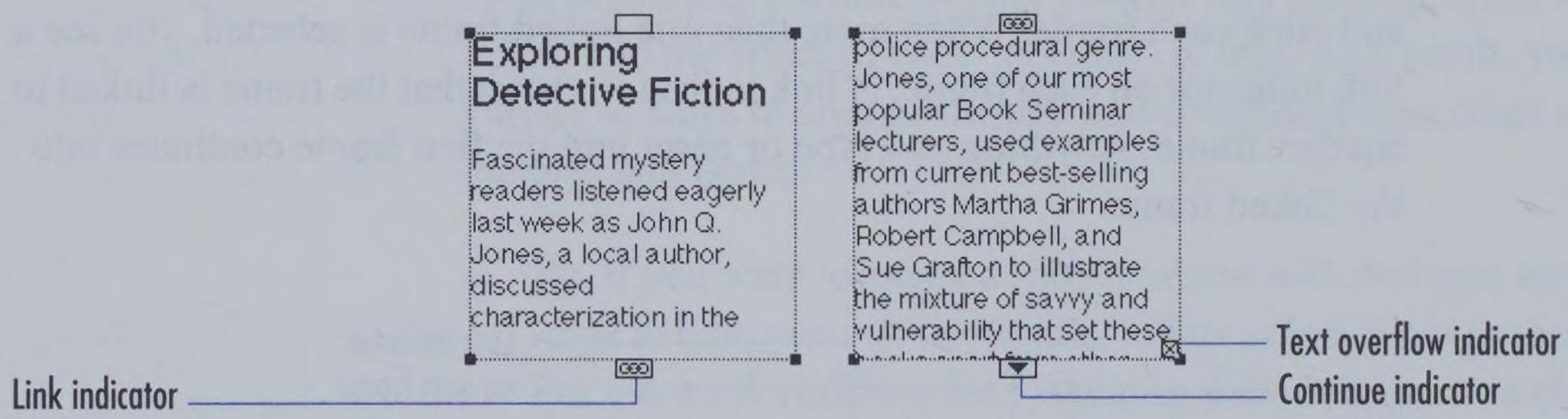
You can select the linked frames to see all of them at once. To do so, press Shift and click each frame. When more than one linked frame is selected, you see a link indicator on each frame. A link indicator shows that the frame is linked to another frame. Anything you type or paste into the first frame continues into the linked frame.



- **Tip** If you plan to reuse a layout with linked frames, you can save a blank stationery document (template) for future use. For more information, see "Using Stationery to Automate Your Work" in chapter 2.

Adding Text to Linked Text Frames

To add text to linked text frames, you can type, paste, or insert it as you normally would in a word processing document or regular text frame. (For more information on inserting text, see "Importing, Inserting, and Exporting Documents" in chapter 2.) When the first frame is full of text, the remaining text flows into the next frame, and so on. If there is more text than can fit in the frame, you see a text overflow indicator.



- **Tip** If you have more text than you can fit in a frame, you can add another linked text frame, enlarge the frames, or decrease the size of the text in the frames.

For information on changing borders and color in the frames, see "Changing the Appearance of a Frame" on page 8-8.

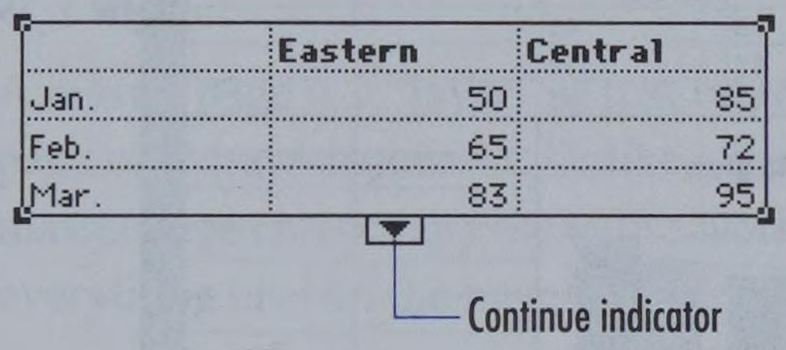
Linking Spreadsheet or Paint Frames

Linked spreadsheet or paint frames contain different views of the same spreadsheet or painting, rather than a "flow" of data from one frame to the next. For example, suppose you have a spreadsheet with some data and a chart. You can show the data in one spreadsheet frame and the chart in a linked spreadsheet frame. Both frames show data from the same spreadsheet, but you can place the frames anywhere on a page and combine them with other information, such as text and pictures.

To link spreadsheet or paint frames:

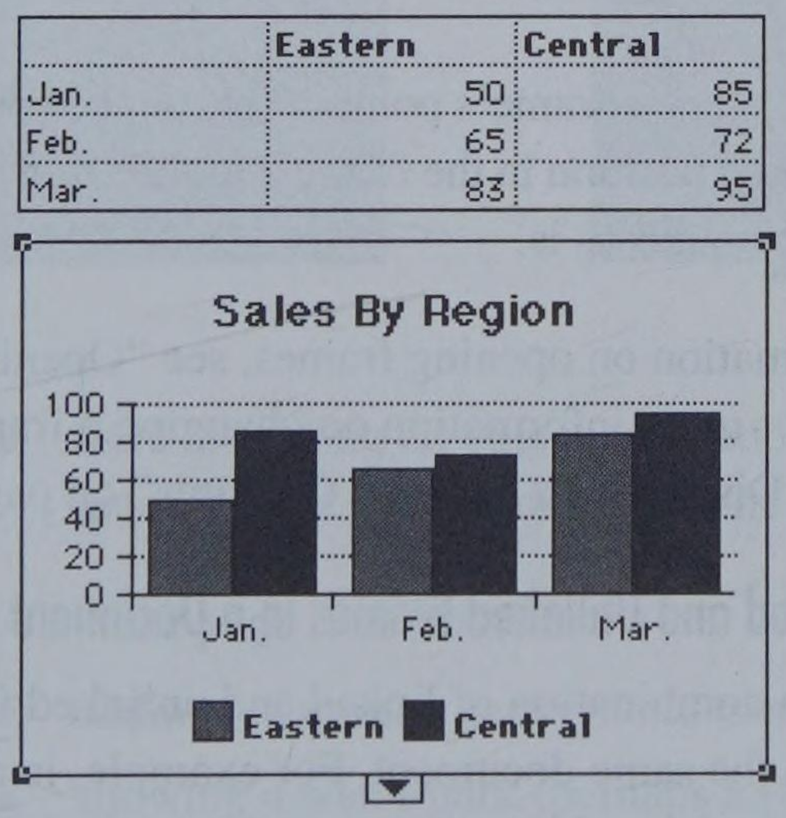
1. Start with an existing spreadsheet or paint frame into which you've entered data.
2. If the tool palette isn't showing, choose Show Tools from the View menu.
3. Select the arrow pointer and click the frame to select it.
4. Choose Frame Links from the Options menu.

   You see a continue indicator at the bottom of the frame.



5. Click the continue indicator and add the new frame.

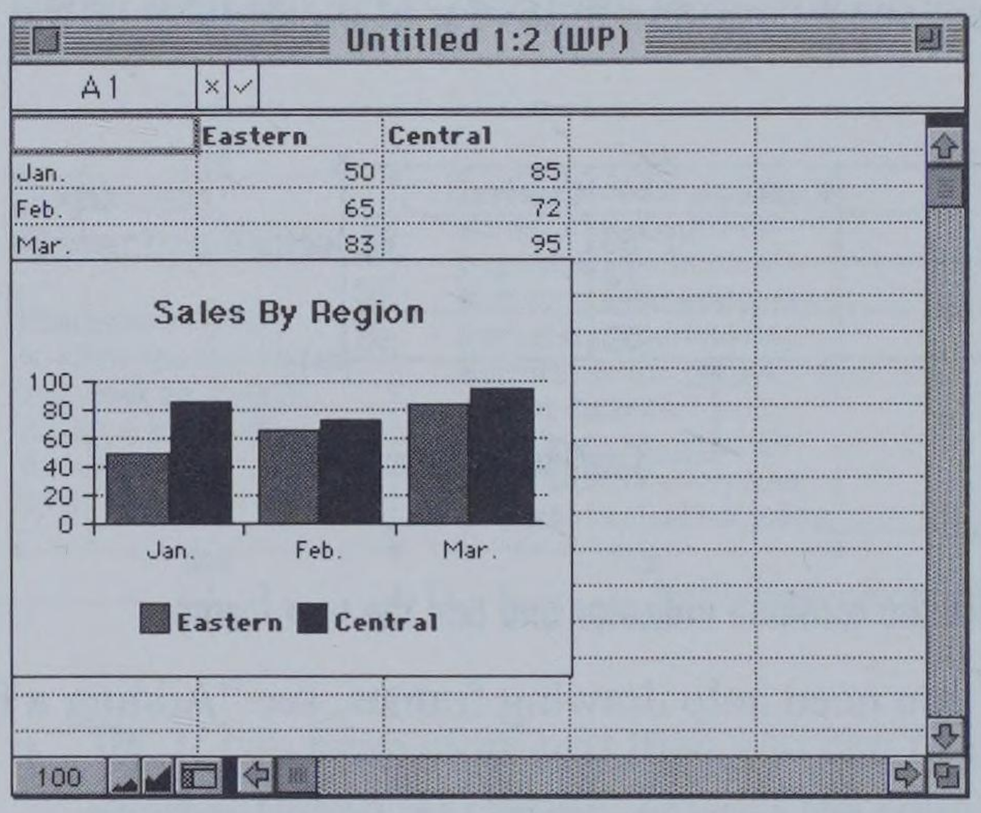
   If you need help drawing frames, see "Adding a Frame" on page 8-4.



6. If you are finished adding linked frames, skip to the next step. To continue adding linked frames, select the last frame, click the continue indicator, and draw the next frame.
7. Arrange and resize the linked frames to fit your page layout.

8. Reposition the contents of the frame.

You can open the frame to a full view and make adjustments, or change the frame's point of origin. When you open a linked spreadsheet or paint frame to a full document view, you can work with all the frame data in the same window.



When you change a frame's point of origin, the spreadsheet data or painted image shifts its position in the frame, but the arrangement of the spreadsheet or painting remains as is.

For more information on opening frames, see "Opening or Closing a Frame" on page 8-6. For more information on changing a frame's point of origin, see "Changing the Display of a Frame's Contents" on page 8-9.

Combining Linked and Unlinked Frames in a Document

You can have a combination of linked and unlinked frames of the same environment in the same document. For example, in a newsletter, you may want several linked text frames for a long story and an independent text frame for a smaller, separate article.

To add independent frames after you've added linked frames:

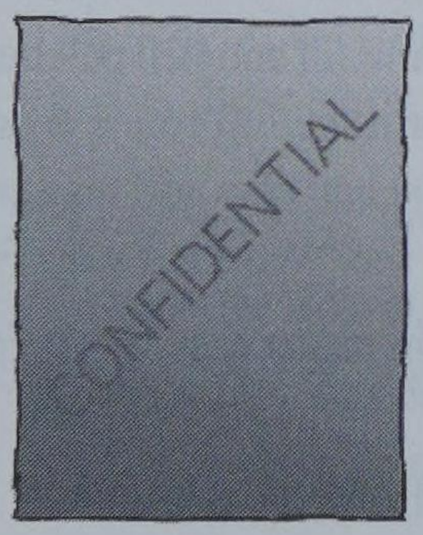
1. Click the background of the document to deselect the last frame you drew.
2. Choose Frame Links from the Options menu to turn frame linking off.

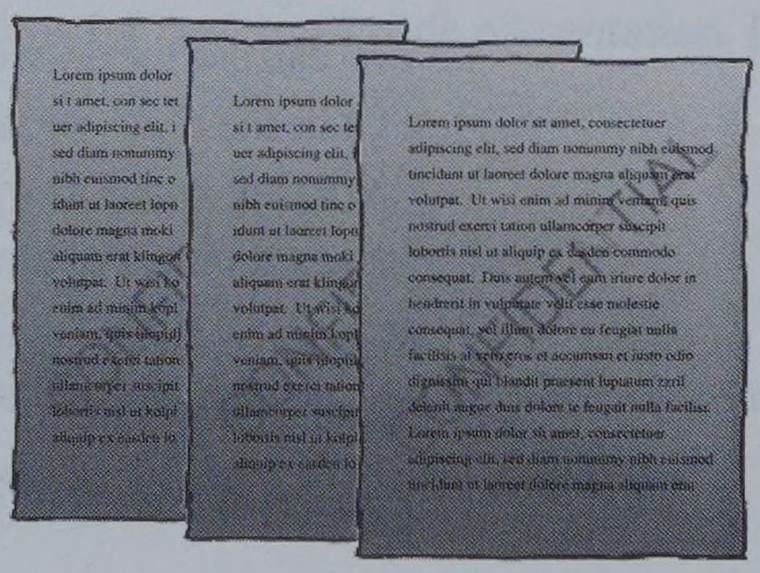
   The command is on when there is a checkmark beside it.
3. Select the environment tool for the type of frame you want to draw and draw the frame.

   The new frame is not linked.

Working with a Master Page

A master page is a "layer" of text or graphic information that repeats on every page of a draw document. Unlike a header or footer, though, information on a master page can occupy the entire working area of the page, and it stays behind everything else on the pages of a document.





- **Note** Selecting an object and choosing Move to Back from the Arrange menu moves the object behind the master page.

A master page is useful for:

- adding a common background to slides in a presentation
- showing a watermark (perhaps a company logo, or the word "draft" or "confidential") behind running text in text frames
- creating a border around the contents of each page

The following sections describe how to set up and modify a master page.

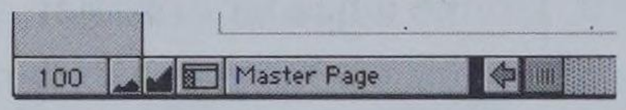
Setting Up a Master Page

You set up a master page in its own view in a draw document. In master page view, you can perform most of the same drawing and editing actions as you do in a regular draw document.

To set up or modify a master page:

1. **In a draw document, choose Edit Master Page from the Options menu.**

   ClarisWorks switches to master page view. You see the words "Master Page" in the page indicator at the bottom of the window.



2. **Add the page elements you want to appear on every page in the document.**

   You can use the drawing tools and fill and pen palettes as you do in the working area of the draw document. For more information on drawing, see chapter 4, "Working with Drawings." You can also add text, paint, and spreadsheet frames. For more information, see "Working with Frames" on page 8-3.

3. **When you're finished working with the master page, choose Edit Master Page again from the Options menu.**

   You see the working area of the draw document.

Showing and Hiding the Master Page Contents

To see the master page while you're working, choose Page View from the View menu. When Page View is selected, you can see your drawing *and* what's on the master page. When Page View is not selected, you see only your drawing.

Changing a Master Page

You can make changes to the master page in master page view, the same place where you set up the master page. For instructions, see "Setting Up a Master Page," earlier.

Creating a Slide Presentation

You can set up and run a slide presentation from ClarisWorks. You use the ClarisWorks application as the slide projector, the pages of a ClarisWorks document as the slides, and your computer monitor as the screen. A ClarisWorks slide show can help you with the following tasks:

- creating visuals for a speech
- presenting an idea for a new product or service
- setting up a self-running demonstration for a trade show or showroom floor
- making a sales pitch
- presenting the results of a research project
- creating lessons to teach in the classroom or at a training session

Basic Steps

This section lists the basic steps for creating a slide presentation. For details on each of these steps, read the sections that follow.

To create a slide presentation:

1. Create the slides in a ClarisWorks document.
2. In the Slide Show dialog box, arrange the slides in the order you want them to appear.
3. In the Slide Show dialog box, specify the visual effects you want to use.
4. Show the slides.

Creating the Slides

You can use any type of ClarisWorks document except communications for a slide presentation. Each page in the document is one slide. You can create slides from pages of an existing document or start from scratch with a new document.

You will probably find it most convenient to create a slide presentation in a draw document, so you can use a master page and then use frames for charts, text, and painted images.

- **Important** If you want to create a slide presentation with multiple slides in a paint document, first increase the amount of application memory for ClarisWorks. (For more information, see the *ClarisWorks Installation Guide*.)

To create slides:

1. **Open or create the document from which you want to run the slide show.**
2. **If necessary, choose Page View from the View menu so you can see where pages (slides) start and end.**

   You see a checkmark beside the command when page view is switched on.
3. **Set the number of slides using the following guidelines:**
   - In a word processing document, you don't have to set the number of slides.
   - In a draw document, choose Document from the Format menu and enter the number of pages (one page per slide) across and down. The slide show is preset to run across and then down.
   - In a paint document, choose Document from the Format menu and enter the number of pixels across and down. (There are 72 pixels in an inch.)
   - In a spreadsheet document, choose Document from the Format menu and enter the number of columns across and rows down. With the preset column width and row height, a single page (slide) contains 7 columns across and 50 rows down.
   - In a database document, set up a layout that displays one record per page (slide)—one record does not automatically equal one slide. For more information, see "Working with Layouts" in chapter 7.

   You can add or delete pages later if you need to.
4. **If you are in a draw document and want to use a master page, follow the instructions in the section "Working with a Master Page" on page 8-17.**

   - **Note** If you're using a master page as a background and are working in Page View, you may be unable to see the grid when you create your slides. If you need the grid, switch off Page View (choose Page View from the View menu to switch it on or off), or draw temporary guides on the master page and delete them when you're finished creating the slides.

5. **If you are starting from scratch in a new document, enter the data you want to see on each slide.**

   For more information on entering data in a specific type of document, see chapters 3 through 7 in this book.

   Use the Insert Break command (word processing) or Add Page Break command (spreadsheet) to force information to the next slide if you need to.

Refer to the next section, "Tips for an Effective Presentation," for hints on setting up pages as slides.

6. **Scroll through the document and check the slides.**

   You may need to move objects if they are over a page break, or enter or delete page breaks in a word processing document.

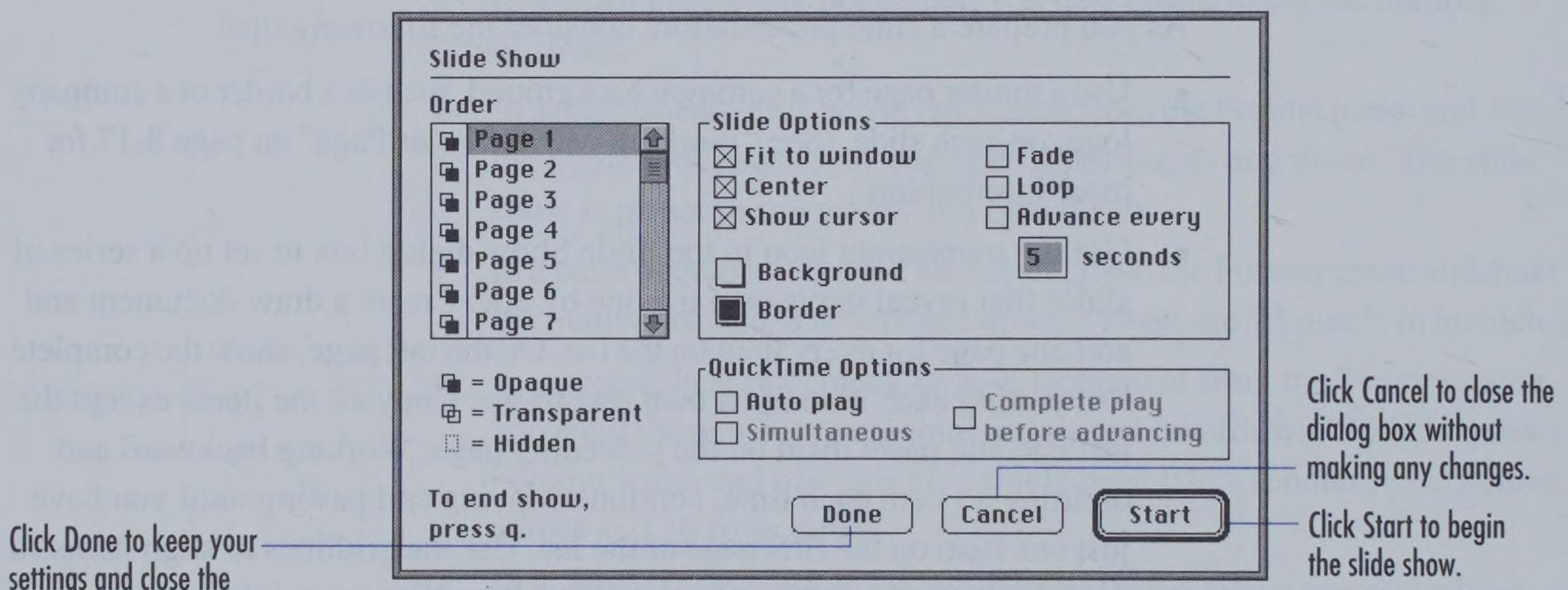
Tips for an Effective Presentation

As you prepare a slide presentation, consider the following tips:

- Use a master page for a common background, such as a border or a company logo, on each slide. (See "Working with a Master Page" on page 8-17 for more information.)
- Use the transparent icon in the Slide Show dialog box to set up a series of slides that reveal items on a list one by one. Create a draw document and add one page for every item on the list. On the last page, show the complete list, putting each item in its own text frame. Copy all the items except the last one and paste them on the preceding page. Working backward and omitting an item each time, continue copying and pasting until you have just one item on the first page of the list. Use the gridlines to align items so they don't overlap when you show the slides. For more information, see "Layering or Omitting Slides" on page 8-23.
- If you use speaker's notes or handouts, set up your document so every other page is a slide, and the alternating pages are your notes. When you print the document, your notes will be neatly interspersed with each slide. Before you give the presentation, use the blank icon in the Slide Show dialog box to hide the note pages. For more information, see "Layering or Omitting Slides" on page 8-23.
- If you're not using a master page and want a clean display without page borders, make the border and background colors the same (see "Setting Slide Viewing Options" on page 8-24 for more information).
- If you're using a master page and want to skip it for a slide, cover the background of the slide's page with a large filled rectangle. To skip the master page for a series of slides, cover the master page for the first slide and make the rest of the series transparent. (The contents of each transparent slide must be the same size and in the same position—for example, a series of charts—to make this work.)

Setting Up the Slides

Once you have created slides on the pages of a document, you can set up the slide show in the Slide Show dialog box. You can reorder the slides and specify visual effects, such as fading a slide before showing the next and setting an amount of time to pause before advancing to the next slide. If you are running QuickTime, you can also include QuickTime movies in a slide show.



To run a slide show using the preset options, skip to the section "Showing the Slides" on page 8-26.

Arranging the Slide Order

ClarisWorks is preset to show every page in a document as one slide, starting with the first page. You can change the order of slides if you need to. Doing so does not affect the order of pages in the document.

To reorder slides:

1. **Choose Slide Show from the View menu.**

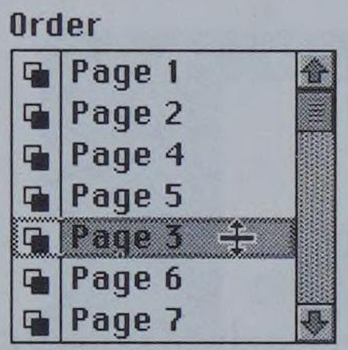
   You see the Slide Show dialog box (shown earlier).

2. **In the Slide Order list, place the pointer over the name of the slide you want to reorder. (Each slide is represented by a page number.)**

   The pointer is a double arrow when it is in the correct position for reordering slides.

3. **Drag the slide to its new position.**

   Dragging the slide up makes it appear earlier in the show; dragging it down makes it appear later. When you drag a slide's name, a gray rectangle follows the pointer to mark the slide's new position. When you release the mouse button, the name moves to the slide's new position.



4. **Repeat steps 2 and 3 until you're finished reordering slides.**

Layering or Omitting Slides

You can layer slides to reveal information piece by piece on individual slides, or hide pages you don't want to use as slides in a show by changing the icon next to the slide's name (a slide's name is its page number).

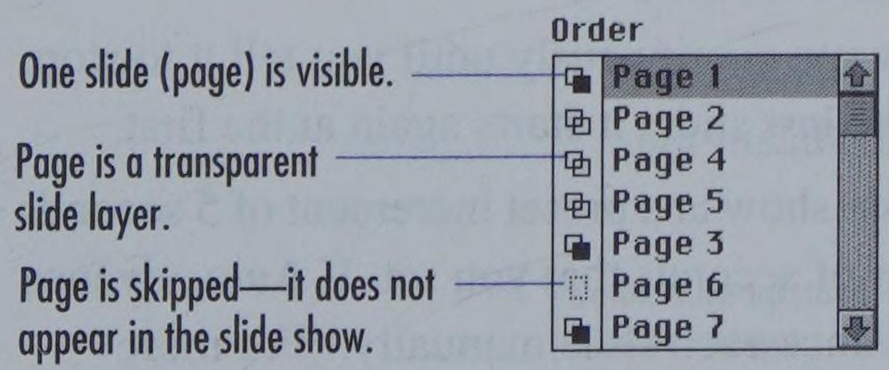
To layer or omit slides:

1. **Choose Slide Show from the View menu.**

   You see the Slide Show dialog box (shown earlier).

2. **Click the icon next to the slide you want to layer or omit.**

   The opaque icon (preset) shows a single page as one slide. Use the transparent icon to make a slide's background clear—a transparent slide is layered with all transparent slides immediately preceding it in the scrolling list of slides. Use the blank icon to omit the page from the slide show.



- **Note** If you are using a master page in a draw document, the contents of the master page always show on transparent or opaque slides.

3. Continue clicking icons until the slide show is set up the way you want it.

Setting Slide Viewing Options

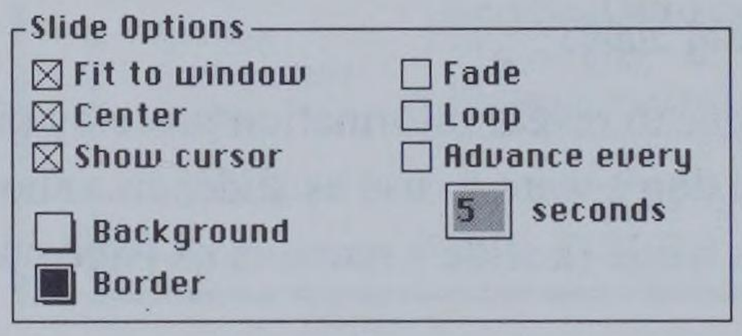
When you run a slide show in ClarisWorks, you can set up a custom combination of special effects for the show.

To set slide viewing options:

1. Choose Slide Show from the View menu.

   You see the Slide Show dialog box (shown earlier).

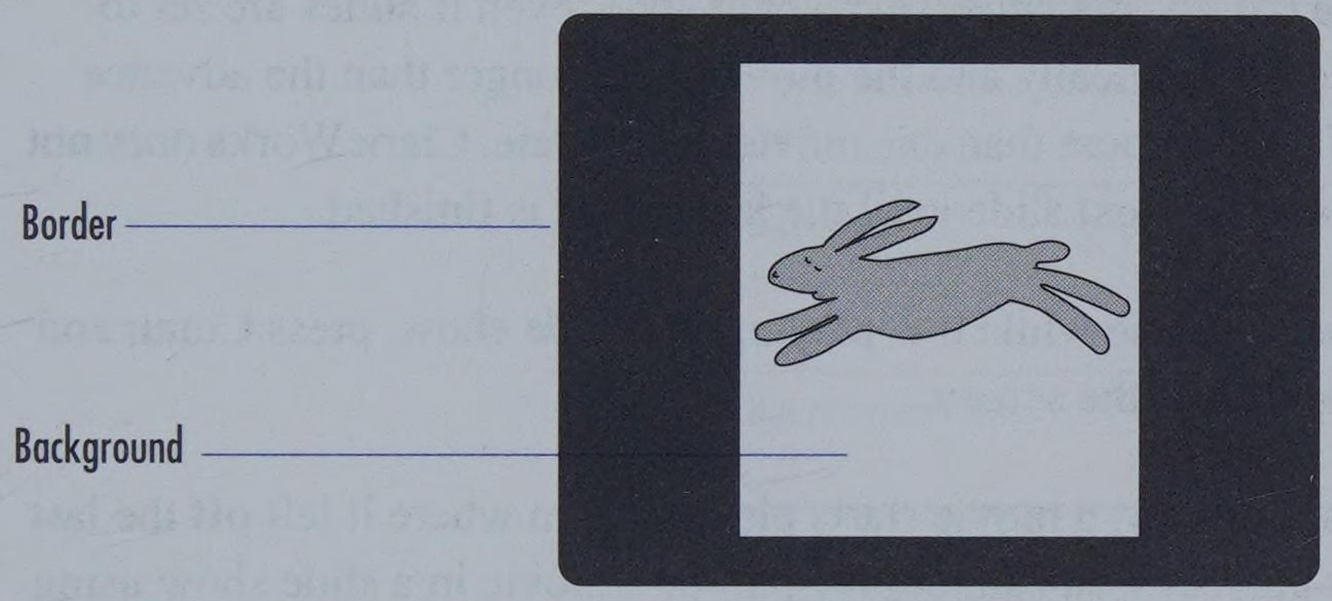
2. Select the viewing options you want to use.



- *Fit to window*—resizes the slide (page) to fit on the screen, and maintains the slide's aspect ratio (the ratio of its width to its height).
- *Center*—shows the slide in the middle of the screen. If Center is not selected and the page size is smaller than the monitor you are using, the slide shows at the upper-left corner of the screen.
- *Show cursor*—makes the arrow pointer visible during the slide show. You can point to areas on the slide by moving the pointer with the mouse.
- *Fade*—makes one slide dissolve into darkness, and the next slide illuminate gradually. It is a special effect.
- *Loop*—makes the slide show run continuously until you tell it to stop. When ClarisWorks gets to the last slide, it starts again at the first.
- *Auto advance*—paces the slide show at a preset increment of 5 seconds for each slide, or at a number of seconds that you set. If Auto advance is not selected, you must advance each slide manually. (For more information on advancing slides manually, see "Running a Slide Show" on page 8-26.)

3. **Set the color effects you want to use.**

   To change the background color of the slides from the preset white to another color, choose a color from the Background color palette. To change the screen color behind the slides from the preset black to another color, choose a color from the Border color palette.



Using a QuickTime Movie in a Slide Show

You can include QuickTime movies in a slide show and play them as part of the show.

To add a QuickTime movie to a slide, place it on the slide's page in the document by inserting or pasting it like any other object. You can have more than one movie on the same slide. (For more information on inserting items, see "Importing, Inserting, and Exporting Documents" in chapter 2.)

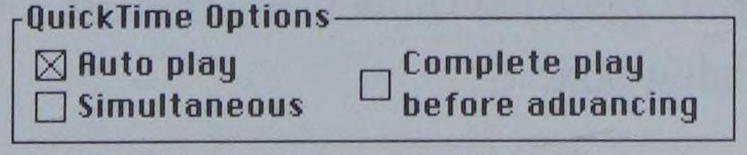
To set options for QuickTime movies in a slide show:

1. **Choose Slide Show from the View menu.**

   You see the Slide Show dialog box (shown earlier).

2. **Select the QuickTime options you want to use.**

   The QuickTime options are dimmed if the QuickTime extension is not installed.



- *Auto play*—plays the movie automatically when the slide on which the movie is placed appears. If there is more than one movie on a slide, movies play in the order of their objects, from back to front.
- *Simultaneous*—plays all movies at the same time if there is more than one movie on a slide.
- *Complete play before advancing*—sets the slide show to finish playing a movie before advancing to the next slide, even if slides are set to advance automatically and the movie takes longer than the advance time. If there is more than one movie on the slide, ClarisWorks does not advance to the next slide until the last movie is finished.

◆ **Tip** To pause a movie while it is playing in a slide show, press Command or Option and click the screen.

◆ **Note** In a slide show, a movie starts playing from where it left off the last time it was played. You cannot play part of a movie in a slide show using the Selection only option in the Movie Info dialog box.

For more information on using QuickTime movies in ClarisWorks documents, see "Working with QuickTime Movies" on page 8-28.

Showing the Slides

Once you have the slide show set up the way you want it, you can tell ClarisWorks to run the show. ClarisWorks runs the slide show from your computer's monitor. If your computer has more than one monitor, the slide show runs on the main monitor. You can stop the slide show at any time.

Running a Slide Show

To run a slide show:

1. Choose Slide Show from the View menu.

   You see the Slide Show dialog box (shown earlier).

◆ **Tip** To start the slide show immediately and skip the Slide Show dialog box, press Option while choosing Slide Show from the View menu. ClarisWorks runs the slide show using the last set of options saved in the Slide Show dialog box.

2. **Set options for the slide show if you want to. (For more information, see "Setting Up the Slides" on page 8-22.)**

3. **Click Start to begin the show.**

   The slide show begins. If you set the slides to advance automatically, ClarisWorks shows each slide until it reaches the last slide.

   Use the following methods to run a slide show manually once it has started:

To...	Do this...
Advance to the next slide.	Click the mouse button or press Right arrow, Down arrow, Page Down, Return, Tab, or the Space bar.
Advance to the previous slide.	Press Left arrow, Up arrow, Page Up, Shift-Return, Shift-Tab, or Shift-Space bar.
Advance to the end of the slide show.	Press the End key.
Advance to the beginning of the slide show.	Press the Home key.
Play a QuickTime movie (if movie is not set to play automatically).	Click the movie.
Pause or resume playing a QuickTime movie.	Command-click or Option-click the movie.
Stop playing a QuickTime movie.	Click the movie again.
Stop the slide show.	Press q, Command-period, Clear, or Esc.

Stopping a Slide Show

You can stop a slide show at any time while it is running.

To stop a slide show:

1. **Press the "q" key, Command-period, Clear, or Esc.**

   ClarisWorks stops the slide show and returns you to the Slide Show dialog box (or to the document, if you bypassed the Slide Show dialog box).

2. **From the Slide Show dialog box, click Done or Cancel.**

   Done saves the current slide show settings and closes the dialog box. Cancel closes the dialog box without saving the settings.

Working with QuickTime Movies

If you've installed QuickTime, you can bring QuickTime movies into a ClarisWorks document and play them onscreen. **QuickTime** is an extension to your system software that makes it possible to play movies on your Macintosh. A **movie** is a special kind of object that contains a series of video images with sound. Playing a QuickTime movie is similar to playing a VCR (video cassette recorder) tape and watching it on a television monitor.

You can play movies in word processing, draw, spreadsheet, and database (layout view only) documents. You can do anything with a movie that you can with another object. However, if you rotate or flip a movie, the orientation of the picture remains the same.

Preparing to Use Movies

You can play QuickTime movies in a ClarisWorks document under System 6.0.7 or later, or System 7. Before you use a QuickTime movie in a ClarisWorks document, be sure that the QuickTime System Extension is installed. (For more information on installing QuickTime, see the QuickTime documentation.)

- **Note** If QuickTime is not installed and you add a movie to your document, ClarisWorks displays a message notifying you that it cannot read the file.

Adding a Movie to a Document

You must add a movie to a document before you can play it. Adding a movie is similar to adding a picture.

You can add a movie to a document in the following ways:

- *Importing as a draw document*—ClarisWorks creates a draw document and places the movie in that document.
- *Inserting*—ClarisWorks places the movie in the current document.
- *Pasting*—ClarisWorks pastes the movie from the Clipboard to the document.

For more information on importing or inserting, see "Importing, Inserting, and Exporting Documents" in chapter 2.

A movie object looks like a picture, except it has a control badge in the lower-left corner.



If you add a movie to a paint document, you get a painted image of the movie frame that is currently showing. If you add a movie to a database document, you can play it in layout view; in browse view, you only see a picture of the current frame.

Setting Movie Options

You can set movie playing options that affect how a movie sounds and appears when you tell ClarisWorks to play it.

To set movie options:

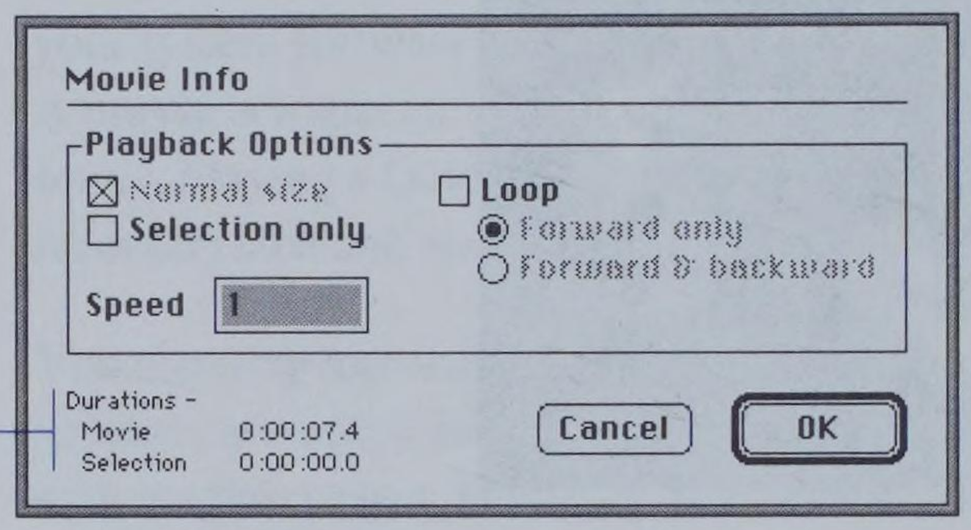
1. **Select the movie.**

   Click the object that represents the movie. Do not click the control badge—if you do, you show the movie control bar instead of selecting the movie. You see handles on the movie object when it is selected.



2. **Choose Movie Info from the Options menu.**

You see the Movie Info dialog box.



Playback information for the currently selected movie

◆ **Note** The Movie Info command is not available when the movie has been pasted or inserted as an inline character in a word processing document or text frame.

3. **Set the playback options you want to use.**

- *Normal Size*—plays the movie at its original size. Normal Size is dimmed if the movie has not been resized in the document. If the movie has been resized, selecting Normal Size returns the object to its original size.
- *Selection Only*—plays only the selected part of the movie. If you do not make a selection, the entire movie plays. (For more information on playing a selection, see "The Current Selection" on page 8-32.) This setting doesn't apply to a movie played in a slide show.
- *Speed*—determines the direction and rate of speed at which the movie plays back when you double-click the movie object. Speed is preset to 1, which is normal speed. Use the following table as a guide for setting speed and direction:

	Normal speed	Faster	Slower
Play forward	1	Positive integer greater than 1 (example: 5)	Positive decimal value between 0 and 1 (example: 0.5)
Play backward	–1	Negative integer less than –1 (example: –5)	Negative decimal value between 0 and –1 (example: –0.5)

- *Loop*—plays the movie continuously until you tell it to stop. Forward Only plays the movie from the beginning to the end and then starts again at the beginning. Forward & Backward plays the movie from the beginning to the end and then from the end to the beginning, and repeats in this manner.

4. **When you are finished setting options, click OK.**

   The options you selected are in effect the next time you play the movie.

Playing a Movie

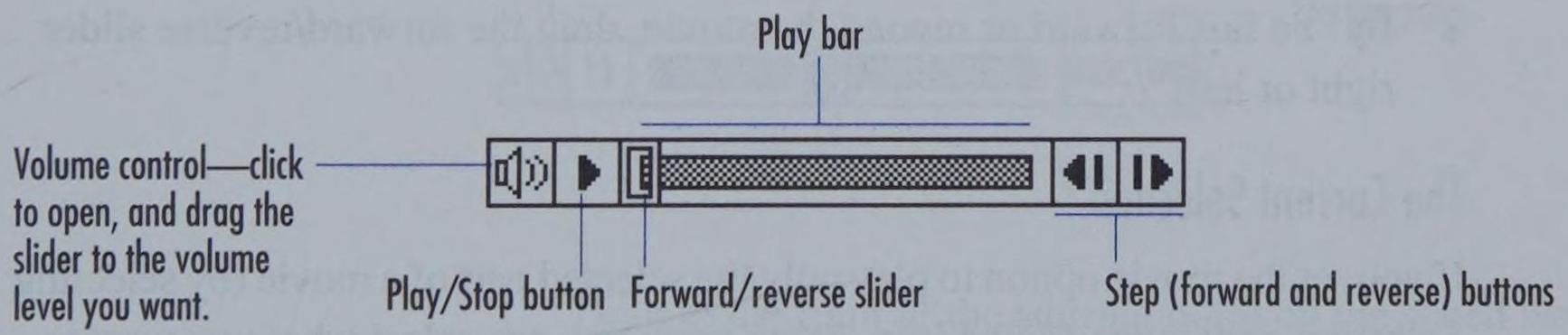
You can play a QuickTime movie from beginning to end, in increments, or only a selected part. As you play a movie, you can control its sound volume and play it at different rates of speed.

From Beginning to End

To play a movie from beginning to end:

1. **Click the control badge on the movie's object.**

   You see the movie control bar.



- **Note** The movie control bar is not available when the movie has been pasted or inserted as an inline character in a word processing document or text frame.

2. **Click the Play button.**

   When the movie starts, the Play button changes to Stop.

3. **If you want to stop the movie while it's playing, click the Stop button.**

- **Tip** You can also play a movie by double-clicking a movie object. (This method is the only way to play a movie that has been pasted or inserted as an inline character in a word processing document or text frame.) If you changed the rate of speed for the movie in the Movie Info dialog box, the movie plays at the speed you set. For more information on Movie Info options, see "Setting Movie Options" on page 8-29. To stop playing, click the movie object a single time.

In Segments

You can step through a movie segment by segment, forward or backward. The movie plays silently when you play it using this method.

To step through the movie segment by segment:



1. If the movie's control bar is not showing, click the control badge on the movie's object.
2. Click one of the Step buttons for the direction in which you want to play the movie.

   The movie advances or moves backward one frame for each mouse click. Press a step button and hold it down to advance more than one frame at a time without sound.

- **Tip** To fast forward or rewind the movie, drag the forward/reverse slider right or left.

The Current Selection

If you set the movie option to play only the selected part of a movie (by selecting Selection only in the Movie Info dialog box), you can select what you want to play and only play that part. This method is useful if the movie is long and you don't want to see the whole thing. (For more information on the Movie Info dialog box, see "Setting Movie Options" on page 8-29.)

To play a selection:

1. If the movie control bar is not showing, click the control badge on the movie's object.
2. Select what you want to play.

   You can Shift-click the play bar, press Shift and click the Play button, or press Shift and click one of the Frame Step buttons.

The selected portion is darkened on the play bar. (You can click the play bar to undo the selection of you need to.)



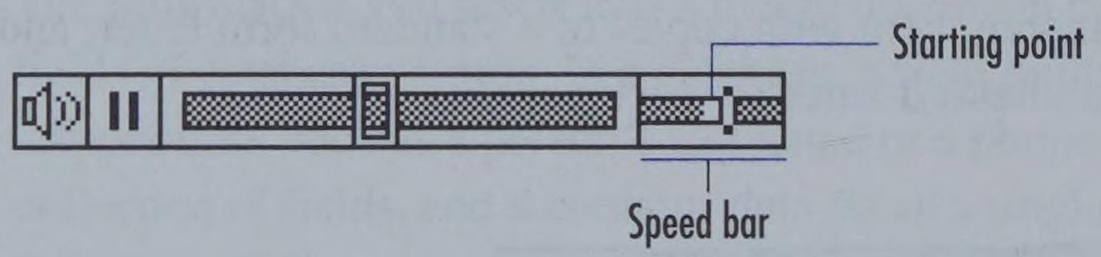
3. Click the Play button to play the selection.

At Different Rates of Speed

There are two ways you can play the movie at a different rate of speed.

To play a movie at a different rate of speed:

- Set the rate of speed in the Movie Info dialog box and double-click the movie object. (For more information on setting movie options, see "Setting Movie Options" on page 8-29.)
- Press Control and hold down one of the Step buttons in the movie control bar. You see a speed bar.



Drag to the right of the starting point on the speed bar to play the movie forward. Drag to the left of the starting point to play the movie backward. The farther you drag in either direction, the faster the movie plays.

Editing a Movie

You can make simple editing changes to a movie, such as cutting, copying, pasting, or deleting parts of it.

To edit a movie:

1. If the movie control bar is not showing, click the control badge on the movie's object.
2. Select the part you want to cut, copy, or delete.

   Press Shift while clicking the play bar, the Play button, or one of the Step buttons to make a selection.

3. **Make the editing change.**

   You can press Command-X to cut, Command-C to copy, Command-V to paste, Command-A to select all, or Command-Z to undo an action. You can also use the Delete and Forward Delete keys.

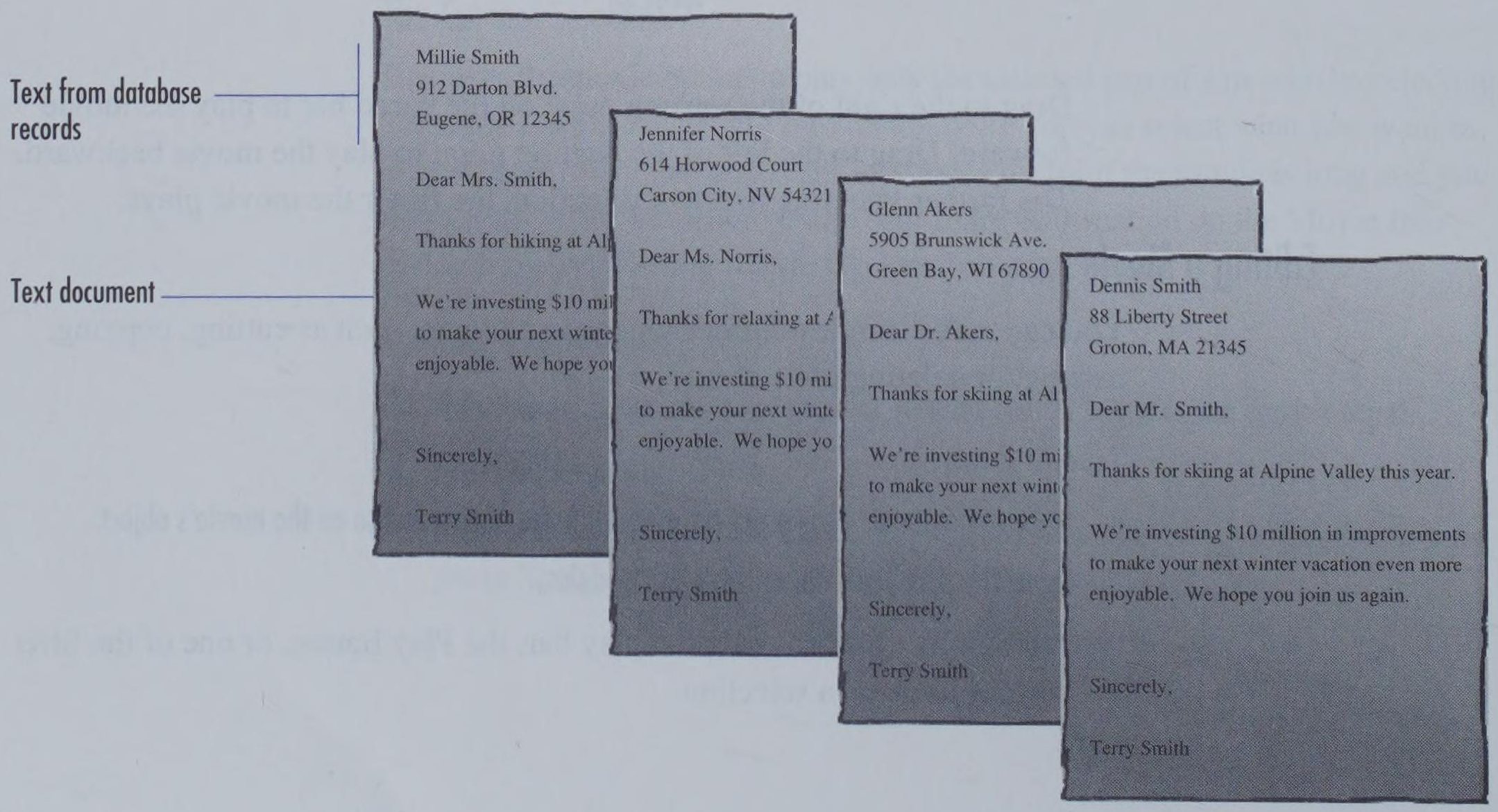
- **Tip** You can create additional movies by making a selection, cutting or copying it, and pasting it as an object in the document.

Merging Data with Text (Mail Merge)

You can insert information from a database document into a word processing document or text frame. This process is called **mail merge**. Use mail merge to:

- create form letters that include information customized for the recipient, such as a personalized greeting ("Dear Terry" instead of "Dear Customer")
- address newsletters or mailings
- create a fact sheet or price list
- produce a report in a format that's easy to update regularly

For example, you can take names and addresses from a database document, merge them with copies of a standard form letter, and print a uniquely addressed letter for each person.



About Mail Merge

Mail merge requires two documents: a merge document and a database. The **merge document** contains text that appears in all the copies you print, plus **field variables**—placeholders that tell ClarisWorks where to insert unique information from a database. The **database** document contains the unique information, organized in categories. You can use information from more than one database document in a merge document.

Mail merge involves three basic steps:

1. Set up a database. You can have a database of names and addresses, items and prices, clients and facts about them, or any other categories of information you want to merge with text.
2. Prepare a merge document. Enter the text that is common to all the printed documents in a word processing document or text frame, and then enter field variables where you want to insert information from the database.
3. Print the document with database information inserted.

Setting Up the Database

The information you insert into a merge document comes from individual fields in database records. In a database, a **field** holds a category of information, such as a person's last name or a phone number. A **record** is a collection of fields, and it contains data about a single subject or activity. Each field has a different entry for each record in the database. For example, most address lists contain a Name field. In one record the Name field may read "Chu," and in another record it may read "Smith."

When you plan to use a database for mail merge, you need to think about the way you organize the database document. For example, to create a form letter with a salutation that includes a person's first name, you need to have a database with separate fields for first and last names—the First Name field in a record could read "Susan" and the Last Name field could read "Chu."

For more information on setting up a database, see "Designing a Database" and "Working with Fields" in chapter 7.

Preparing the Merge Document

There are two basic steps to preparing the merge document: entering the text that is common to all the merge copies, and adding the field variables. You can add field variables to any text document or text frame. The text frame can be in a word processing, draw, or spreadsheet document. For example, if you create a newsletter as a draw document with text frames, you can merge names and addresses from a database document into a text frame in the draw document.

For more information on working with word processing documents, see chapter 3, "Working with Text." For more information on working with text frames, see "Working with Frames" on page 8-3.

Adding Field Variables

A field variable is made up of a field name surrounded by **delimiters**—punctuation marks that distinguish the field name from ordinary text in the merge document, and show ClarisWorks where to start and end an insertion. The preset delimiters are double angle brackets (« »). Delimiters don't show when you print merge copies.

You can add field variables by choosing them from a list of available field names or by typing them into the merge document.

- **Note** ClarisWorks supports up to 256 fields in the merge document. Each field name can have up to 63 characters, and the entry in each field can be up to 250 characters long.

From the Field Name List

To add field variables to a merge document from a list of field names:

1. **Open the database document.**

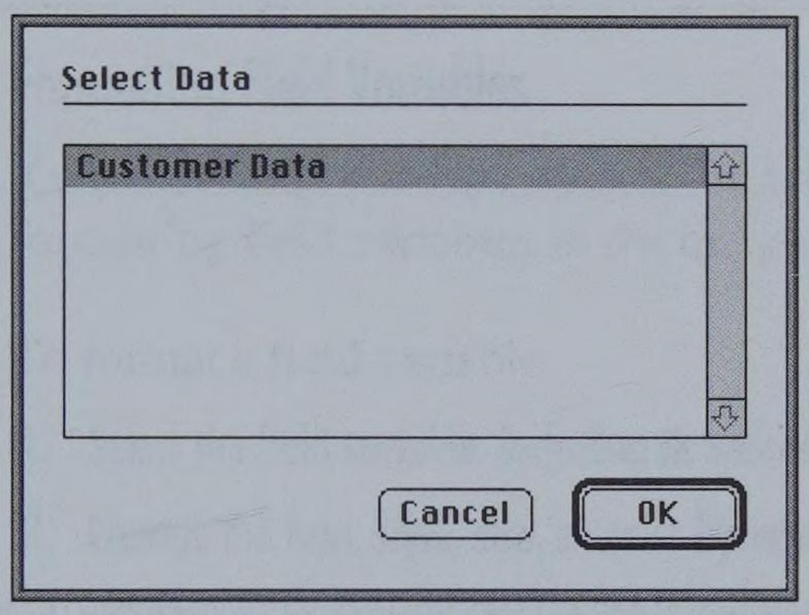
   You can open more than one database, but when you print merge copies, you can merge fields from only one database at a time. For more information on opening documents, see "Opening a Document" in chapter 2.

2. **In the merge document, click where you want to insert information from the database.**

3. **Choose Mail Merge from the File menu.**

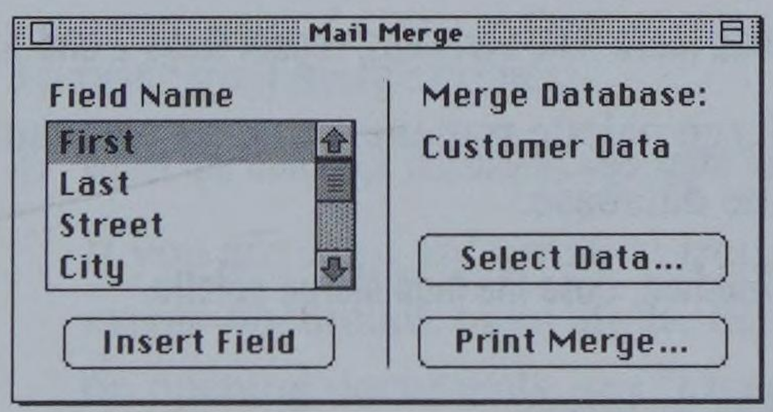
   If this is the first time you have chosen Mail Merge from the current document, you see the Select Data dialog box. The dialog box shows the names of any open database documents.

   Otherwise, you see the Mail Merge palette (skip the next step).



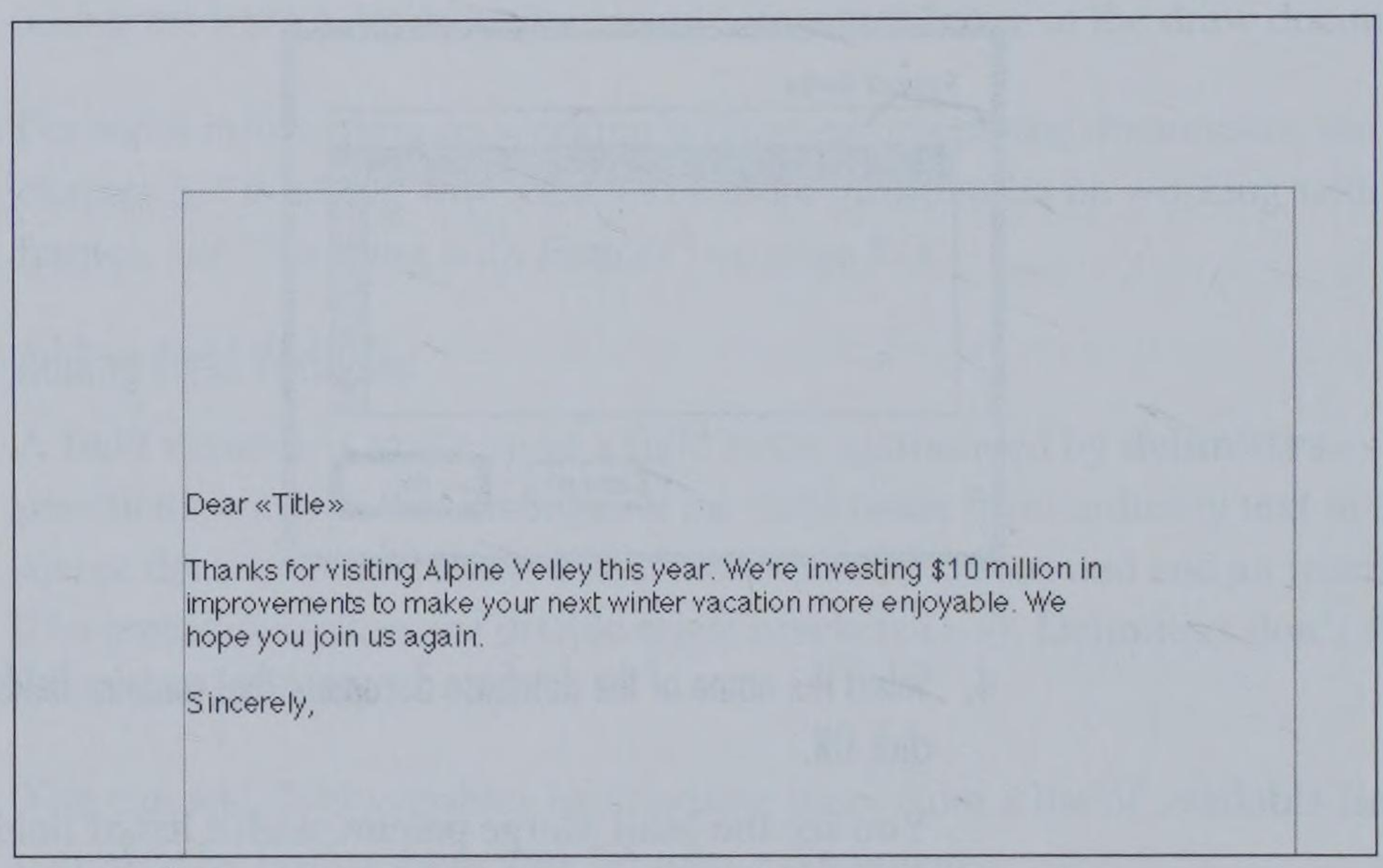
4. **Select the name of the database document that contains fields you want to merge, and click OK.**

   You see the Mail Merge palette, with a list of fields in the current database.



5. **Select the name of the field that holds the information you want to insert and click Insert Field.**

   ClarisWorks places the field name in the merge document and surrounds it with delimiters. You can add spaces or other punctuation before and after the field variable if you need to. Be sure to add these elements outside the delimiters.



6. **If you want to add more field variables, repeat steps 2 and 5.**

   The Mail Merge palette remains open so you can continue adding fields from the same database.

7. **When you are finished, close the Mail Merge palette.**

Adding Field Variables By Typing

You can also enter field variables by typing them. This method is useful when you don't want to open the database document and you know what the field names are.

To insert a field name by typing it:

1. **At the spot where you want to insert a field, type the opening delimiter.**

   Press Option-Backslash (\) to enter the opening delimiter («).

2. **Type the name of the field.**

   You must type the field name exactly as it appears in the database document, including capitalization and spaces. If it doesn't precisely match, ClarisWorks treats the field variable like regular text in your text document.

3. **Type the closing delimiter.**

   Press Option-Shift-Backslash to enter the closing delimiter (»).

Formatting Field Variables

You can change the type style of the information you insert from a database by formatting field variables in the merge document.

To format a field variable:

1. **Select the field variable, including its delimiters.**
2. **Change the font, style, size, or color by using the appropriate menus and commands.**

   For more information on formatting text, see "Changing Text Appearance" in chapter 3.

Printing the Merge Copies

When you print mail merge copies, the merge document and database documents you are using must all be open. You can merge only one database at a time.

To print mail merge copies:

1. **Open the database document you want to use.**

   If you are using information from more than one database in the same merge document, open all the databases you are using. For information on opening documents, see "Opening a Document" in chapter 2.

2. **Organize the database records.**

   If you want to use only certain records, find them in the database document. If you want the merge copies to print in a certain order, sort the database. When you combine the merge document with the database, ClarisWorks uses only the found set of records in the order in which they are sorted. For more information on finding and sorting records, see "Finding Records" and "Sorting Records" in chapter 7.

3. **Open the merge document.**

4. **Choose Mail Merge from the File menu.**

   If you see the Select Data dialog box, select a database and click OK. If you see the Mail Merge palette, go to the next step.

5. **Click Print Merge.**

   You see the Print dialog box.

6. **Set the printing options you want to use and click OK.**

   ClarisWorks is preset to print one copy of the merge document for each record in the database, inserting into each merge copy the unique information it gathers from the appropriate database fields. For more information on setting printing options, see "Printing Your Work" in chapter 2.

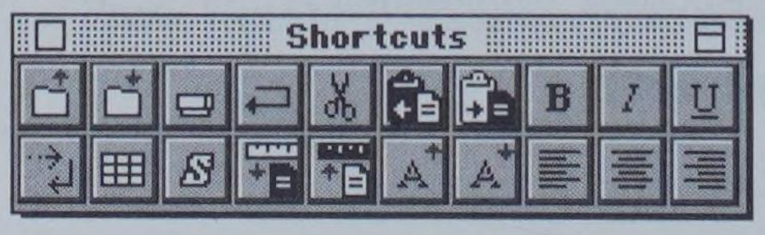
Working with Shortcuts and Macros

With shortcuts and macros, you can save time by automating your work and customizing ClarisWorks for your specific needs. A **shortcut** is a predefined sequence of actions that takes place automatically when you press a button. ClarisWorks includes several shortcuts that perform tasks such as making a bar chart or checking the spelling of a document.

A **macro** (short for macro command) is a sequence of actions that you save as a single command. You can define macros to automate tedious or repetitive tasks, or to "remember" a sequence of activities you perform frequently. For example, in a database document, you might define a macro that sorts records, opens the File menu, chooses Print, clicks OK, and prints a report. When you want to print the report, you just press a key sequence or choose a command and ClarisWorks generates the report for you.

About ClarisWorks Shortcuts

Shortcuts automate activities that would otherwise take multiple steps to complete. You access shortcuts from the Shortcuts palette, which shows buttons with pictures or names that identify each shortcut. Each button represents one shortcut. The Shortcuts palette is preset to include buttons for some common ClarisWorks actions.

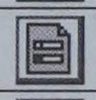
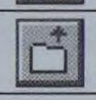


These shortcuts are preset to be available in a word processing document.

Some shortcuts only work in certain types of documents, so you see the buttons for those shortcuts only when the appropriate type of document or frame is active. For example, a shortcut that totals the values in spreadsheet cells shows on the Shortcuts palette only when a spreadsheet is active.

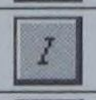
The following tables describe ClarisWorks shortcuts.

No Open Documents

Name	Button	Description
New WP		Creates a word processing document
New DR		Creates a draw document
New PT		Creates a paint document
New SS		Creates a spreadsheet document
New DB		Creates a database document
New CM		Creates a communications document
Open		Displays the Open dialog box

All Environments

You can use the shortcuts in the following table in all the environments except communications.

Name	Button	Description
Open		Displays the Open dialog box
Save		Displays the Save dialog box (first save only) or saves the latest changes to the document.
Print		Prints the document using current print settings
Undo		Cancels the most recent undoable action
Cut		Cuts the current selection to the Clipboard
Copy		Copies the current selection to the Clipboard
Paste		Pastes the contents of the Clipboard to the active document
Bold		Changes the selected text to bold
Italic		Changes the selected text to italic
Underline		Underlines the selected text

Word Processing

Name	Button	Description
Show/Hide Invis.		Hides or shows formatting characters such as spaces, paragraph returns, and tabs
Make Table		Copies the selected tab-delimited text to a new spreadsheet frame and formats the frame as a table
Make Custom Style		Makes a custom style from the selected text. If the selection includes text in different styles, ClarisWorks uses the first style in the selection.
Copy Ruler		Copies the current paragraph settings from the text ruler
Apply Ruler		Applies the copied text ruler settings to the current paragraph(s)
Inc. Font Size		Increases the font size of selected text by one point size
Dec. Font Size		Decreases the font size of selected text by one point size
Align Left		Aligns the selected paragraph(s) to the left margin
Align Center		Centers the selected paragraph(s) between the left and right margins
Align Right		Aligns the selected paragraph(s) to the right margin

Drawing

Name	Button	Description
Align Top Edges		Aligns the top edges of selected objects to the topmost object
Align Left Edges		Aligns the left edges of selected objects to the leftmost object
Align Bottom Edges		Aligns the bottom edges of selected objects to the lowest object
Align Right Edges		Aligns the right edges of selected objects to the rightmost object

Name	Button	Description
Align H. Centers		Centers selected objects on the grid location halfway between the top edge of the topmost object and the bottom edge of the lowest object
Align V. Centers		Centers selected objects on the grid location halfway between the left edge of the leftmost object and the right edge of the rightmost object
Move Forward		Moves the selected object forward one layer in the stacking order
Move Backward		Moves the selected object back one layer in the stacking order
Irregular Wrap		Wraps text tightly around the selected object
Rotate 90		Rotates the selected object 90 degrees clockwise

Painting

Name	Button	Description
Rotate 90		Rotates the selected image 90 degrees clockwise
Opaque Mode		Switches the paint environment to opaque mode
Transparent Mode		Switches the paint environment to transparent mode
Tint Mode		Switches the paint environment to tint mode
Lighter		Tints the selected image white
Darker		Tints the selected image black
Tint		Tints the selected image with the current fill color
Fill		Fills the selected image with the current fill color and pattern or gradient
Blend		Creates a smooth progression of color (or shades of gray) for the currently selected image if it is more than one color
Invert		Reverses the colors of the selected image

Spreadsheet

Name	Button	Description
Align Left		Aligns contents of selected cells to the left edge of each cell
Align Center		Centers contents of selected cells between the left and right edges of each cell
Align Right		Aligns contents of selected cells to the right edge of each cell
Sort Ascending		Sorts the selected range in ascending order
Sort Descending		Sorts the selected range in descending order
Auto-Sum		Totals values in selected columns, rows, or both, and places results in the selected empty cells below and to the right of the selected values
Currency Format		Changes values in the selected range to currency format
Percent Format		Changes values in the selected range to percent format
Commas Format		Changes values in the selected range to comma format
Outline Border		Outlines selected range with a solid border
Right Border		Adds a solid border to the right edge of selected cells
Bottom Border		Adds a solid border to the bottom edge of selected cells
Show/Hide Formulas		Shows or hides formulas or calculated results for all cells in the spreadsheet
Align Wrap		Wraps lines of characters in selected cells to fit the width of each cell
Insert Cells		Inserts as many rows or columns as selected
Delete Cells		Deletes as many rows or columns as selected
Bar Chart		Creates a bar chart from the selected range
Pie Chart		Creates a pie chart from the selected range
Area Chart		Creates an area chart from the selected range
Line Chart		Creates a line chart from the selected range

Database

Name	Button	Description
Sort Ascending		Sorts the found set of records in ascending order using the current field as the key
Sort Descending		Sorts the found set of records in descending order using the current field as the key
Sort Again		Resorts the founds set of records using the current sort criteria
Match Equal		Selects records with fields containing values equal to the value in the current field
Match Not Equal		Selects records with fields containing values not equal to the value in the current field
Match <		Selects records with fields containing values less than the value in the current field
Match >		Selects records with fields containing values greater than the value in the current field
New Record		Appends a new record to the database
Show All Records		Puts all records in the database in the found set
Hide Selected		Hides selected records from view

Communications

Name	Button	Description
Open		Displays the Open dialog box
Save		Displays the Save dialog box
Print		Prints the document using current print settings
Copy		Copies the selected characters to the Clipboard
Paste		Pastes the contents of the Clipboard at the insertion point
Open Connection		Initiates a connection between your terminal and another terminal
Close Connection		Ends a communications session
Wait Connection		Prepares your computer for a connection request or call from another computer
Send File		Displays the Send File dialog box
Receive File		Prepares your computer to receive a file from another computer

- **Tip** If you create a macro and assign it a button, you can add the macro to the Shortcuts palette. For more information, see "Defining a Macro" on page 8-49.

Using a Shortcut

You use a shortcut by clicking its button on the Shortcuts palette.

To use a shortcut:

1. **Choose Shortcuts from the File menu and Show Shortcuts from the submenu.**

   You see the Shortcuts palette.

2. **Click the button for the shortcut you want to use.**

   ClarisWorks performs the shortcut.

   For more information on what each individual shortcut does, see "About ClarisWorks Shortcuts" on page 8-40.

Editing the Shortcuts Palette

You can set up the Shortcuts palette so it includes only the shortcuts you want to use. You can also change the appearance of the palette to suit the way you work.

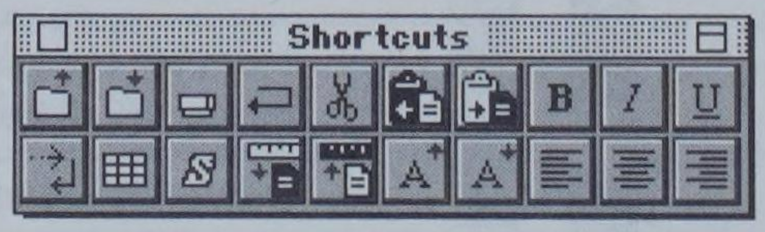
Adding Buttons to the Palette

Adding buttons to the Shortcuts palette makes them available for use in a ClarisWorks document. When you add a button, you can specify that the shortcut it represents be available only when the current document is open, or in any ClarisWorks document.

To add a shortcut button to the Shortcuts palette:

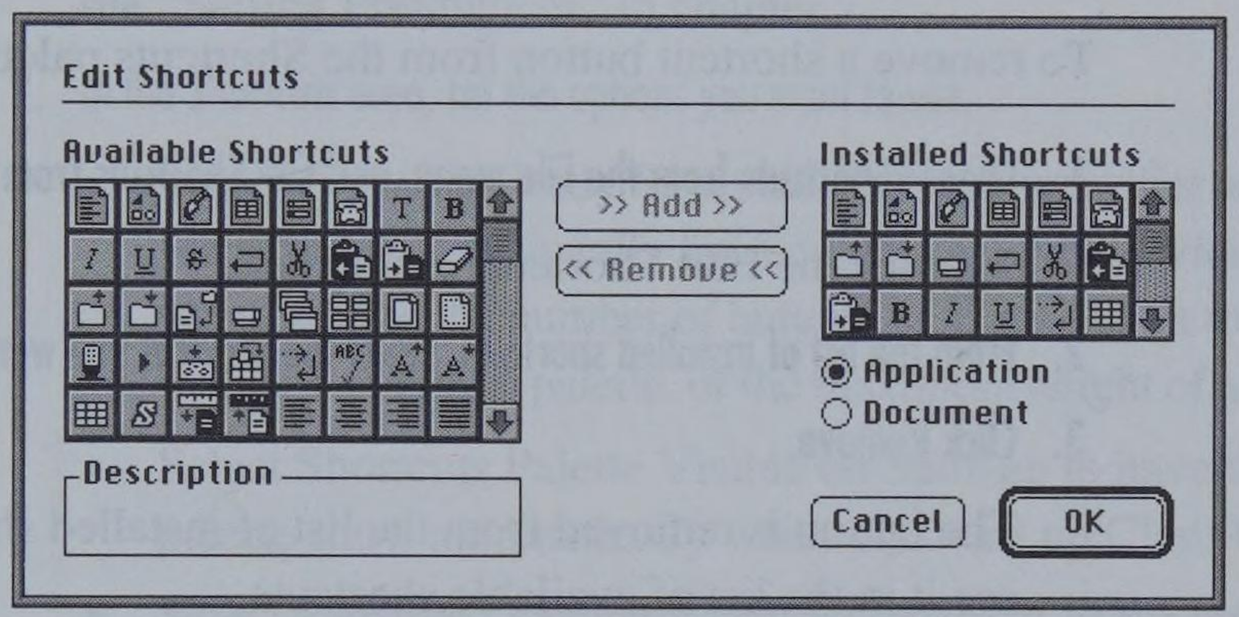
1. **If necessary, show the Shortcuts palette by choosing Shortcuts from the File menu and then Show Shortcuts from the submenu.**

   You see the Shortcuts palette. (If the Shortcuts palette is already open, you see the Hide Shortcuts command in the submenu instead.)



2. Choose Shortcuts from the File menu and Edit Shortcuts from the submenu.

   You see the Edit Shortcuts dialog box.



3. Set the extent to which the shortcut is available.

   Select Application if you want the shortcut to appear on the palette in all ClarisWorks document types. Select Document if you want the shortcut to appear only when the current document is open.

4. From the list of available shortcuts, select the shortcut you want to add to the palette.

   The list of available shortcuts shows all the ClarisWorks shortcuts, plus any macros to which you've assigned buttons.

5. Click Add.

   You see the button in the list of installed buttons.

6. If you are finished adding buttons, skip to the next step. To continue adding buttons, repeat steps 3 through 5.

7. Click OK to close the Edit Shortcuts dialog box.

   You see the buttons you added on the Shortcuts palette.

- **Note** If you added a shortcut that includes commands that exist only in a certain document type, the shortcut appears on the palette only when a document of that type is active.

Removing Buttons from the Palette

You can remove a shortcut button from the palette without permanently deleting the shortcut from ClarisWorks.

To remove a shortcut button from the Shortcuts palette:

1. **Choose Shortcuts from the File menu, and Edit Shortcuts from the submenu.**

   You see the Edit Shortcuts dialog box.

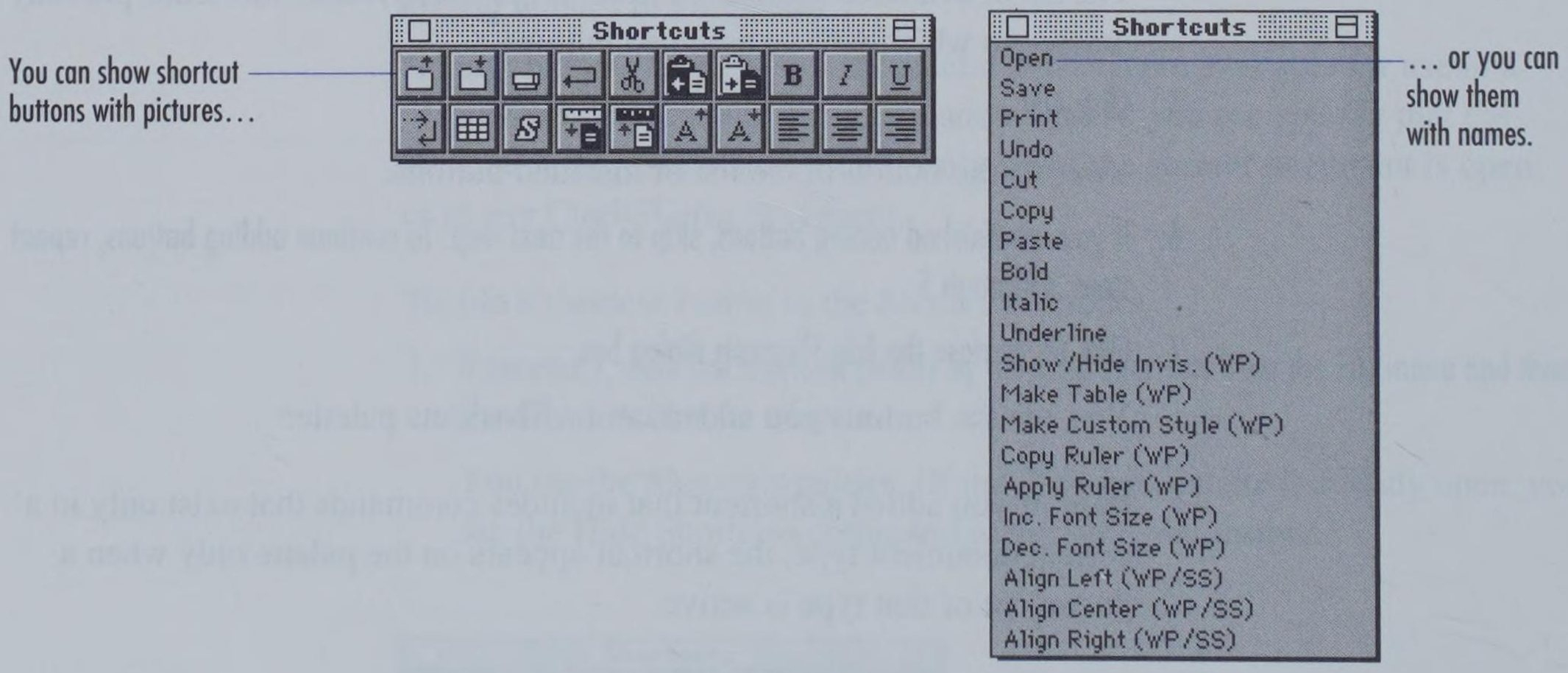
2. **From the list of installed shortcuts, select the shortcut you want to remove.**
3. **Click Remove.**

   The button is removed from the list of installed shortcuts, but you can still see it in the list of available shortcuts.

4. **Click OK to close the Edit Shortcuts dialog box.**

Customizing the Shortcuts Palette

You can customize the appearance of the Shortcuts palette by setting its dimensions, displaying names rather than pictures, and grouping different types of shortcuts.



To customize the Shortcuts palette:

1. **Choose Preferences from the Edit menu and select the Palettes icon.**

   You see the Palettes options. If you need help navigating in this dialog box, see "Setting Preferences" in chapter 2.

2. **In the Shortcuts area, set the options you want to use.**

   - Select Grow Vertically for a palette that grows taller as you add buttons; select Grow Horizontally for a palette that grows wider. Enter a value (representing the number of buttons) in Grow Limit to set the maximum width of a vertical palette, or the maximum height of a horizontal palette.
   - Select Shortcuts Palette Visible on Start-up to have the Shortcuts palette show automatically when you start up ClarisWorks.
   - Select Separate Document Buttons to group all the buttons that apply to the active document only (rather than to all documents) after a dividing line at the end of the palette.
   - Select Show Names to display the name of each shortcut on the palette, rather than the icon representing it.

3. **Click OK to close the Preferences dialog box and save your settings.**

Using Macros

With macros, you can save time by reducing a sequence of actions to a single step. If you assign a button to a macro and add it to the Shortcuts palette, you can use the macro just like a shortcut.

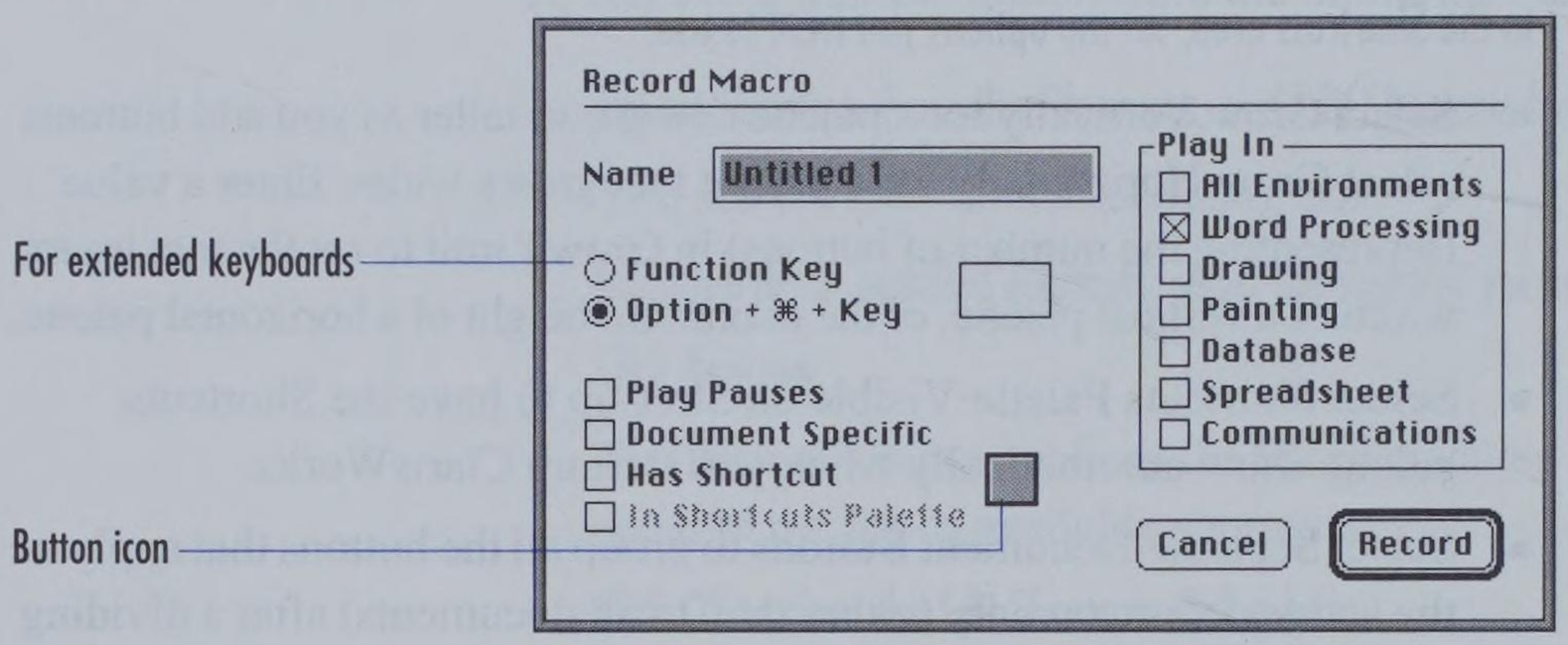
Defining a Macro

Defining a macro is similar to recording your voice on a tape recorder—you switch on the recorder and perform a series of actions. When you switch off the recorder, your actions are stored for future use.

To define a macro:

1. **Choose Shortcuts from the File menu and Record Macro from the submenu.**

   You see the Record Macro dialog box.



2. **Type a name for the new macro.**

   New macros have the preset name "Untitled" and a number.

3. **If you want to, assign a letter or function key so you can use the macro by pressing keys.**

   You don't have to assign keystrokes, but doing so makes the macro available from the keyboard—you may find typing more convenient than choosing the macro from a list or assigning it a button.

4. **Set characteristics for the macro.**

   - Select Play Pauses to play the macro at the same speed at which you create it, including the idle time between each action you record.
   - Select Document Specific to create a macro available for use in the current document only.
   - Select Has Shortcut to assign a button to the shortcut.
   - Select In Shortcuts Palette to install the macro's button in the Shortcuts palette, so you can use it the same way you use a ClarisWorks shortcut.

5. **If you've assigned a button to the macro and want to add a picture to it, create the picture.**

   Click the button icon next to the Has Shortcut option to open the Edit Button Icon dialog box and create a picture for the button. For more information on using the options in this dialog box, see "Customizing a Macro's Button Icon" on page 8-53.

- **Note** You don't have to create a picture right away if you don't want to take the time—you can do so after you record the macro.

6. **Select the document types in which you want to use the macro.**

   Select All Environments to use the macro in all the ClarisWorks document types that support the actions you include in the macro. Or, select one or more specific document types to make the macro available only when a document of one of those types is active.

7. **Click Record.**

   A microphone flashes in the menu bar to indicate that recording is in progress.

8. **Perform the actions you want to record in the macro.**

   ClarisWorks records keystrokes, mouse clicks, and commands. It does not record actions such as dragging the mouse or scrolling a window.

- **Tip** You can start or stop recording a macro at any time by pressing Shift-Command-J. You may need to do this if you want to stop recording while a dialog box is open and menus aren't available.

- **Tip** In a communications document, you can insert a timed delay or a text string for which you want the communications software to wait. To do so, choose Shortcuts from the File menu and Macro Wait from the submenu. The Macro Wait command is available only when you're connected. For more information, see "Creating a Log-On Macro" in chapter 9.

9. **To stop recording, choose Shortcuts from the File menu, and Stop Recording from the submenu.**

   The actions you performed are stored as a macro.

Playing a Macro

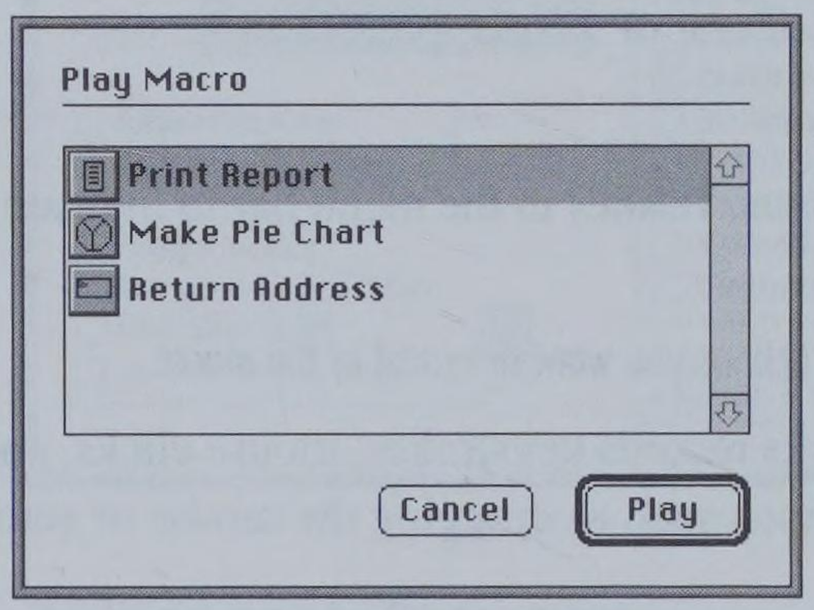
Playing a macro executes its sequence of actions. There are several ways to play a macro, depending on how it is set up: you can choose it from a list, or press the key sequence assigned to it. If you assigned a button to the macro, you can use it from the Shortcuts palette just like a ClarisWorks shortcut. (For more information on using shortcuts, see "Using a Shortcut" on page 8-46.)

From the List of Macros

To play a macro by choosing it from a list:

1. **Choose Shortcuts from the File menu and Play Macro from the submenu.**

   You see the Play Macro dialog box, which shows all the shortcuts you've defined yourself.



2. **Select the name of the macro you want to use and click Play.**

   ClarisWorks performs the actions you recorded.

By Pressing Keys

If you assigned a key sequence to macro, you can play the macro by pressing the key sequence. If you don't remember the key sequence, you can look it up in the Edit Macros dialog box. For more information on using this dialog box, see "Editing a Macro," next.

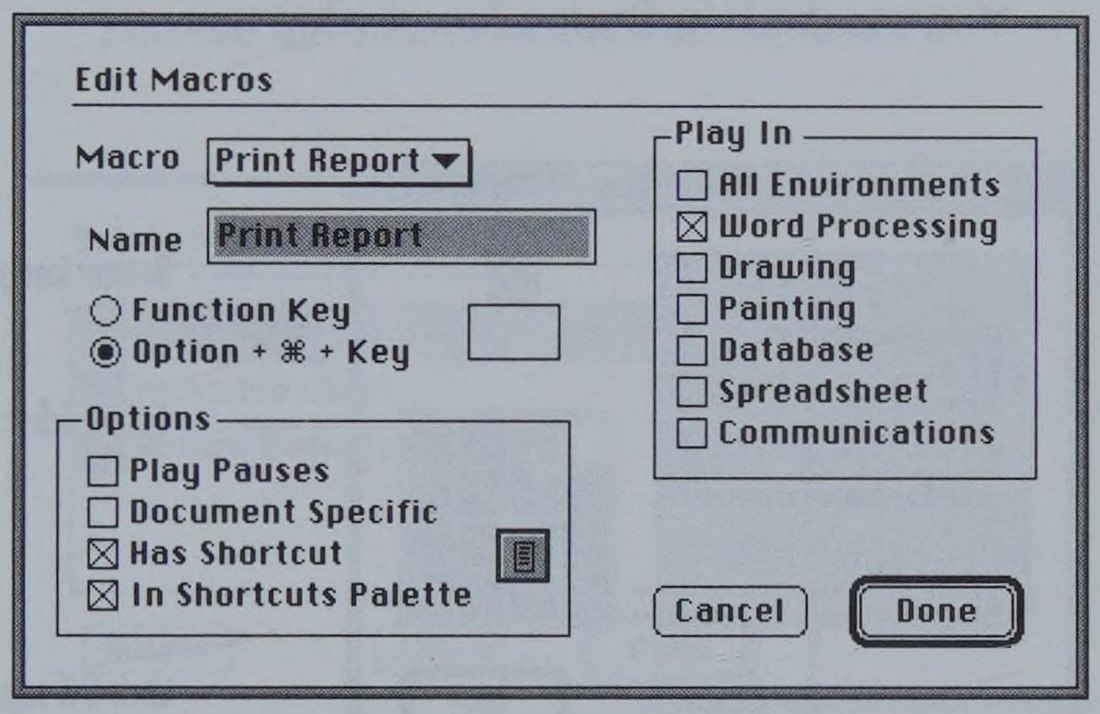
Editing a Macro

Once you've defined a macro, you can easily change its name, playback keystrokes, and range of use. You cannot edit the sequence of steps that makes up the macro; you must record the macro again under another name, or delete the macro and record it again.

To edit a macro:

1. **Choose Shortcuts from the File menu and Edit Macros from the submenu.**

   You see the Edit Macros dialog box.



2. **From the pop-up menu, select the name of the macro you want to change.**
3. **Change the settings you want to replace.**

   For more information on individual settings, read the steps in the section "Defining a Macro" on page 8-49.

4. **Repeat steps 2 and 3 to edit more than one macro.**
5. **When you are finished making changes, click Done to close the Edit Macros dialog box.**

   As soon as you close the dialog box, ClarisWorks puts your changes into effect.

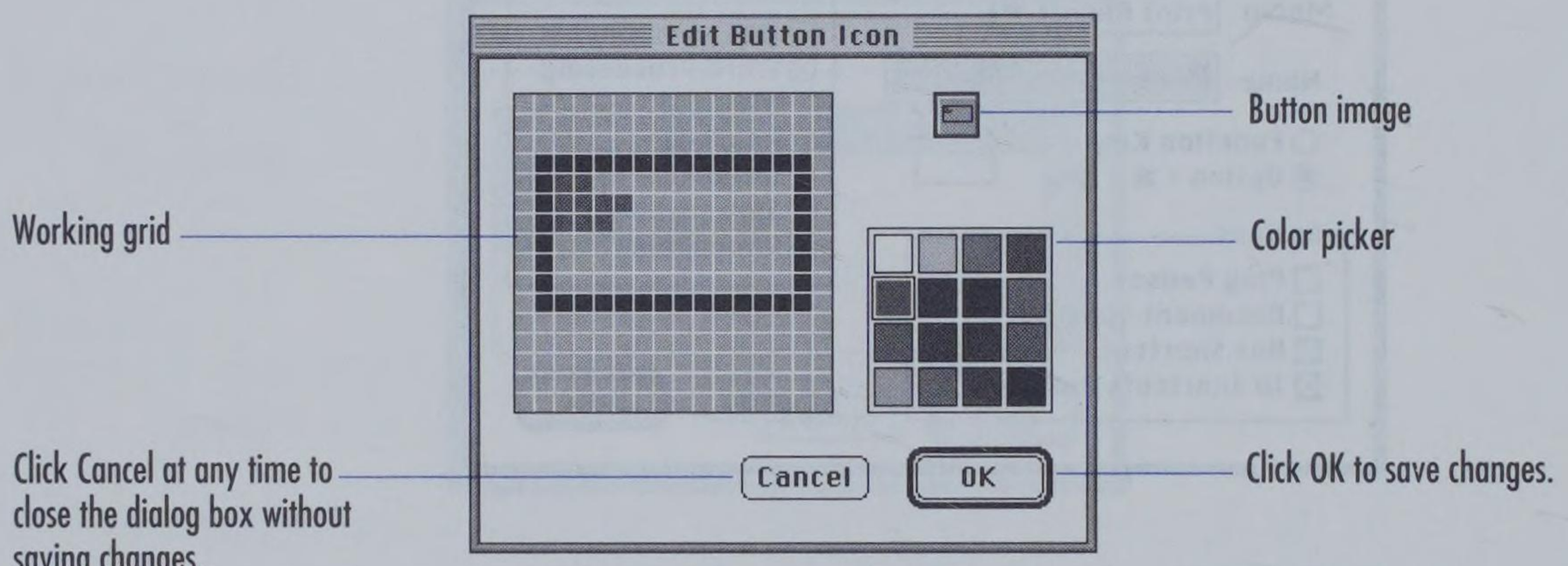
Customizing a Macro's Button Icon

When you assign a button to a macro, the button is preset to be blank. You can create an identifying picture to help you remember what the macro does, and edit the button at any time. You cannot edit buttons for the ClarisWorks shortcuts.

To modify a macro's button icon:

1. If the Shortcuts palette isn't showing, choose Shortcuts from the File menu and Show Shortcuts from the submenu.
2. Option-click the button you want to modify.

   You see the Edit Button Icon dialog box.



3. On the working grid, draw the picture you want to see on the button.

   Choose a color from the color picker and click or drag through squares on the grid. You can use any combination of colors. As you draw, an image of the button shows in the upper-right corner of the dialog box.
4. When you are finished drawing, click OK to save the picture and close the dialog box.

◆ **Tip** You can copy and paste an image from a paint document into the Edit Button Icon dialog box. Creating button art in the paint environment gives you additional design options.

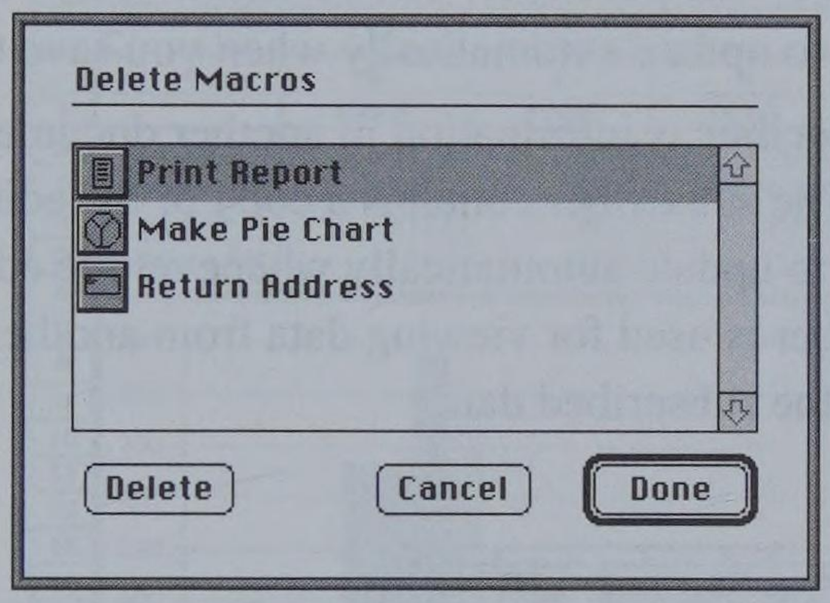
Deleting a Macro

You can permanently delete a macro if you find that you no longer need it.

To delete a macro:

1. **Choose Shortcuts from the File menu and Delete Macros from the submenu.**

   You see the Delete Macros dialog box.



2. **In the dialog box, select the name of the macro you want to delete.**

   You can select multiple macros by pressing Shift while you click the macro names.

3. **Click Delete.**

   The macros are removed from ClarisWorks.

Using Publish & Subscribe

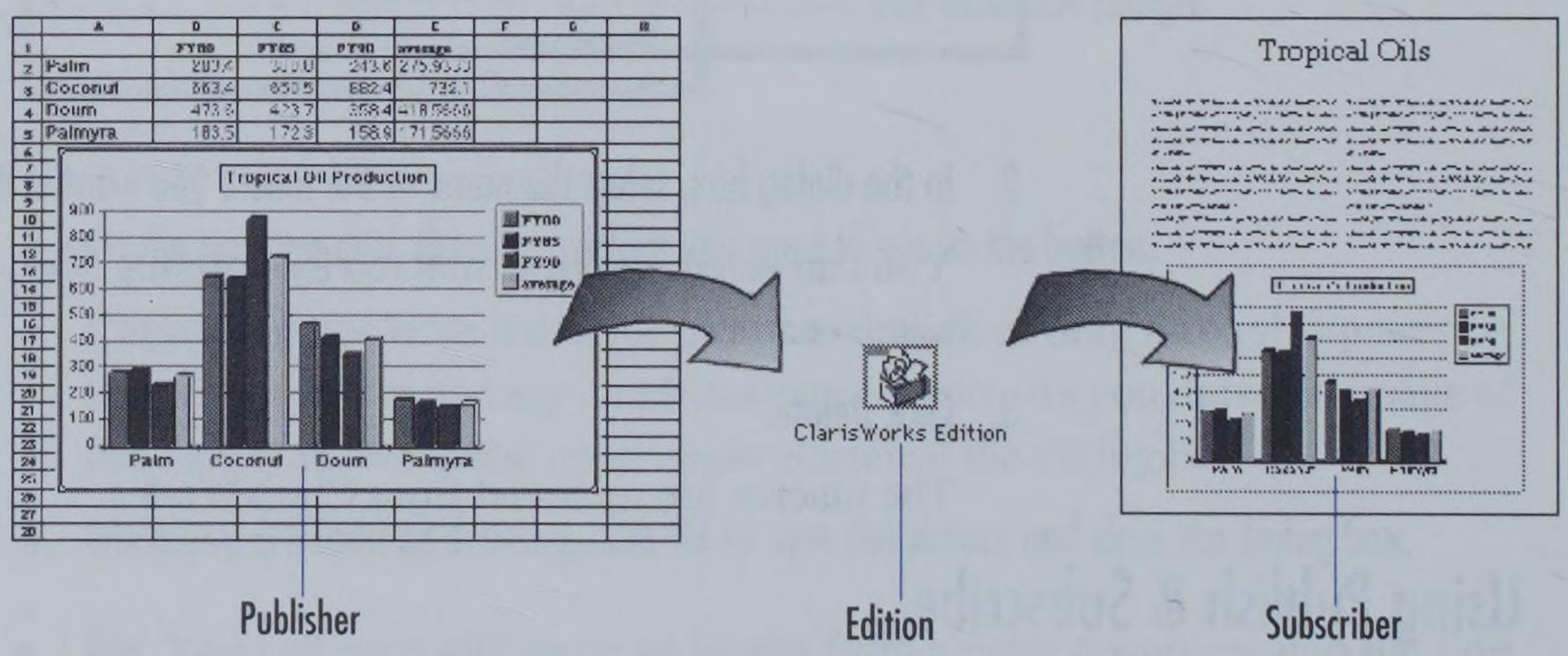
ClarisWorks supports Macintosh System 7 Publish & Subscribe, which makes it easy to share information with other documents and applications. You must be running System 7 to take full advantage of Publish & Subscribe. If you are running System 6, you can use the shared data but you cannot send and receive updates automatically.

You cannot publish or subscribe to information from the paint and communications environments, and from Browse and Find in a database.

About Publish & Subscribe

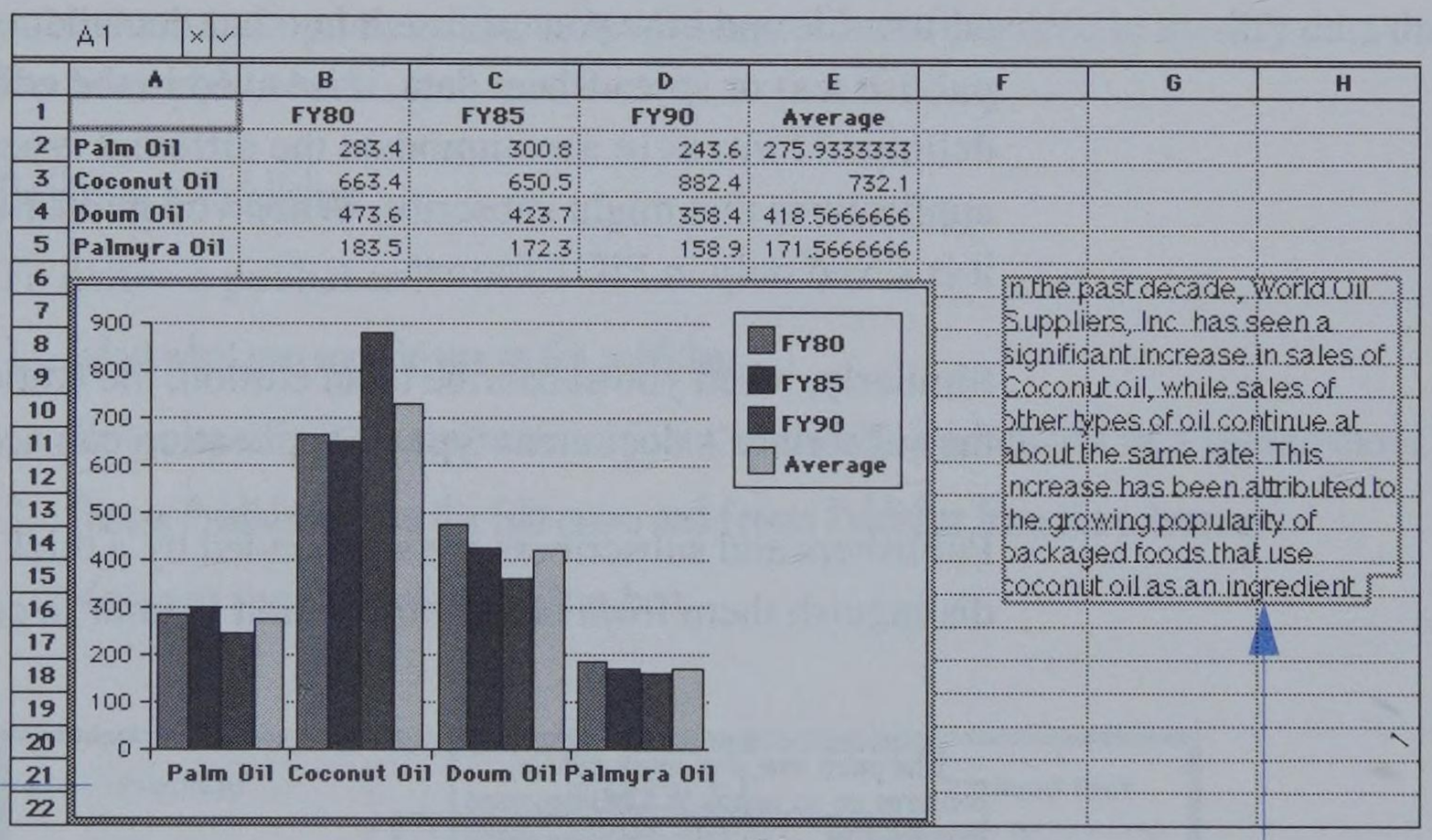
Think of Publish & Subscribe as a "live" copy and paste of information from one document or application to another. When you use Publish & Subscribe, the information is in three places:

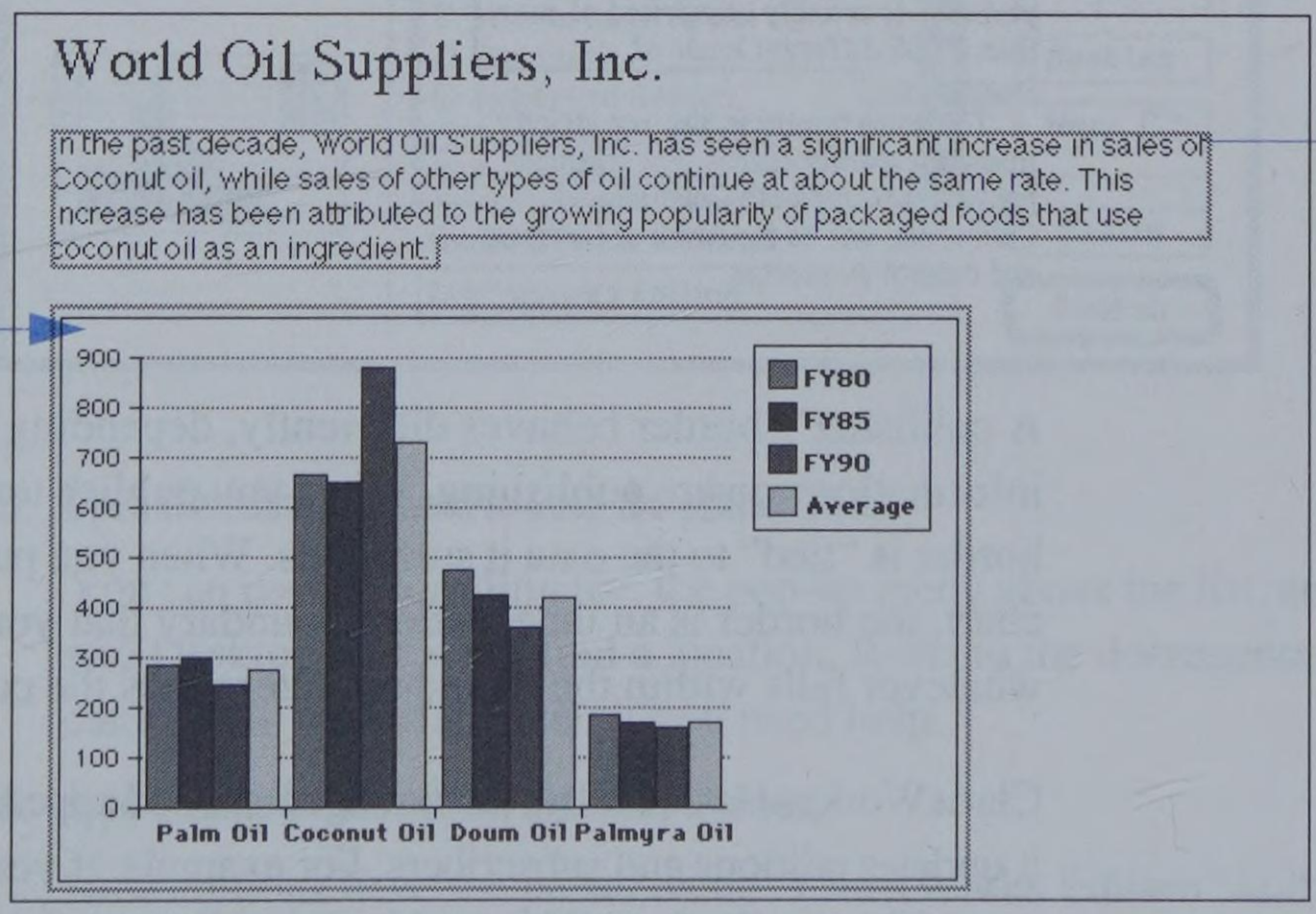
- The **publisher** is part of a document that is a source of data.
- The **edition** is a separate file that contains a copy of the information identified by the publisher. The edition is linked to the publisher, and you can set it to update automatically when you save the publisher.
- The **subscriber** is information in another document that is linked to the edition. The subscriber contains a copy of the edition's contents, and you can set it to update automatically whenever the edition changes. Typically a subscriber is used for viewing data from another document, but you can also edit the subscribed data.



Publishers and subscribers are linked by the edition file. The link is maintained even if any of the files involved are moved, renamed, or closed.

You can have any number and combination of publishers and subscribers in a document. For example, you could publish a chart from a spreadsheet document for a colleague to use in a word processed report, and set the published chart's edition file to update automatically whenever you change data in your spreadsheet. At the same time, you could subscribe to your colleague's analysis of the data in a text frame of the spreadsheet where you originally created the chart.





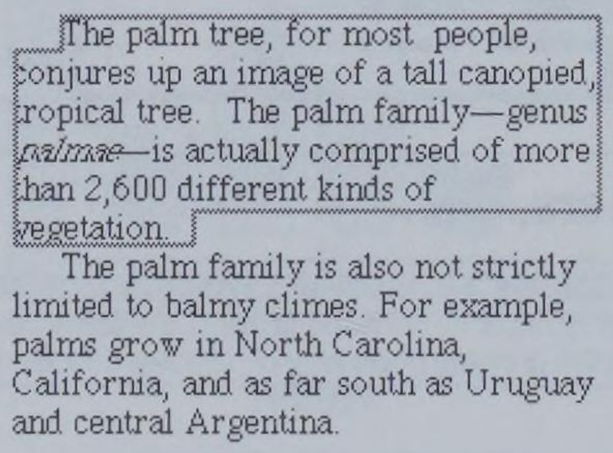
- **Important** You must be using System 7 to set up publishers and subscribers. Once the links are established, you can use documents with publishers and subscribers in System 6—but those publishers and subscribers *cannot* be automatically updated.

Deciding What to Publish or Subscribe To

The type of information you select to publish determines how it is stored in the edition file and how you can use it in other documents. For instance, when you publish text or spreadsheet data, it is saved in the edition in text and tab-delimited formats to accommodate the different types of documents or applications that might subscribe. When you publish a drawn object or a chart, it is saved only in PICT format.

Similarly, when you subscribe to an edition, the edition must contain data that the subscriber's document type or application can accept.

Publishers and subscribers are surrounded by a thick gray border so you can distinguish them from other information in your document.



A publisher's border behaves differently, depending on what type of information you are publishing. When you publish text or spreadsheet data, the border is "tied" to the data it surrounds. When you publish a drawn object or a chart, the border is an independent boundary that you can move and resize—whatever falls within the boundary determines the contents of the edition file.

ClarisWorks also considers the arrangement and appearance of information when it updates editions and subscribers. For example, if you sort data in published spreadsheet cells, the edition and its subscribers update to use the new order.

Publishing Information from a Document

Publishing information from a document defines part of your document as the publisher and saves a copy of it in a separate edition file. You can publish subscribed data.

You can modify the original information in the publisher and determine when the edition is updated with your changes. You must be using System 7 to define publishers and update editions, but System 7 is not required to modify data that has been published.

Defining a Publisher

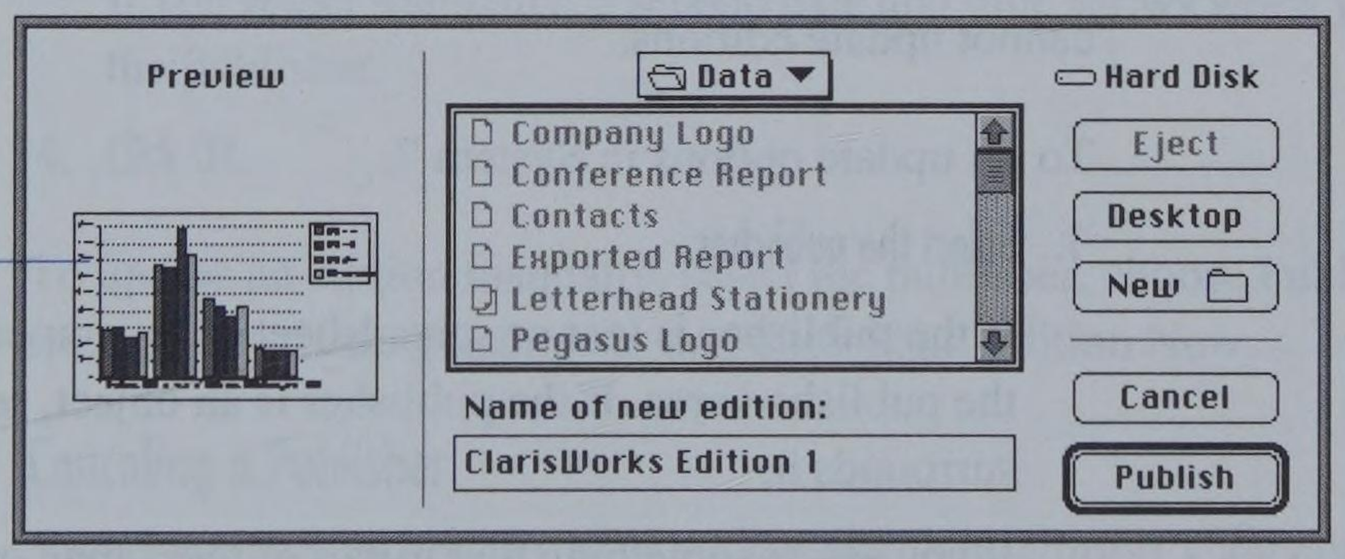
To define a publisher:

1. **Select what you want to use as the publisher.**

   You can select text, drawn objects, and cells and charts in a spreadsheet.

2. **Choose Publishing from the Edit menu and Create Publisher from the submenu.**

   You see the Publisher dialog box.



3. **Open the folder you want to keep the edition file in.**

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to find a location. Refer to the documentation that came with your Macintosh if you need help.

4. **Type a name for the edition file in the text box.**

   New editions have the preset name "ClarisWorks Edition" and a number.

5. **Click Publish.**

   ClarisWorks creates a new edition file with a copy of the information you selected. Your selection becomes a publisher and is surrounded by a border. (For more information about the appearance of the publisher, see "Deciding What to Publish or Subscribe To" on page 8-58.)

Modifying a Publisher

You can modify a publisher as you would any other information in ClarisWorks, and the changes are sent to the edition the next time it is updated (unless you are running System 6). Note that a few special conditions apply:

- If you delete tabular data from a publisher, blank cells show in the edition in place of the data.
- If you open a file under System 6, an edition is not updated when you modify its associated publisher.

Updating an Edition

In System 7, you can set whether an edition is updated when you save the source file (preset) or only when you request an update. In System 6, you cannot update editions.

To set update options in System 7:

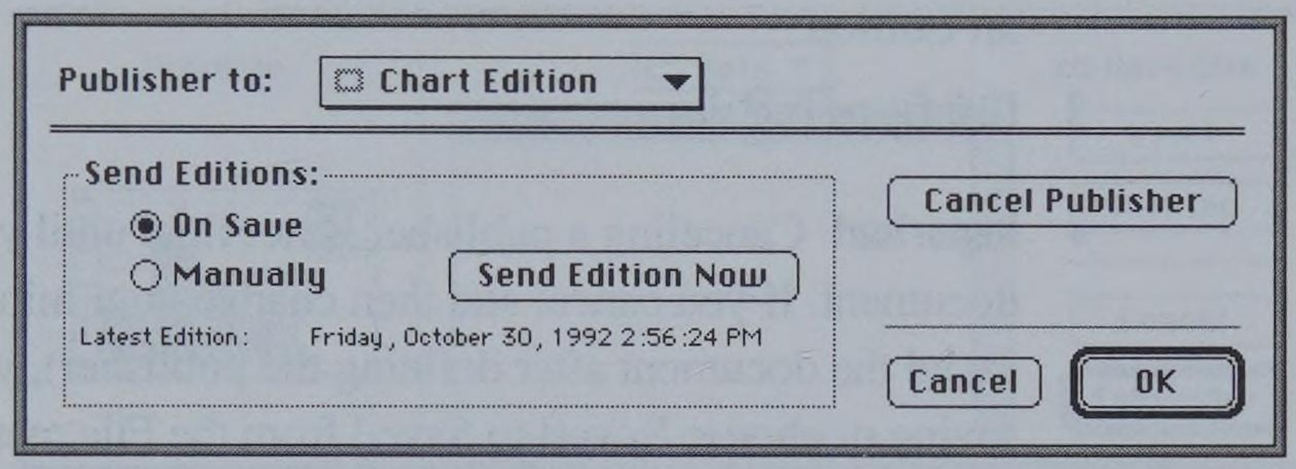
1. **Select the publisher.**

   If the publisher is text or spreadsheet cells, you can click anywhere inside the published area. If the publisher is an object, select the gray border that surrounds it.

   If you select something that is part of more than one publisher, you can set the options for the first publisher defined from that data or object.

2. **Choose Publishing from the Edit menu and Publisher Options from the submenu.**

   You see the Publisher Options dialog box.



   You can click the edition name to see a pop-up menu showing the folders and disk that edition is in.

3. **In the Send Editions area, set how you want the edition to be updated.**

   On Save sends changes every time you save the source document. Manually sends changes only when you click Send Edition Now.

   The Latest Edition date and time shows when the edition was last updated. If you select Manually, a second date and time shows when you last edited the publisher.

4. **Click OK.**

To update an edition manually, select the publisher, choose Publisher Options from the Publishing submenu, and click Send Edition Now.

Canceling a Publisher

You cancel a publisher by deleting the link to its edition. Canceling a publisher does not affect the edition file or its subscribers, but you can no longer send updates. You must be running System 7 to cancel a publisher.

To cancel a publisher:

1. **Select the publisher.**

   If the publisher consists of text or spreadsheet cells, you can click anywhere inside the published information. If the publisher is an object, select the gray border that surrounds it.

   If you select something that is part of more than one publisher, you can set options for the first publisher defined from the selected information.

2. Choose Publishing from the Edit menu and Publisher Options from the submenu.

   You see the Publisher Options dialog box.

   In System 7, the dialog box looks like the one shown earlier in "Updating an Edition."

3. Click Cancel Publisher.

- **Important** Canceling a publisher is not final until you save the source document. If you cancel and then change your mind before saving (and you saved the document after defining the publisher), you can close without saving or choose Revert to Saved from the File menu to re-establish the link.

Canceling a publisher does not remove the edition. To remove the edition, drag it to the Trash from the Macintosh desktop.

Subscribing to Information in a Document

Subscribing to information in a document defines part of your document as the subscriber, and the system pastes a copy of the edition there.

You can modify the subscriber and determine when it is updated with changes to the edition. You must be using System 7 to set up and update subscribers, but System 7 is not required to modify them.

Setting Up a Subscriber

To subscribe to an edition:

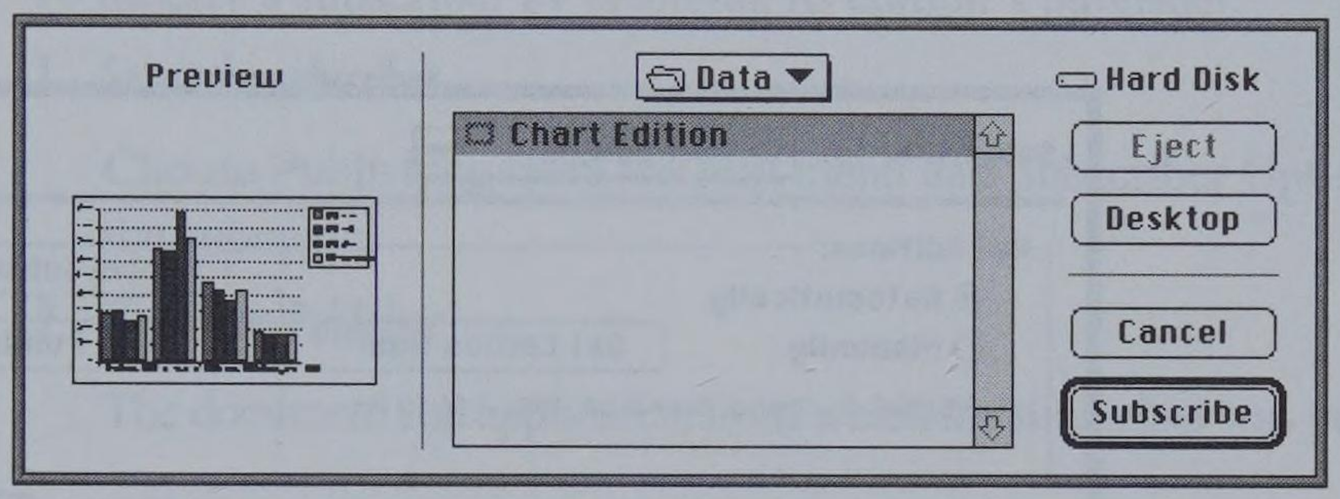
1. Select an area to designate as the subscriber.

   Depending on the type of document or frame you are in, you can select text or spreadsheet cells. In a draw document or database layout, click a location for the subscriber in the working area. (If you don't click a location, ClarisWorks centers the subscriber on the page.)

- **Important** When subscribing to cells in a spreadsheet, be sure you select a range of cells large enough to hold the subscriber. ClarisWorks subscribes to the entire edition, regardless of its size. If you select a range for the subscriber that is smaller than the amount of data in the edition you are subscribing to, the additional data replaces the contents of cells adjacent to the subscriber in the spreadsheet.

2. **Choose Publishing from the Edit menu and Subscribe To from the submenu.**

   You see the Subscribe To dialog box.



3. **Select the edition you want from the scrolling list.**

   You can use the scrolling list, the pop-up menu above the list, and the Eject and Desktop buttons to locate the document. Refer to the documentation that came with your Macintosh if you need help.

4. **Click Subscribe, or double-click the edition name.**

   You see a copy of the edition in the subscriber.

Updating and Modifying a Subscriber

In System 7, you can update a subscriber whenever the edition changes or only when you request an update. In System 6, editions are *not* updated.

ClarisWorks is preset to protect text subscribers from modification. If you want to edit a text subscriber, you can remove this protection. You can edit text subscribers in System 7 and in System 6.

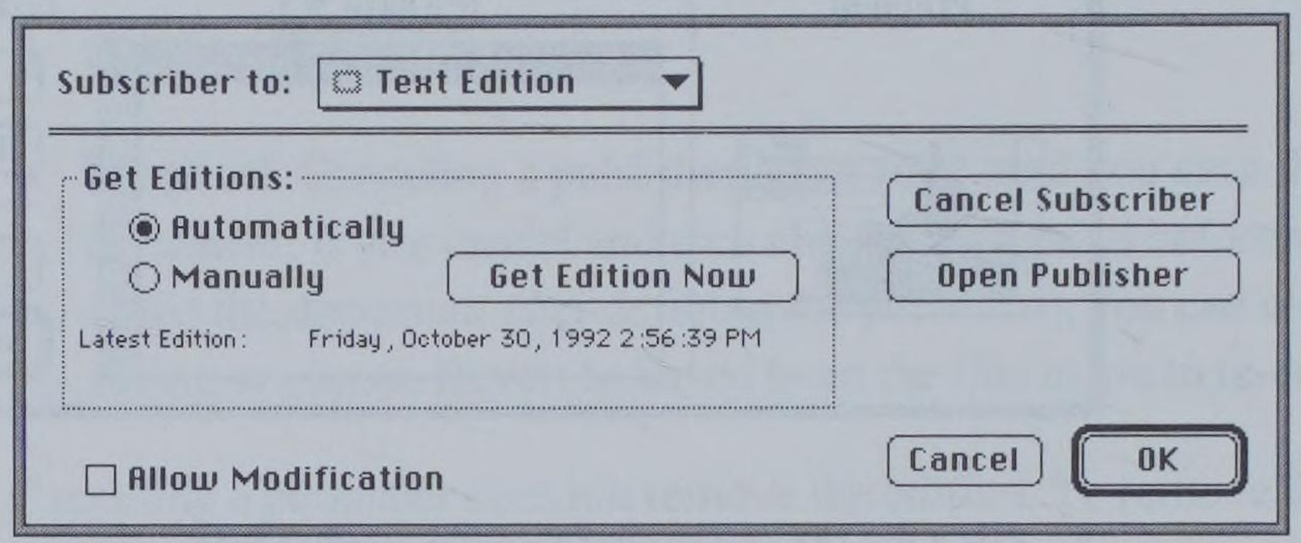
To set options for updating and modifying:

1. **Select the subscriber.**

   If the subscriber is text or spreadsheet cells, click anywhere inside the subscriber's border to select it. If the subscriber is a chart or a drawn object, click the object to select it.

2. Choose Publishing from the Edit menu and Subscriber Options from the submenu.

   You see the Subscriber Options dialog box. In System 7, the dialog box looks like this:



   If you are setting options for a drawn object, the dialog box does not include an Allow Modification option.

   You can click the edition name to see a pop-up menu showing the folders and disk that the edition is in.

3. If you're using System 7, select Automatically or Manually in the Get Editions area.

   Automatically updates the subscriber as soon as the edition changes. Manually updates the subscriber only when you click Get Edition Now.

   The Latest Edition date and time show when the edition was last updated. If you select Manually, you see a second time and date that shows when you last updated the subscriber.

4. If you want to edit the subscriber, select Allow Modification (except for drawn objects).

   You must be running System 7 to select this option.

- **Important** If you're using System 7, keep in mind that any changes you make to a subscriber are temporary because they are replaced at the next update. If you want to break the link and turn a subscriber into a permanent editable part of the document, click Cancel Subscriber.

5. Click OK.

To update a subscriber manually, select the subscriber, choose Subscriber Options from the Publishing submenu, and click Get Edition now.

If you have access to the document that contains the edition's publisher, you can also make changes there (in System 7 only).

To modify a subscriber by changing its edition's publisher:

1. **Select the subscriber.**

   Choose Publishing from the Edit menu and Subscriber Options from the submenu.

2. **Click Open Publisher.**

   The document and application from which the subscriber was published opens.

Canceling a Subscriber

You cancel a subscriber by deleting its link to the edition. The most recent data from the edition remains in the subscribing document as editable data or as an object. You must be running System 7 to cancel a subscriber.

To cancel a subscriber:

1. **Select the subscriber.**
2. **Choose Publishing from the Edit menu and then Subscriber Options from the submenu.**

   You see the Subscriber Options dialog box.

3. **Click Cancel Subscriber.**

- **Important** Canceling a subscriber is not final until you save the subscribing document. If you cancel and then change your mind before saving (and you saved the document after subscribing), you can close without saving or choose Revert to Saved from the File menu to re-establish the link.

Displaying Publishers and Subscribers

ClarisWorks is preset to identify all information that has been published or subscribed to by surrounding it with a gray border. The border does not print.

If you don't want borders to display around publishers and subscribers, choose Publishing from the Edit menu and Hide Borders from the submenu. This command alternates with Show Borders.

Chapter 9

Working with Communications

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Chapter 9

Working with Communications

You can use the ClarisWorks communications environment to establish communication between your Macintosh and online services or other computers.

This chapter tells you how to:

- connect to an online service or to another computer
- work with data that you receive during a communications session
- streamline communications tasks with the phone book, stationery documents, and macros
- change the settings for the connection tool, the terminal emulation tool, and the file transfer tool
- set preferences for communications documents or for the communications environment

Before You Begin

Before you start a communications session, make sure you have the required hardware and software listed in "What You Need." If you're new to communications, you should become familiar with the communications concepts and terminology described in "Communications Concepts."

What You Need

Before you can use ClarisWorks to connect to an online service or another computer, you need the following equipment and software:

- An Apple Macintosh computer with a hard disk and at least 1 megabyte of memory. Claris recommends (and System 7 requires) at least 2 megabytes.
- The Apple Communications Toolbox. For installation instructions, see the *ClarisWorks Installation Guide*.
- Macintosh system software version 6.0.5 or later. You can use ClarisWorks with System 7.
- A modem and appropriate cables. (A modem is required only if you communicate over a telephone line.)

If you plan to connect to a commercial online service, you also need to register for an account. Most popular services let you sign up on your first connection.

Communications Concepts

If you're new to communications, you need to be familiar with the following communications terms and concepts.

Terminal

A **terminal** is a computer screen and keyboard used to operate a remote computer. The ClarisWorks communications environment includes terminal software that lets your Macintosh act like (emulate) a terminal. This is called **terminal emulation.** Through terminal emulation, your computer and the computer you're communicating with can "speak the same language."

Host Computer

You communicate with a **host computer**, or remote computer, across a telephone line or data network. Online information services use host computers designed to handle many users and large amounts of information.

To communicate with a host computer, you usually need an assigned user name and password. When you identify yourself at connection time, you're **logging on**. When you disconnect, you're **logging off**.

Connecting

Communication from one computer to another requires a transmission channel—usually a telephone line, but sometimes a network or direct cabling between two computers. Connection by telephone requires a **modem**, which is a device that turns data from your computer into a signal that can be transmitted over a telephone line. The computer at the other end of the telephone connection also requires a modem. Information passes through that modem to the distant computer.

Session

Each time you connect and disconnect to an online service or another computer, you begin and end a communications **session**. The time that passes while you're connected to an online service or bulletin board is called **connect time.** When you use a commercial host computer, you're usually billed only for connect time.

Online Service

Online services operate host computers that give you access to a variety of information, such as databases for researching topics and bulletin boards for communicating with other users.

To use an online service, you need to be familiar with the special terms and commands your service uses. You need to know your user name, password, and the service's commands to find the information you want.

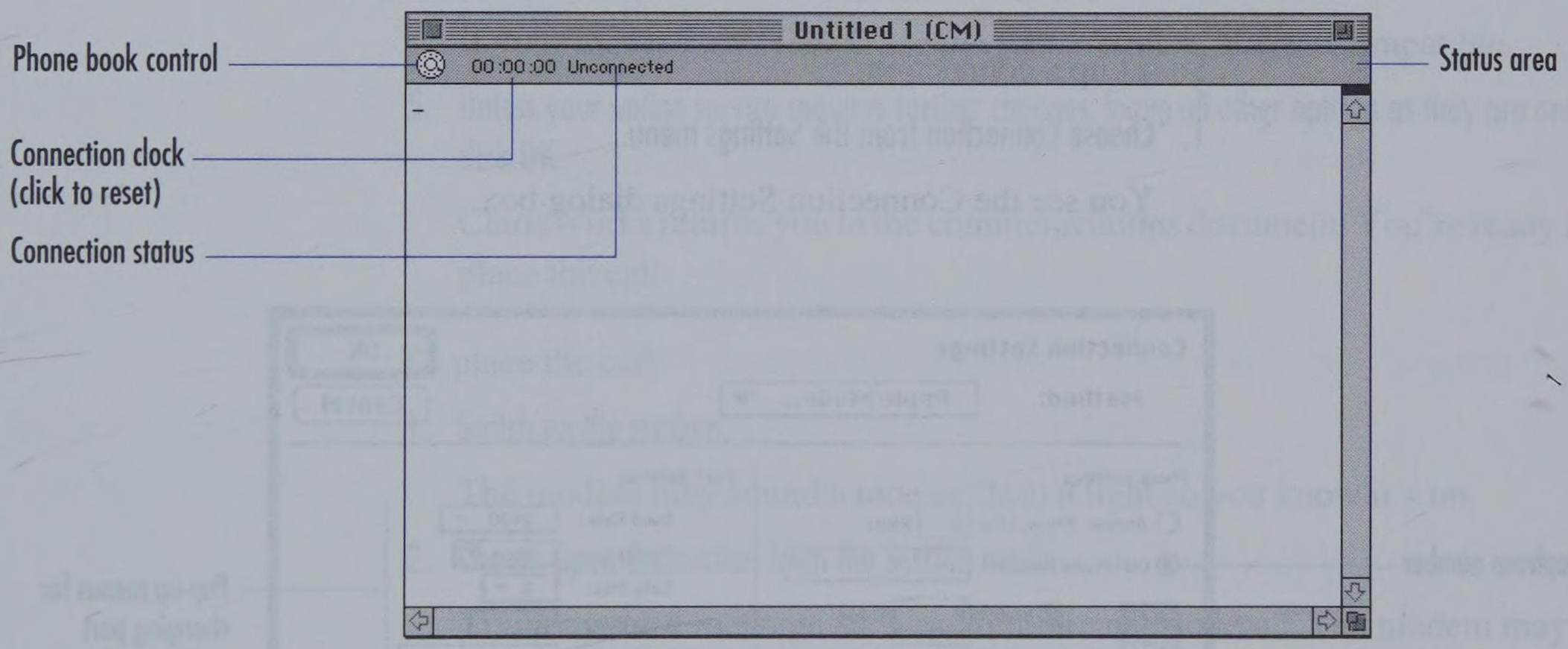
Online services usually include online help. Be sure to review the manual sent to you by the service. It can help you to use your session time efficiently.

Creating a Communications Document

To begin a communications session, you start with a communications document. Once you've created a communications document, you can save it and use it again to start another communications session.

You create a communications document as you would any other ClarisWorks document. If ClarisWorks isn't already running, start it and then select Communications in the New Document dialog box.

You see a new communications document.



Once you've opened a communications document, you're ready to set up a connection to an online service or another computer.

- **Note** To communicate with more than one computer or online service at the same time, you can open more than one ClarisWorks communications document. Each document handles one session. You must have a port available for each session if you want simultaneous sessions.

Connecting to an Online Service or Another Computer

This section gives you step-by-step instructions for connecting to an online service, for receiving a call from another computer, and for connecting directly to another computer.

Connecting to an Online Service or a Remote Computer

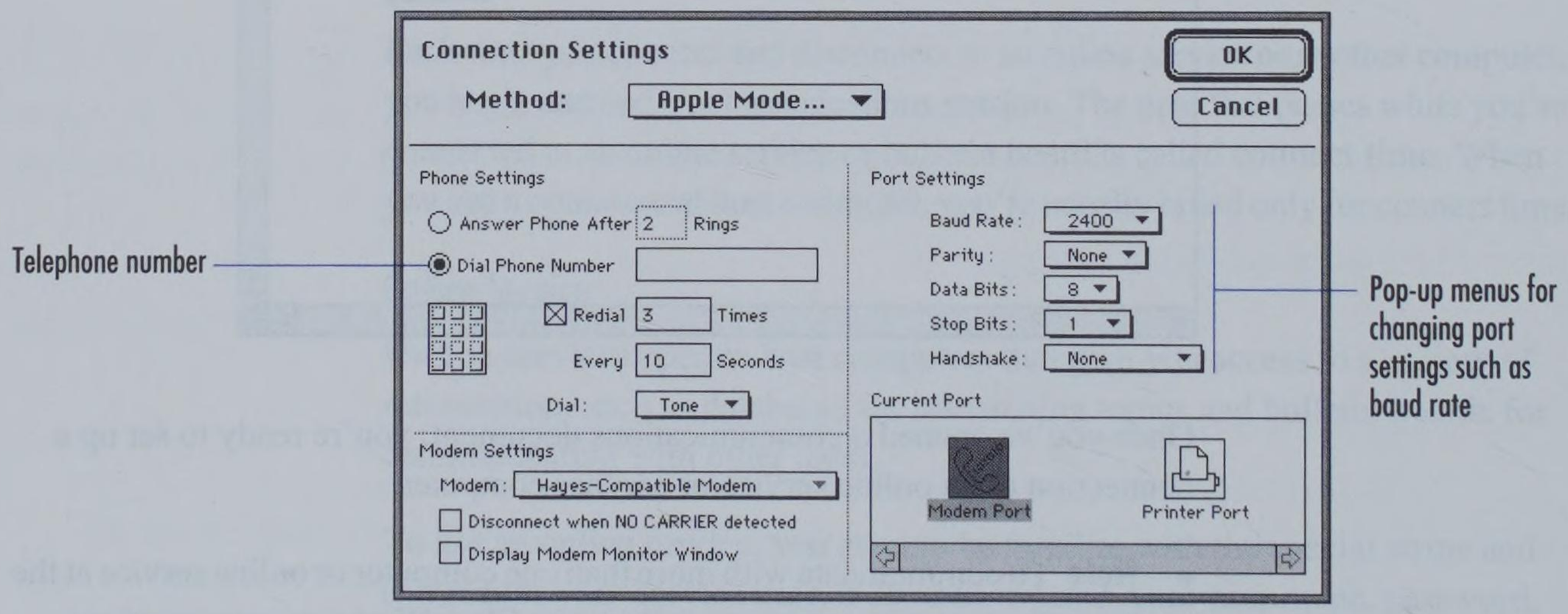
Before you connect to an online service, make sure you have all the information needed to log on to the service—for example, your user ID and password. Keep the user's manual the service sent you handy.

You begin by setting up a connection and then placing the call.

To set up a connection:

1. **Choose Connection from the Settings menu.**

   You see the Connection Settings dialog box.



2. **Type the telephone number of the online service or remote computer.**

   Some telephone access numbers require a pause. To insert a pause after a number, type a comma. With most modems, a comma adds a 2-second delay. For a longer delay, add more commas. To make a number easier to read, you can use hyphens. For example:

`98005551212` (access number and phone number with no pause)
`9,8005551212` (pause added by inserting a comma)
`9,,8005551212` (longer pause)
`9,,800-555-1212` (hyphens added for readability)

You can type up to 255 digits in the number box, but some modems won't accept more than 32 characters. If the service you're calling requires more digits than your modem accepts, call your online services's technical support group or your modem manufacturer.

3. **If your modem doesn't use the preset baud rate (2400) or if you want to use a different rate, choose another baud rate from the pop-up menu.**
4. **Choose the name of your modem from the Modem pop-up menu.**

   If your modem isn't listed, use the preset choice, Hayes-Compatible.
5. **Unless your online service requires further changes, leave all other options as they are and click OK.**

   ClarisWorks returns you to the communications document. You're ready to place the call.

To place the call:

1. **Switch on the modem.**

   The modem may sound a tone or flash a light so you know it's on.
2. **Choose Open Connection from the Session menu.**

   You may see a message such as "Initializing Modem." The modem may make sounds or blink.

   When the online service or remote computer answers, a dialog box appears briefly to let you know you are connected. You may need to press Return one or more times to alert the remote computer.

   If you are connecting to an online service, the service asks for identification (usually your user name, account number, and password). If you're connecting through a public network such as Telenet or TYMNET, you're asked for the name of the service you want.

   When the service displays a welcome message and main menu, you're connected and ready to use the service.

3. **Use the commands of the online service or host computer to find the information you want.**

   For information about working with data during a session, see "Working with Data During a Session" on page 9-10.

◆ **Note** You can add the telephone number to connect to the online service to the phone book. Then you can use the phone book to make the connection and place the call. See "Using the Phone Book" on page 9-16.

Disconnecting

To disconnect from the online service:

1. **Use the service's command to disconnect.**

   Some of the typical commands to disconnect are:

   ```
   off, bye, quit, exit, logoff, logout
   ```

   You may also need to use a special character—for example, a slash (/)—before the disconnect command.

2. **Choose Close Connection from the Session menu.**

   The session ends.

◆ **Note** Most modems have indicator lights for "off hook" (OH) and "carrier detect" (CD). Some have only one of these lights. To make sure you're disconnected, check to see that they're off.

Receiving a Call from Another Computer

You can set up a communications document to wait for another computer to call your Macintosh.

To receive a call from another computer:

1. **Open a new communications document and choose Connection from the Settings menu.**

   You see the Connection Settings dialog box.

2. **Click the Answer Phone After…Rings button and type the number of rings you want before your modem answers the call.**
3. **Click OK.**
4. **Choose Wait for Connection from the Session menu.**

   You may see messages saying that the modem is being initialized and is waiting for a connection request.

When a call or connection request comes in, the modem answers it and ClarisWorks opens the connection.

5. **When you want to end the session, choose Close Connection from the Session menu.**

   The session ends. To make sure you're disconnected, check to see that the OH and CD lights on your modem are off. (You may have only one of these lights.)

Connecting Directly to Another Computer

You can connect directly from one computer to another without a modem. For example, if you use a notebook computer, you can transfer data to your desktop computer.

To connect directly, you need a null modem cable running from the serial port (modem or printer) of the Macintosh to the serial port of the other computer. Between two current Macintosh models, you can use a standard Mini-8 to Mini-8 ImageWriter printer cable. For Macintosh 512K computers or earlier, other null modem cables are required (see your Macintosh owner's guide).

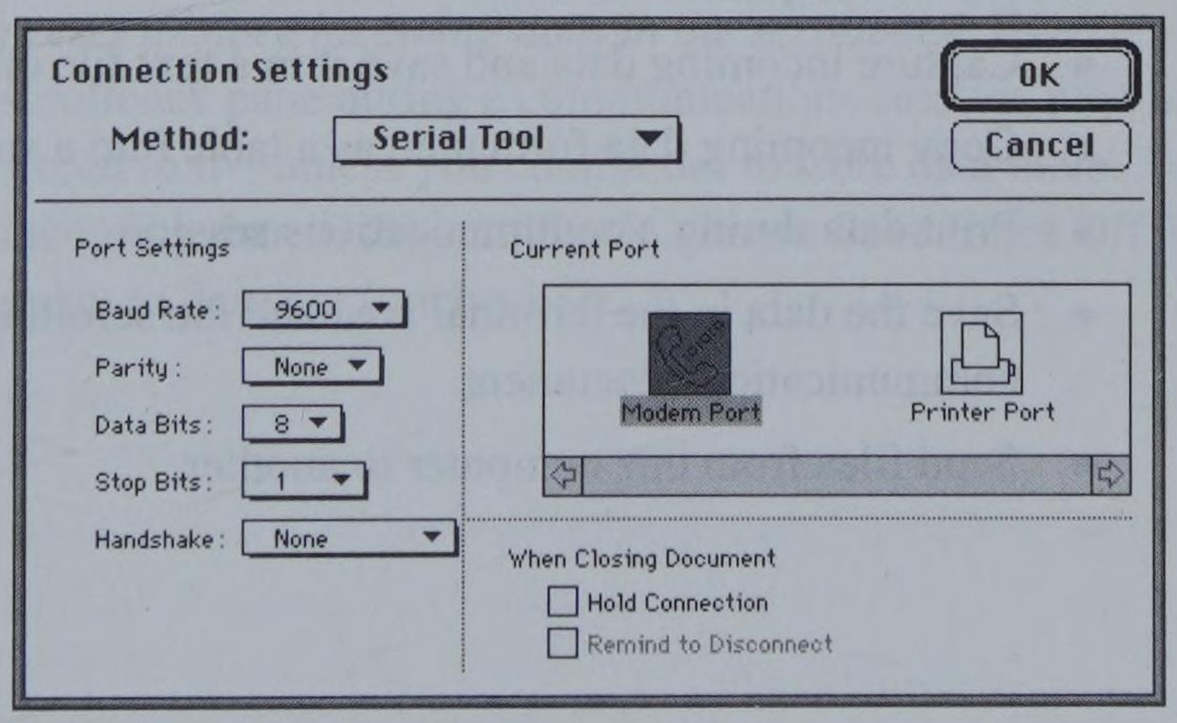
To connect directly to another computer:

1. **Open a ClarisWorks communications document and choose Connection from the Settings menu.**

   You see the Connection Settings dialog box.

2. **Choose Serial Tool from the Method pop-up menu.**

   The Connection Settings dialog box now displays the Serial Tool options.



3. **Verify that the two computers have the same connection settings.**

   If the other computer is using a ClarisWorks communications document, Serial Tool must be selected for that document. Both computers must be set to the same baud rate, parity, data bits, stop bits, and handshake values.

4. **Choose Open Connection from the Session menu.**

   When the remote computer answers, type any required characters, or just start typing if nothing specific is required.

   You can send and receive files using the steps described in "Sending a File to Another Computer" on page 9-16.

   ◆ **Note** If you can't see what you're typing, set **Local Echo** on (choose Terminal from the Settings menu).

   If you have other problems with data on the screen, refer to"Troubleshooting" on page 9-40.

5. **To end the session, choose Close Connection from the Session menu.**

   To be sure that your session is ended, make sure you see the message "Unconnected" in the status area.

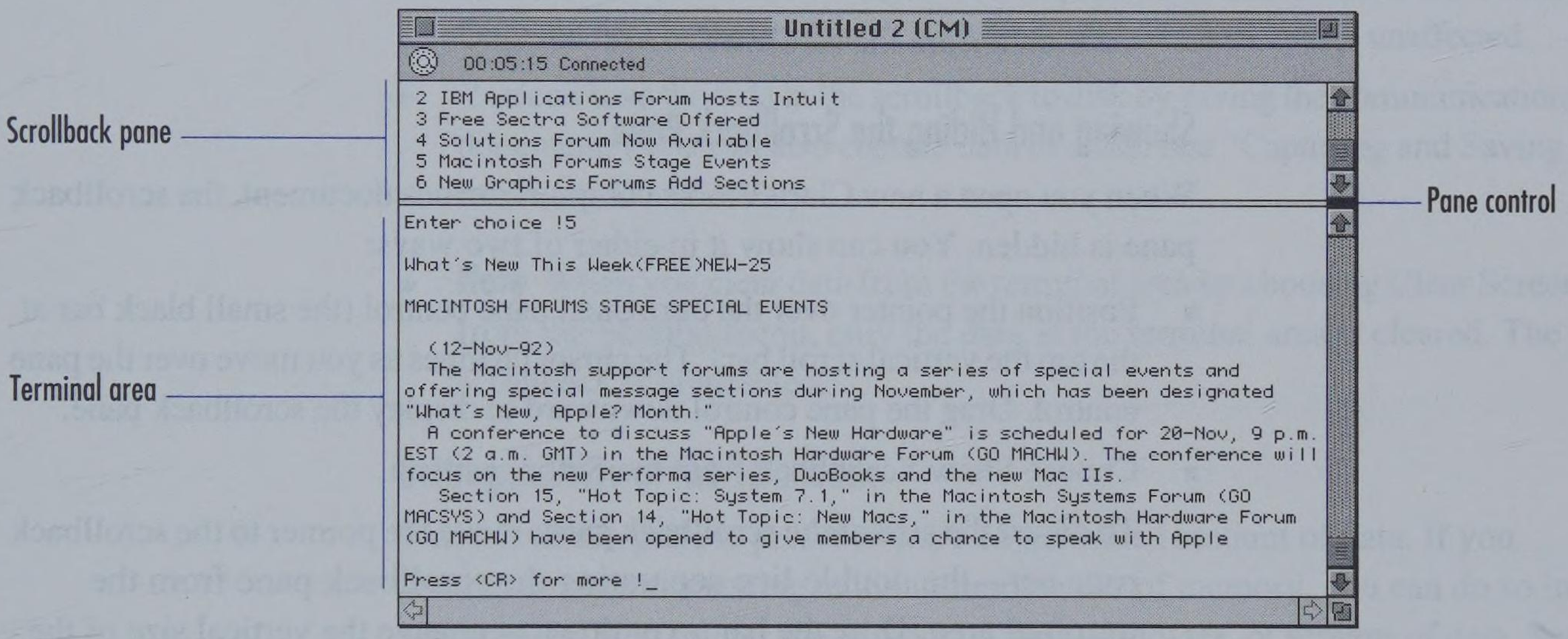
Working with Data During a Session

During a communications session, there are several ways to work with data.

- Store incoming data, when it overflows the terminal area, in the scrollback pane.
- Capture incoming data and save it in a text file on disk.
- Copy incoming data formatted as a table into a spreadsheet document.
- Print data during a communications session.
- Save the data in the terminal area and the scrollback pane in a communications document.
- Send files from one computer to another.

About the Scrollback

The **scrollback** stores data that overflows the terminal area of a communications document during a communications session. Once data is in the scrollback, you can display it by opening and scrolling through the pane.



The scrollback is part of your communications document. When you save the document, you save the contents of the scrollback pane with it.

Data that overflows the terminal area goes into the scrollback *only* if the Save Lines Off Top command on the Session menu is selected. *ClarisWorks is preset to store incoming data in the scrollback.* Even if you don't display the scrollback pane during a communications session, incoming data is still being stored in it—unless you choose not to store data there. To stop storing incoming data in the scrollback, choose Save Lines Off Top from the Session menu to deselect (uncheck) it.

You can work with the scrollback in the following ways:

- show and hide the pane
- change the display size of the pane
- set the amount of data it stores
- copy the contents of the terminal area into the scrollback
- clear data from the scrollback

Showing and Hiding the Scrollback Pane

When you open a new ClarisWorks communications document, the scrollback pane is hidden. You can show it in either of two ways:

- Position the pointer over the horizontal pane control (the small black bar at the top the vertical scroll bar). The cursor changes as you move over the pane control. Drag the pane control downward to display the scrollback pane.
- Choose Show Scrollback from the Settings menu.

To adjust the size of the scrollback pane, move the pointer to the scrollback pane bar—the double line separating the scrollback pane from the terminal area. Drag the bar up or down to change the vertical size of the scrollback pane.

To hide the scrollback pane, do one of the following:

- Position the pointer over the horizontal pane control and drag it upward until the scrollback pane bar disappears.
- Choose Hide Scrollback from the Settings menu.

Working with the Scrollback

In addition to storing and viewing data, you can work with the scrollback in the following ways:

- You can copy data displayed in the scrollback pane and then paste the selection into the terminal area or in another environment.
- You can move data in the terminal area to the scrollback (without removing it from the terminal area) by choosing Save Current Screen from the Session menu.

- When an online service sends a command to clear the screen (terminal area), you can make sure that data is not lost and is stored in the scrollback by selecting "Save screen before clearing" in the Preferences dialog box (choose Preferences from the Edit menu in the communications environment).
- You can clear all data from the scrollback by choosing Clear Saved Lines from the Session menu and clicking OK when you're asked to confirm the action. Only the data in the scrollback is cleared—the terminal area is unaffected.
- You can save the data in the scrollback to disk by saving the communications document. (You can also capture data to a file. See "Capturing and Saving Incoming Data," next.)

◆ **Note** When you clear data from the terminal area by choosing Clear Screen from the Session menu, only the data in the terminal area is cleared. The scrollback is unaffected.

Setting the Size of the Scrollback

The scrollback pane is preset to store an unlimited amount of data. If you want to change this setting to avoid running out of memory, you can do so in Preferences. You can set the number of lines, kilobytes, or screens of data. See "Setting Communications Preferences" on page 9-38.

Capturing and Saving Incoming Data

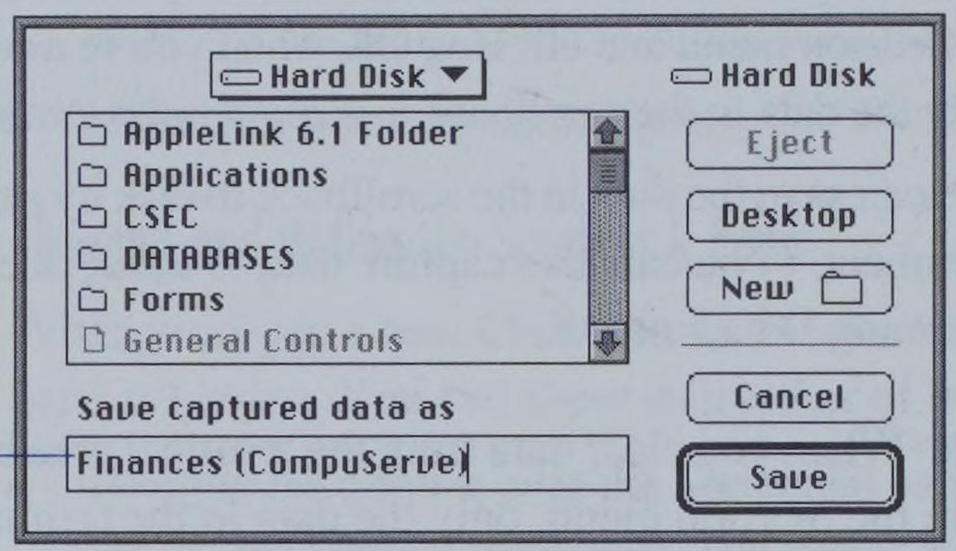
If you want to keep a copy of all incoming data, not just the contents of the screen and the scrollback pane, you can save data in a text file as it's received. This process, called **capturing data**, is also useful if you're low on memory. When you capture data, the file is saved on disk—not in memory.

You can start capturing data before you connect or while you're online. If a significant part of your session consists of working through the service's menus, you may want to wait to capture data until you've gotten to the information you want.

To capture incoming data to a file:

1. **Choose Capture to File from the Session menu.**

   You see the Capture to File dialog box.



2. **Type a name for the file and click Save.**

   All incoming data is saved in this file.

3. **To stop capturing data to the file, choose Stop Capture from the Session menu.**

   You import a file containing data you've captured as you would any other saved text document.

Data Capture Format

You can capture data in either of two formats—Port or Screen. You set these formats in the Preferences dialog box. See "Setting Communications Preferences" on page 9-38. The data capture option is preset to Port.

- *Port*—Data is captured exactly as sent, complete with tab, linefeed, and formfeed characters. Use Port, for example, when you want to use the captured data in spreadsheet or database documents. You can also use Port to capture ANSI graphics.
- *Screen*—Data is captured in text format, without tab, linefeed, or formfeed characters. Use Screen, for example, when you want to use the captured data in a word processing document.

Copying and Pasting a Table

During a communications session, you may receive a table of data that you want to paste into a spreadsheet document. The data on the screen doesn't contain tabs or return characters, so if you copy the table and paste it the way you would a block of text, all the data is pasted into one cell or text field. To be sure that you paste one item per cell, use the Copy Table command.

In tabular data with at least two spaces between items, the Copy Table command converts the spaces to tabs and places returns at the end of each selected line of the table.

To copy and paste a table:

1. Select the tabular data.
2. Choose Copy Table from the Edit menu (if nothing is selected, the command is dimmed).
3. Choose Paste from the Edit menu to paste the table into the spreadsheet.

◆ **Note** You can select a block of text, such as a table, from the middle of the page, leaving unselected text on either or both margins. Press and hold the Command key while you drag to make the selection.

Printing Data During a Communications Session

You can print a communications document (both the data in the terminal area and the scrollback) during a communications session or after the session. You print a communications document as you do any other ClarisWorks document. See "Printing Your Work" in chapter 2.

Saving a Communications Document

When you save a communications document, you save the contents of the terminal area, the scrollback, and your current communications settings. You can save a communications document while you are connected or after your session is over.

You save a communications document in the same way you save other ClarisWorks documents or as a text document containing the scrollback data and the current screen. See "Saving a Document" in chapter 2.

Sending a File to Another Computer

You can send a file to another computer if the computers have the same file transfer method (to change the file transfer method, see "Changing the File Transfer Tool" on page 9-35). When you send a file, make sure that the other computer is set up to receive files automatically or that someone is available at the other end of the connection to initiate the transfer.

To send a file:

1. Switch on your modem.
2. Open a communications document and set it up to dial.

   See steps 1-5 at the beginning of "Connecting to an Online Service or a Remote Computer" on page 9-6.
3. Choose Open Connection from the Session menu.

   The modem dials the telephone number.
4. When the remote computer answers, type any required characters or type a few words to verify connection.
5. Choose Send File from the Session menu.

   You see the Send File dialog box.
6. Choose the name of the file you want to send and click Send (or double-click the filename). Click Cancel if you want to stop the procedure.

   A message tells you the status of the transfer. A beep lets you know when the file transfer is complete.

Streamlining Communications Tasks

ClarisWorks lets you automate your communications tasks and work more efficiently through the phone book, stationery documents, and macros.

Using the Phone Book

You can use the communications phone book to set up a connection and place a call. It is intended to work with connection tools that dial phone numbers. For example, you can add the name of an online service and the telephone number to connect to that service, and then simply choose the name from the phone book—ClarisWorks makes the connection for you.

Each communications document can have one phone book. When you save a communications document, you save the phone book with it.

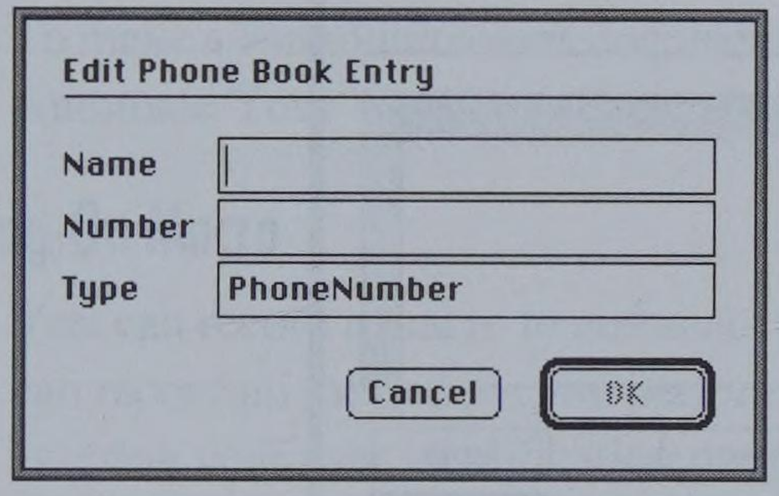
Starting a Phone Book

To start a phone book for a communications document, simply add entries to it after you've opened the document.

To start a new phone book:

1. **In a communications document, choose Phone Book from the Settings menu (or click the phone book control in the status area and choose Edit Phone Book).**

   You see the Edit Phone Book Entry dialog box.



2. **Type a name and number.**

   For example, type CompuServe for the name.

   The Type is specific to the connection tool you're using. For the Apple Modem Tool it must be PhoneNumber (with no space).

3. **Click OK.**

   You see the Phone Book dialog box. It's ready for you to add a second entry.

4. **Click New to add another entry.**

   Add as many entries as you need.

5. **When you're finished, click Done to close the phone book.**

   When you're ready to use the phone book, see "Making a Connection Using a Phone Book" on page 9-18.

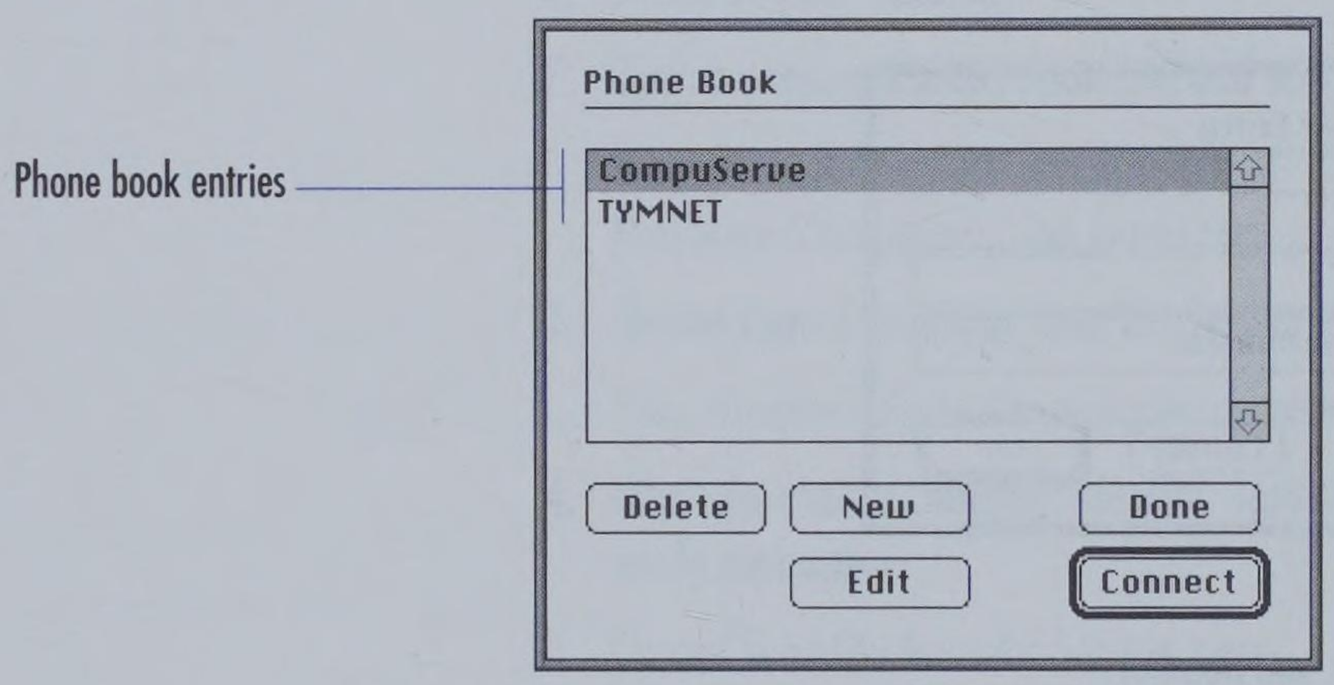
Editing a Phone Book

You can add, delete, and change entries in an existing phone book.

To edit a phone book:

1. **Choose Phone Book from the Settings menu (or click the phone book control in the status area and choose Edit Phone Book).**

   The Phone Book dialog box appears.



2. **Make the changes you want.**
   - To edit an entry, scroll to the entry and select it. Click Edit, make your changes, and click OK.
   - To add an entry, click New, add the entry, and click OK.
   - To delete an entry, scroll to it and select it. Click Delete.
3. **Click Done when you're finished editing the phone book.**

Making a Connection Using a Phone Book

To make a connection using a phone book:

1. **Open the communications document with the phone book that you want to use.**
2. **Click the phone book control in the status area and choose the phone book entry you want.**

   You can also choose Phone Book from the Settings menu, select the phone book entry from the list, and click the Connect button (or simply double-click the phone book entry in the list).

   ClarisWorks opens the connection and places the call for you.

- **Important** When you make a connection using the phone book, ClarisWorks uses the current settings from the Connection Settings dialog box (except for the telephone number). You may want to check these settings first.

Using Stationery with Communications

You can make ClarisWorks stationery using a communications document to save you the time of re-entering communications settings. For example, you may want to make a stationery document for each online service you connect to—and then name the document with the name of the service.

To make a communications document into stationery, see "Using Stationery to Automate Your Work" in chapter 2.

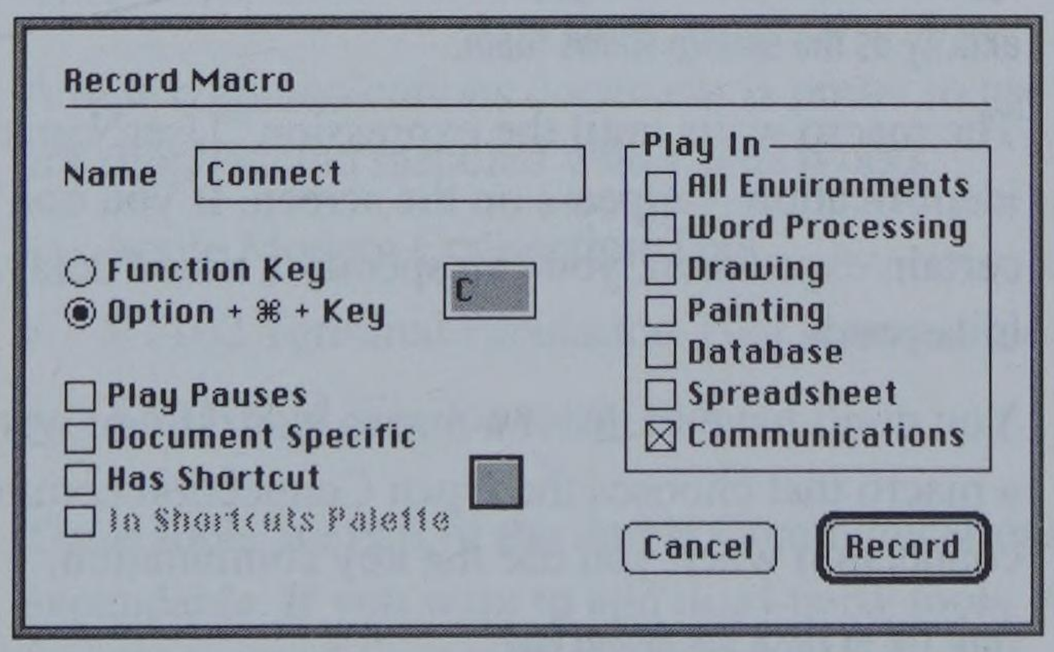
Creating a Log-On Macro

You can record a macro to automate the log-on process. For example, you can record all the actions you perform when you open a connection, including entering your user identification number and password. You can then use a single key or key combination to perform the entire series of actions.

To create a log-on macro:

1. **Open a communications document, and then choose Record Macro from the Shortcuts submenu on the File menu (or press Shift-Command-J).**

   You see the Record Macro dialog box.



2. **Type a name and shortcut key (or click Function Key and type a function key) and then click Record.**

   Communications is selected to indicate that you want to play this macro in the communications environment.

   The Record Macro microphone appears at the top left of the menu bar. ClarisWorks records your actions from this point on.

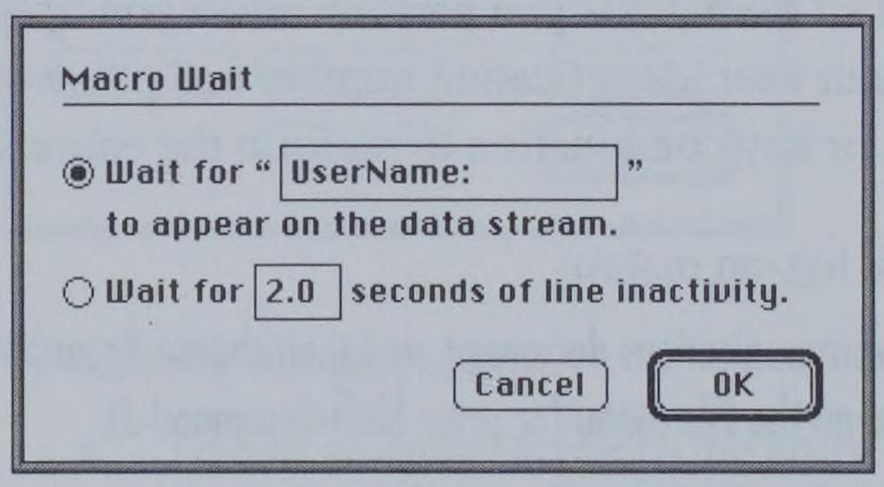
3. **Choose Connection from the Settings menu.**

   In the Connection Settings dialog box, type a phone number, set the baud rate to match your modem, and click OK.

4. **Choose Open Connection from the Session menu.**

5. **Choose Macro Wait from the Shortcuts submenu of the File menu.**

   You see the Macro Wait dialog box.



6. **Type the expression (string) you want to wait for, using uppercase and lowercase letters exactly as the service shows them.**

   The macro waits until the expression "UserName:"—a request for user identification—appears on the screen. If you don't want to wait for a certain expression, you can specify a timed delay by typing in a number of seconds.

   You don't have to insert a macro wait. If you want, you can simply build a macro that chooses the Open Connection command and makes the connection when you use the key combination.

7. **Click OK to close the dialog box.**

8. With the prompt you specified in the Macro Wait dialog box on the screen, type your user identification or other information as usual.

   The characters you type are recorded in the macro.

9. Continue any further actions you want the macro to perform.
10. When you've completed the macro, choose Stop Recording from the Shortcuts submenu of the File menu (or press Shift-Command-J).

    You can now connect and log on using the key or key combination you assigned to the log-on macro.

- **Important** A macro that contains your Password and User ID can be used by anyone. Keep your shortcuts file (where any application-specific macros are) and your communications documents (where any document-specific macros are) confidential.

You can make your log-on macro into a shortcut that has a button assigned to it. See "Working with Shortcuts and Macros" in chapter 8 for complete information on defining and using shortcuts and macros.

Changing Settings for Communications Tools

Because the communications tools are preset for use in ClarisWorks, you may never need to change them. But if your modem or the online services you use require different tools, you can change the settings for the connection, terminal emulation, and file transfer tools. Refer to the manuals that came with your modem and online service to find out which tools you should use.

A new communications document is preset to use the following tools, which are supplied and installed with ClarisWorks:

- Apple Modem Connection Tool
- VT102 Terminal Emulation Tool (compatible with VT100)
- XMODEM File Transfer Tool

These tools are part of the Apple Communications Toolbox, which is expandable. If you want to add third-party tools, refer to the instructions supplied with your third-party software.

Changing the Connection Tool

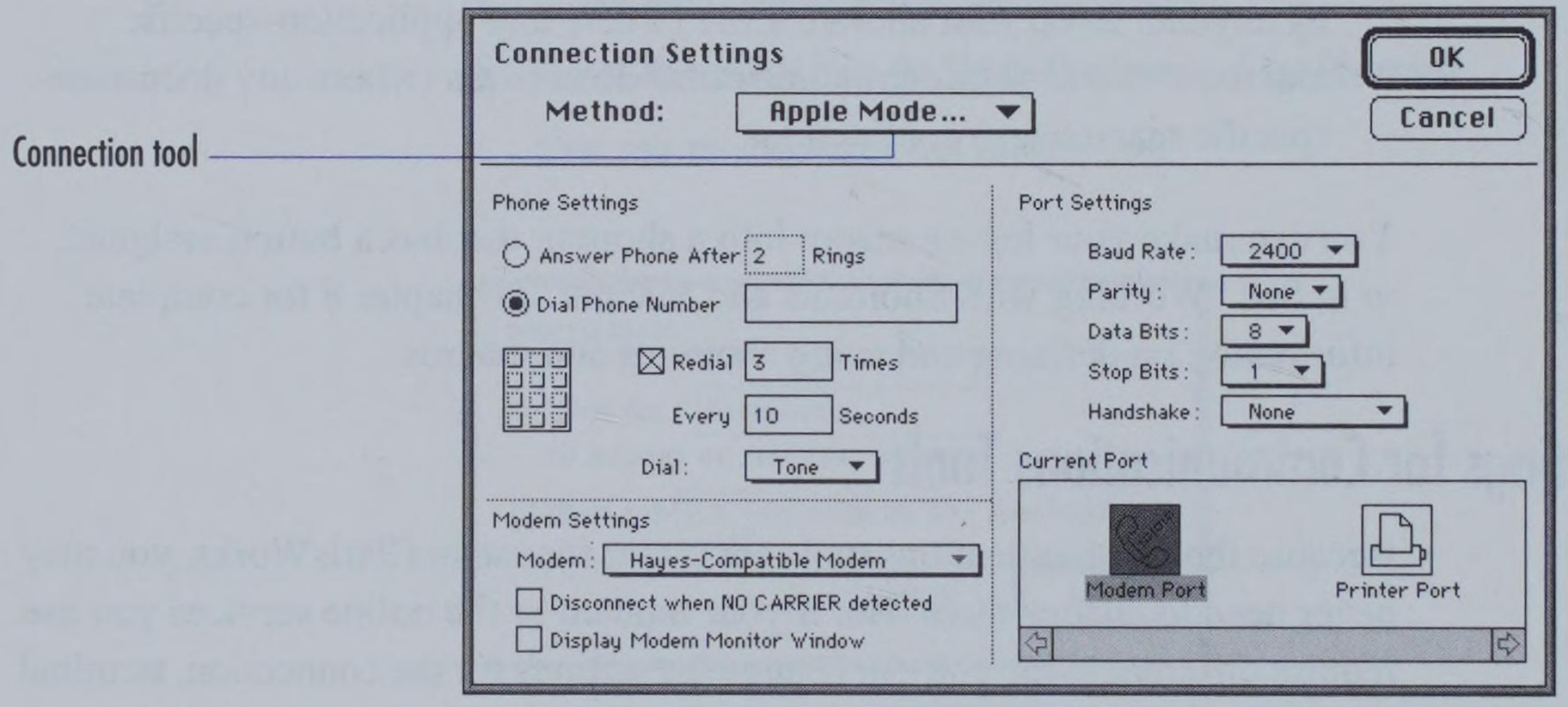
ClarisWorks is preset to use the Apple Modem Tool. The Apple Modem Tool is compatible with most non-Apple modems.

Follow the steps in this section to change to a different connection tool.

To change the connection tool:

1. **Choose Connection from the Settings menu.**

   You see the Connection Settings dialog box.



   The Apple Modem Tool is the preset tool. It's designed for connecting to a remote computer through a Hayes-compatible modem. The Serial Tool is designed for *direct* connection to another computer (or another device, such as a modem) through the serial port on the Macintosh. To type commands directly to a modem, choose the Serial Tool.

2. **From the Method pop-up menu, choose another tool.**

   The dialog box changes to show options for the tool you chose.

3. **Unless your online service requires changes, leave all other options as they are and click OK.**

- **Note** In the Connection Settings dialog box, to make the current settings the default settings, press and hold the Option key and click OK.

Changing Settings for the Connection Tool

This section describes the connection options for the Apple Modem Tool. If you choose another tool, that tool presets the options for the most commonly expected conditions.

Phone Settings

- *Answer Phone After … Rings*—Type the number of times you want your telephone to ring before the modem answers the call and establishes a connection. You can set the number of rings from 1 to 255. The preset option is two rings.
- *Dial Phone Number*—Type the telephone number the modem must dial to connect with the remote computer. Although you can type up to 255 characters, some modems are limited to 32.
- *Redial … Times*—Type the number of times you want the modem to redial the phone number of the remote computer when the line is busy. Then enter the number of seconds between redials. The preset option is three attempts, redialed at 10-second intervals. If you deselect the option, the modem doesn't redial.
- *Tone, Pulse, and Mixed*—Choose Tone for push-button telephones, Pulse for rotary-dial telephones, and Mixed when part of the number is pulse and part is tone.

  You may need mixed dialing when you call an electronic service from a rotary telephone. You can probably reach the service by pulse dialing, but you must enter an extension in tone numbers. Type an uppercase P before the pulse number and an uppercase T before the tone extension number. For example: `P8005551212, T1678`. (The comma inserts a pause.)

  Use mixed dialing when your building has a tone system but the region still uses a pulse system. The part of the number that gets an outside line (such as 9) is tone, but the rest of the number is pulse. Type an uppercase T before the tone digits and an uppercase P before the pulse digits: `T9, P8005551212`.

Modem Settings

- *Modem*—Choose the modem you want to use for the connection. The preset option is Hayes-Compatible Modem.
- *Disconnect when NO CARRIER detected*—Select this option when you want the connection closed automatically after you get the NO CARRIER message during the log-on process.
- *Display Modem Monitor Window*—Select this option to see the modem commands during a connection attempt.

◆ **Note** If you want (and know how) to customize command strings for your modem, select Custom in the Modem pop-up menu. See your modem manual for more information.

Port Settings

Use the pop-up menus under Port Settings to set the baud rate, parity, data bits, stop bits, and handshake.

- *Baud Rate*—Choose the speed at which you want data transmitted between your Macintosh and the modem. The baud rate is usually the number of bits sent per second. Your Macintosh and the remote computer must transmit data at the same baud rate, unless you are using a modem that adjusts the sending baud rate to match the requirements of the remote modem.

  You can set the baud rate from 110 to 57,600 (56K) baud. The option is preset to 2400.

◆ **Note** If incoming data is garbled or missing, the baud rate setting may not match the other computer or the telephone lines may be noisy.

- *Parity*—Choose None, Odd, or Even for parity. Parity is a method of checking to see that data isn't garbled during transmission. Both computers must use the same parity. The option is preset to None.

  If you're connecting to an information service or remote computer, check the service's setup instructions to determine what parity to use. Call the system administrator if you aren't sure.

◆ **Note** Some older computer systems require mark or space parity. The Apple Modem Tool doesn't support these settings. If the service specifies mark or space parity, ask the system administrator whether you can substitute a different parity setting.

- *Data Bits*—Choose a number for data bits. Data bits specify the number of bits that make up a character. With ClarisWorks, your Macintosh can send and receive 5-, 6-, 7-, or 8-bit characters. The option is preset to 8.
- *Stop Bits*—Choose a number for stop bits. Stop bits mark the end of a transmitted character. ClarisWorks supports 1, 1.5, or 2 stop bits. Typically, a stop bit is 1 bit long. The option is preset to 1 stop bit.
- *Handshake*—Choose one of these handshake methods: XON/XOFF, DTR & CTS, DTR only, CTS only, or None. Handshake refers to a method of regulating the flow of data between your Macintosh and the remote computer. XON/XOFF works only if the remote computer understands it. The option is preset to None.

  If the remote computer sends information faster than your Macintosh can receive it, you may lose some incoming characters. In these situations, you can try switching to XON/XOFF handshaking or to a slower baud rate. Using XON/XOFF prevents the loss of data when either computer sends characters faster than the other computer can receive them.

  For information about setting up hardware handshaking, contact your modem manufacturer.

Current Port Setting

Select one of the Current Port icons, Modem or Printer, to specify the port on the back of your Macintosh that the modem is connected to. If you are using LocalTalk, the Printer port is unavailable because LocalTalk uses it. If other serial ports are available, icons for those ports appear in the Current Port window.

- **Note** If you install a serial card on your Macintosh, ask for the software that registers the card with the Apple Communications Toolbox. The software is not included in all packages.

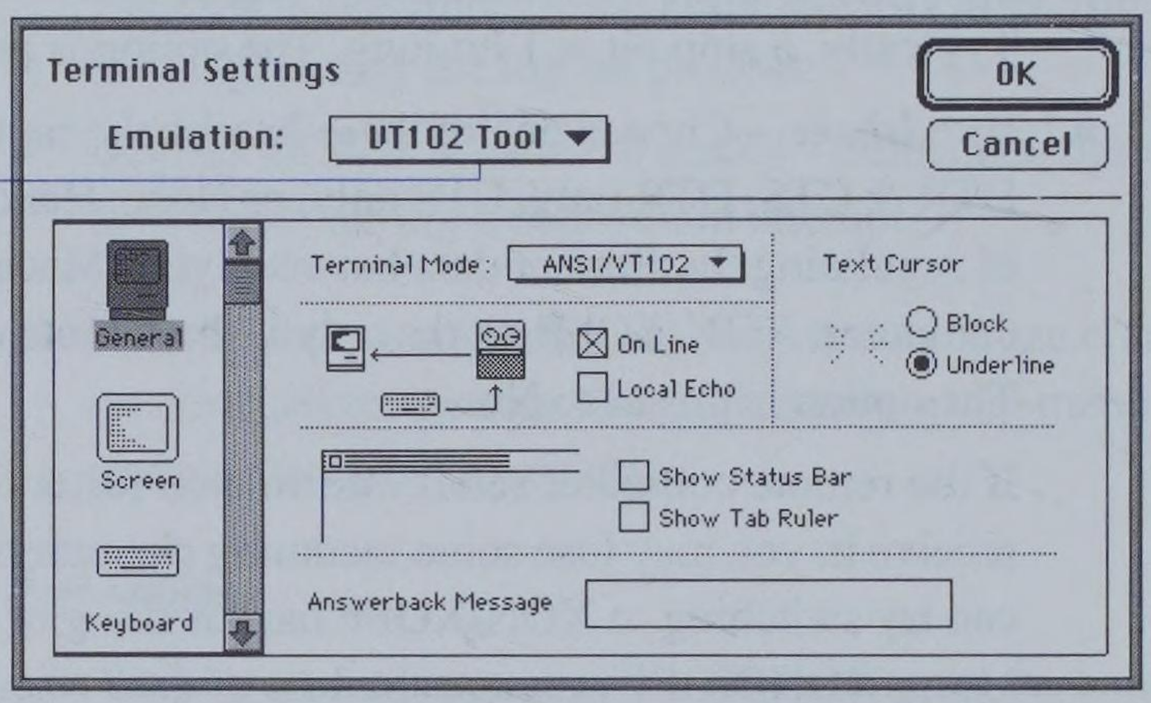
Changing the Terminal Tool

ClarisWorks is preset for VT102 terminal emulation, which is compatible with VT100 terminals. If your online service requires TTY emulation, follow these steps.

To change the terminal tool:

1. **Choose Terminal from the Settings Menu.**

   The Terminal Settings dialog box appears.



2. **From the Emulation pop-up menu, choose TTY Tool.**

   The dialog box changes to show options for the TTY Tool.

3. **Unless your online service requires changes, leave all other options as they are and click OK.**

Changing Settings for the Terminal Tool

This section describes options for the VT102 tool. If you choose another tool, that tool sets the options for the most commonly expected conditions.

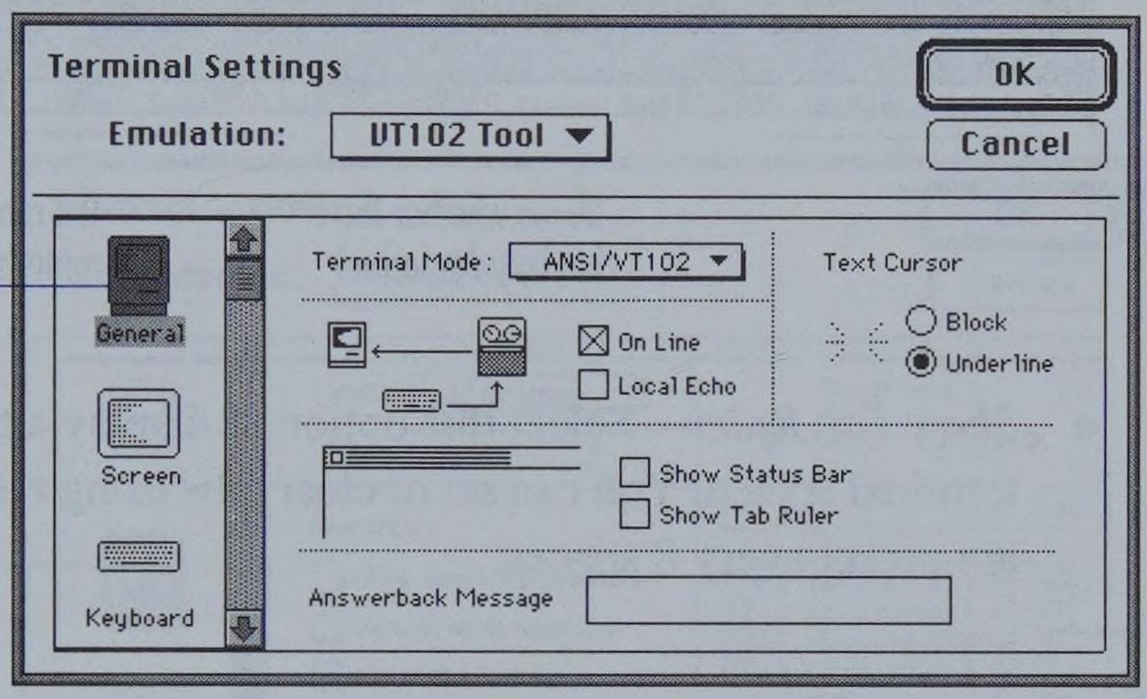
The options are grouped into four categories: General, Screen, Keyboard, and Character Set. Choose the corresponding icon on the left of the dialog box to display the options for each of the four groups.

- **Important** During a session, some settings can change as a result of communications from the remote computer. This happens because the VT102 tool responds to special character sequences sent by the remote computer. If you have problems, you can restore the last saved settings by choosing Reset Terminal from the Session menu.

General Options

The General icon is selected when you open the Terminal Settings dialog box.

General options icon

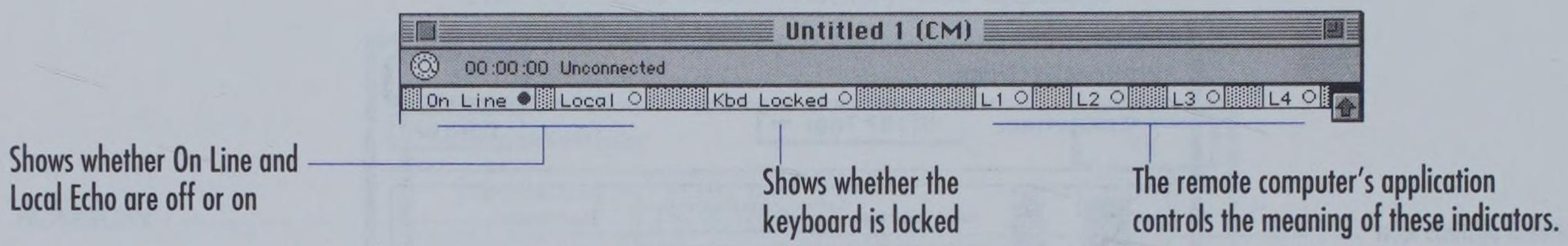


- *Terminal Mode*—Use this pop-up menu to specify a VT102 mode for your Macintosh. ANSI/VT102 is preset. Choose VT52 to emulate a Digital Equipment CorporationVT52 terminal. When you choose VT52, the Character Set Settings dialog box is disabled because VT52 terminals don't support character set options.
- *On Line*—When you select On Line, your Macintosh can communicate with another computer. The characters you type are sent to the remote computer, and incoming data is shown on the Macintosh screen.

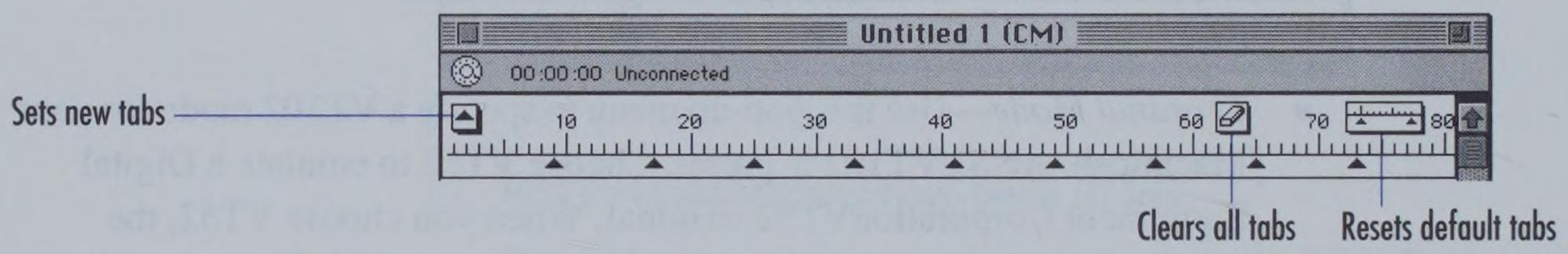
  If you deselect On Line, your Macintosh stops sending data to the remote computer and ignores incoming data, without terminating the connection.
- *Local Echo*—Local Echo is available only when On Line is selected. When you select Local Echo, characters you type go to your Macintosh screen as well as to the remote computer. Most host systems echo keystrokes (show the characters you type on your screen), so Local Echo is preset as unselected.

◆ **Note** If you can't see the characters you type, you may need to select Local Echo. If you see double characters, deselect Local Echo.

- *Show Status Bar*—Select this option if you want to display the status bar, which is similar to the status lights on a VT102 terminal.



- *Show Tab Ruler*—Select this option to display a tab ruler at the top of the terminal screen. You can set or clear tabs using the icons on the ruler. Tabs are preset every 8 spaces.



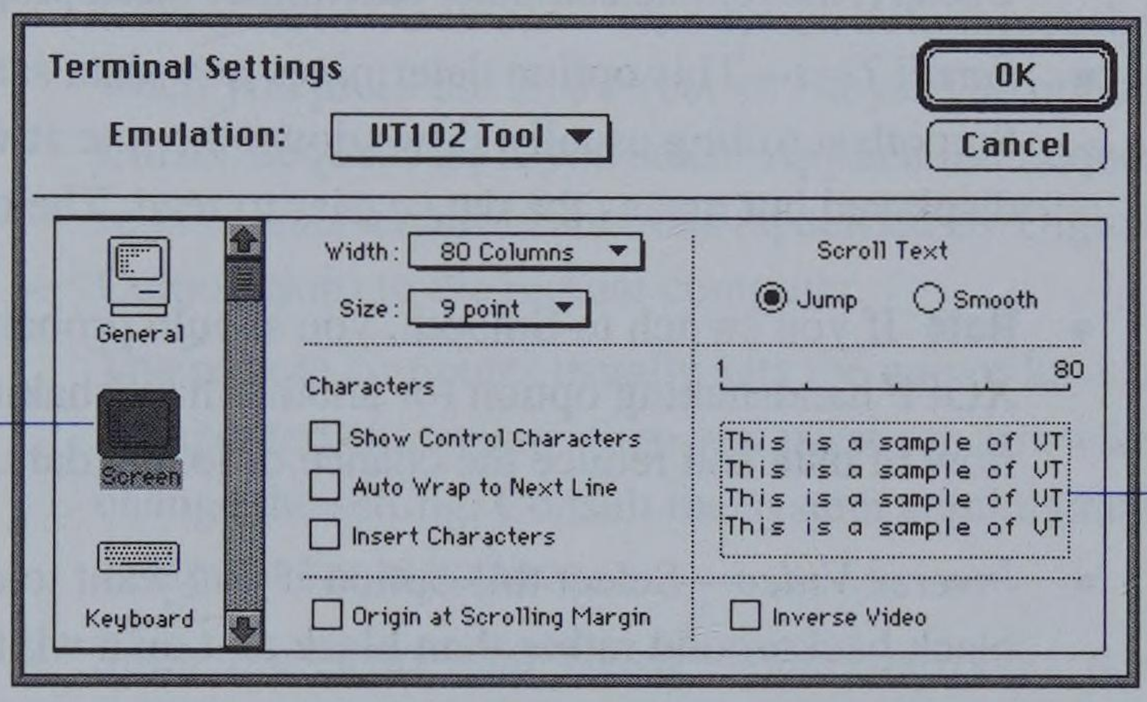
- *Answerback Message*—In the Answerback Message box, you can type a character string that is sent to the remote computer when an enquire character is detected in the incoming data. The answerback response provides identification to the remote computer. An answerback message isn't necessary unless the remote computer requires it.

  You can send the answerback message manually by pressing Control-Enter (ADB keyboard).

- *Text Cursor*—This option determines whether the cursor appears as a solid block or as an underline. The preset option is Underline.

Screen Options

Click the Screen icon in the Terminal Settings dialog box to display the screen options for the VT102 tool. As you change screen settings, the preview area shows the effects of your changes.



- *Width Pop-up Menu*—Choose the number of display columns you want. You can choose 80 columns per line (the preset number) or 132 columns per line.

  The standard terminal line width is 132 characters. If you use that width on a 14-inch or smaller screen, you need to scroll to see the entire line width. On a two-page monitor, you can see the full line.

- **Important** The VT102 tool clears the screen when you change certain settings that affect the display. If you want to save the contents of the terminal area before changing the width, select the "Save screen before clearing" option (in Preferences) and be certain that Save Lines Off Top (on the Session menu) is selected.

- *Size Pop-up Menu*—Choose the point size of characters displayed on the screen. You can choose 9 point or 12 point.
- *Show Control Characters*—Select this option to display control characters. (You'll probably never need to select the Show Control Characters option.)
- *Auto Wrap to Next Line*—Select this option if you want characters that extend beyond the setting you chose in the Width pop-up menu to wrap to the beginning of the next line.

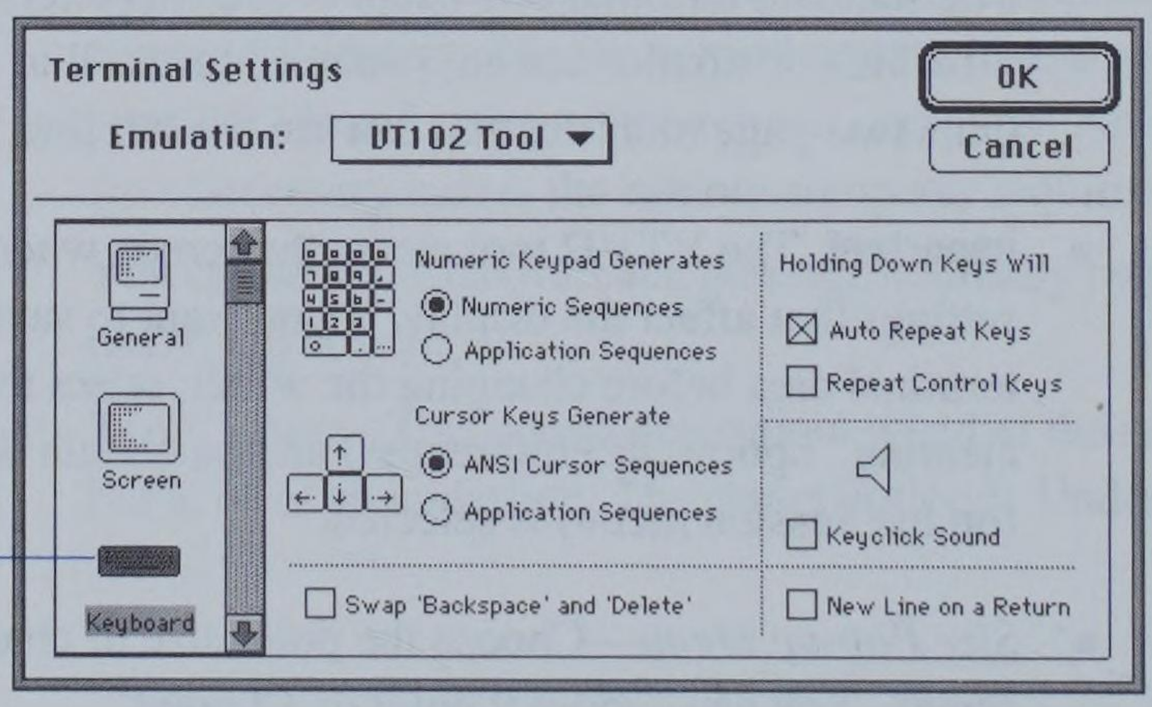
- *Insert Characters*—Select this option if you want characters inserted in existing text. If the option is unselected, characters replace existing text.
- *Origin at Scrolling Margin*—This option determines whether the cursor can move outside the scrolling region, which is set by the remote computer. It also determines whether screen addressing is in absolute or relative coordinates. Usually, the remote computer determines the appropriate setting.
- *Scroll Text*—This option determines how data scrolls as you receive it. Smooth scrolling usually slows down the rate at which incoming data is displayed but makes the data easier to read. The option is preset to Jump.

◆ **Note** If you switch to Smooth, you should probably also select the XON/XOFF handshaking option (or another handshaking option) to control the flow of data and reduce the chance of losing data.

- *Inverse Video*—Select this option if you want to display white text on a black background rather than black text on a white background.

Keyboard Options

Click the Keyboard icon in the Terminal Settings dialog box to display the keyboard options for the VT102 tool.



Keyboard options icon

- *Numeric Keypad Generates*—This option determines whether the keys on the keypad generate numeric characters or escape sequences. It is preset to generate numeric sequences.

If you select Numeric Sequences, the numeric keypad generates the numeric, comma, period, and minus-sign keys of a VT102 keyboard (in accordance with ANSI specifications).

If you select Application Sequences, the keys generate special escape sequences (specified by Digital Equipment Corporation).

- *Cursor Keys Generate*—This option determines the characters transmitted when you press the arrow (cursor) keys. The option is preset to ANSI Cursor Sequences. If you select Application Sequences, the Macintosh sends cursor-control functions (specified by Digital Equipment Corporation) to the remote computer.

  The remote computer usually sets the cursor keys option. If you see unexpected characters when you press the arrow keys, you may need to change the setting. Consult the system administrator for the remote computer for assistance.

- *Swap 'Backspace' and 'Delete'*—The swap option determines which character ClarisWorks sends when you press Delete (on ADB keyboards) or Backspace (on Macintosh Plus keyboards). The swap option is preset as unselected.

On an ADB keyboard (Macintosh SE or later), you press:

You send:	Delete	Option-Delete
Without swap checked	A delete character (ASCII 127)	A backspace character (ASCII 08)
With swap checked	A backspace character (ASCII 08)	A delete character (ASCII 127)

On a Macintosh Plus keyboard, you press:

You send:	Backspace	Option-Backspace
Without swap checked	A backspace character (ASCII 08)	A delete character (ASCII 127)
With swap checked	A delete character (ASCII 127)	A backspace character (ASCII 08)

A delete character actually backs up over the letters. A backspace character simply tells the host to ignore the letters, even though they are still on the screen.

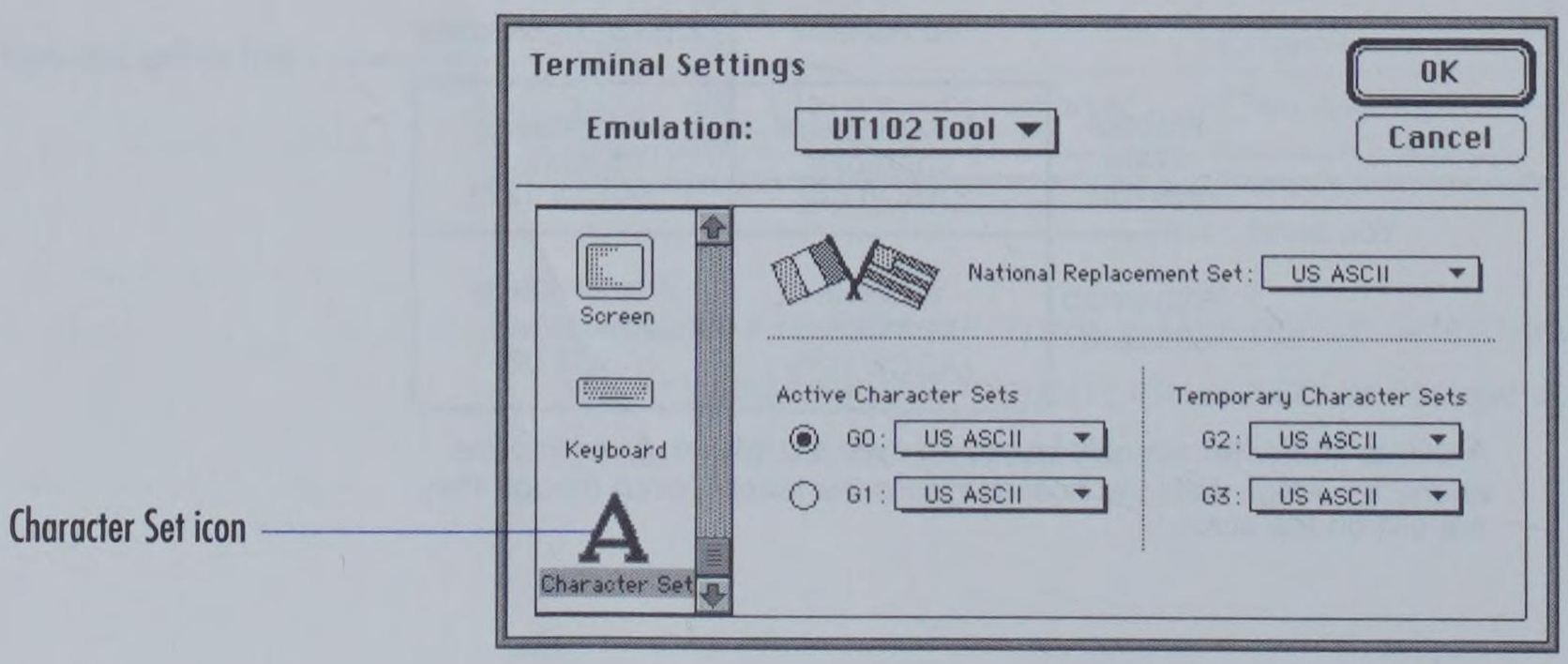
- *Auto Repeat Keys*—This option determines whether non-control keys repeat when you press and hold them. The Tab, Return, Backspace, Enter, and Escape keys repeat without changing a setting. This option is preset as selected.
- *Repeat Control Keys*—If this option is selected, keys used to generate control characters repeat when you press and hold them. You generate control characters by simultaneously pressing the Control key and another key (on an Apple Desktop Bus keyboard). This option is preset as unselected.
- *Keyclick Sound*—Select this option to hear an audible clicking sound when you press a key. You can change the volume from the Sound control panel of the Macintosh. This option is preset as unselected.
- *New Line on a Return*—Select this option to send a line-feed character along with the return character. This option is preset as unselected.

Character Set Options

A **character set** is equivalent to a Macintosh font. It is a collection of characters that can be shown on a screen or used to code computer instructions. US ASCII and UK ASCII are examples of character sets.

◆ **Note** VT102 terminals using the US ASCII character set can't generate some of the characters available on the Macintosh. The VT102 tool understands only 7-bit characters, but the Macintosh can generate 8-bit characters. If you paste 8-bit characters, the software tries to map them to the most appropriate characters or lets them go through as undefined.

Click the Character Set icon in the Terminal Settings dialog box to display the character set options for the VT102 tool.



- *National Replacement Set*—Choose a character set from the pop-up menu. The option is preset to US ASCII.

  UK ASCII is the same as US ASCII, except that the pound sterling symbol (£) replaces the number sign (#). The other character sets use various accented characters.

  When you choose any set other than US ASCII, the International option becomes available in the other menus (G0 through G3). For example, when you choose French for the National Replacement Set, French also appears when you choose any of the other menus.

- *Active Character*—Use these pop-up menus (G0 and G1) to specify the active character set and an alternate. Both menus contain the same list of character sets. Both are preset to US ASCII.

- *Temporary Character*—The G2 and G3 menus specify the two temporary character sets. Both menus contain the same list of character sets and both are preset to US ASCII.

  Characters are swapped one character at a time. If either G2 or G3 temporarily becomes the active character set, one character is generated, and then the VT102 tool switches back to either G0 or G1, depending on which menu controlled the last active character set.

Resetting the VT102 Tool

Occasionally, if you're having trouble in a communications session, you may need to reset the VT102 tool. When you choose Reset Terminal from the Session menu, all the options in the Terminal Settings dialog box are reset to their last saved settings. Also, the VT102 tool clears all data from the session document. If Save Lines Off Top is selected, the cleared data is saved in the scrollback pane.

Emulating VT102 Keys

Some keys on VT102 keyboards don't exist on Macintosh keyboards. You can emulate these keys from the Keys menu in the ClarisWorks communications environment. The Keys menu includes the following items:

- *Keypad*—When you choose Keypad from the Keys menu, you see an onscreen equivalent of a Macintosh numeric keypad, with VT102 keys at the top. Choosing one of these VT102 keys is equivalent to pressing a VT102 terminal key.

- *Cursor*—When you choose Cursor from the Keys menu, you see an onscreen equivalent of the Macintosh arrow keys. Use these to emulate the arrow keys on the VT102 terminal.
- *No Scroll*—This command is available only when the connection tool is set up for XON/XOFF handshaking. With No Scroll selected, you can freeze the screen while data is coming in so you can read the screen contents before the data scrolls off. To do this from the keyboard, press Control-S to stop scrolling and Control-Q to continue scrolling.

Macintosh Equivalents to VT102 Keys

The following table shows how to generate the VT102 keys that have no equivalents on Macintosh keyboards. The ADB Keys heading applies to all ADB keyboards (Apple, Apple Extended, and Macintosh Portable with keypad).

VT102 keys	Macintosh Plus keys	ADB keys
Arrow (cursor)	Arrow keys or Keys menu	Arrow keys or Keys menu
Backspace	Backspace	Delete
Delete	Option-Backspace	Option-Delete
Short break (Break)	Option-Enter	Option-Enter
Long break (Shift-Break)	Shift-Enter or Session menu	Shift-Enter or Session menu
Answerback (Control-Break)	Command-Enter	Control-Enter
Control	N/A	Control
Escape	Tilde	Escape
Left single quotation mark	N/A	Tilde
Grave accent (‘)	N/A	Tilde
Tilde (~)	N/A	Shift-Tilde
Keypad	Keypad or Keys menu	Keypad or Keys menu
Line Feed	N/A	Control-J
No Scroll or Scroll	Keys menu	Control-Q (on)/Control-S (off)
PF1, PF2, PF3, PF4	Keypad or Keys menu	Keypad or Keys menu
Set Up	Settings menu	Settings menu

◆ **Note** PowerBook arrow keys aren’t supported by the VT102 tool. Also, there is no numeric keypad.

Changing the File Transfer Tool

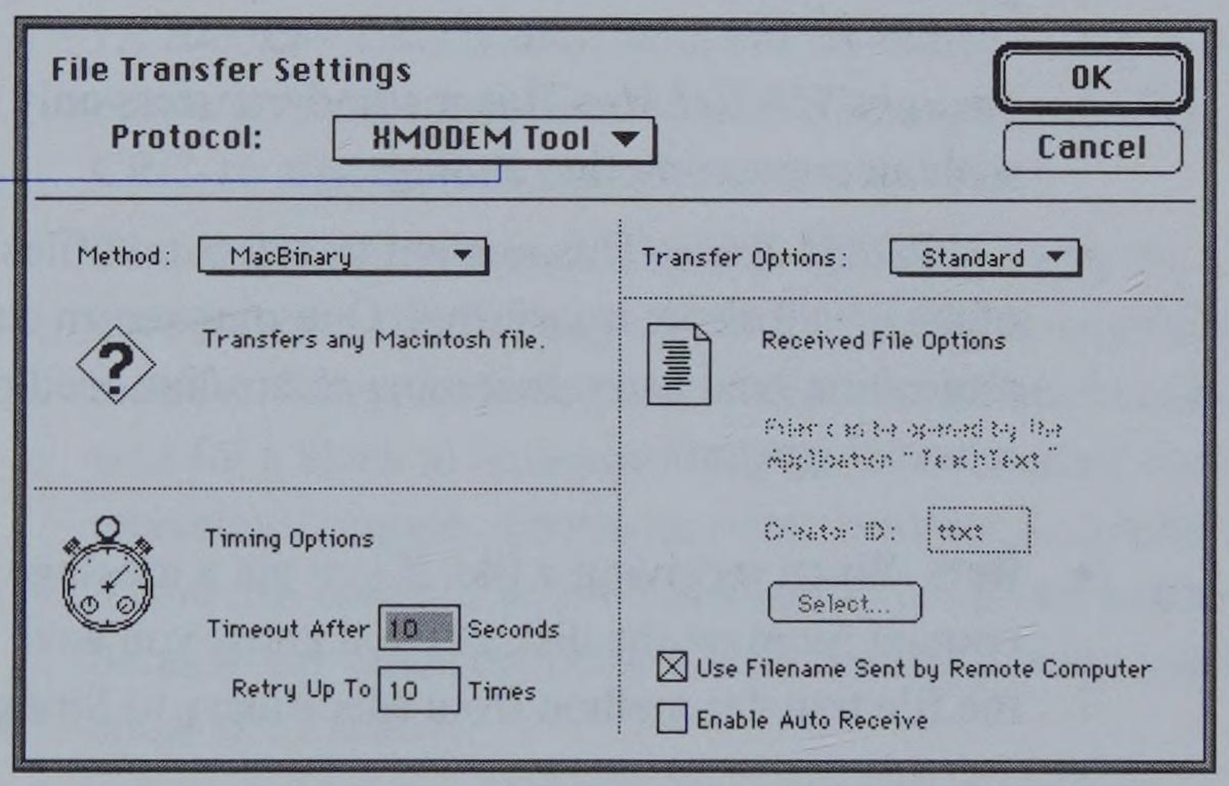
ClarisWorks is preset for XMODEM file transfer. The XMODEM tool provides a method of transferring data that includes error checking and correction.

To change the file transfer tool, follow these steps:

1. **Choose File Transfer from the Settings menu.**

   The File Transfer Settings dialog box appears.

File transfer tool



2. **From the Protocol pop-up menu, choose another tool.**

   The dialog box changes to display the options for that tool. The options are preset to the most commonly expected conditions.

3. **Unless your online service requires changes, leave all other options as they are and click OK.**

Changing Settings for the File Transfer Tool

This section describes the options for the XMODEM file transfer tool. If you choose another tool, that tool presets the options for the most commonly expected conditions.

Method

Use the Method pop-up menu to choose the variation of XMODEM transfer you need. Options in the dialog box change as you choose a variation and are preset for the most common requirements.

- *MacBinary*—This method transfers any Macintosh file (a document, application, or system file) to or from a Macintosh or any computer that supports binary XMODEM protocol.
- *MacTerminal 1.1*—This method transfers Macintosh files to a Macintosh or another type of computer that supports MacTerminal 1.1 with automatic file reception.
- *Straight XMODEM*—This method transfers only the data fork of files, without converting line endings.
- *XMODEM Text*—This method transfers text files only. Only the contents of the data fork are transferred. Outgoing return characters are converted to return/line-feed pairs. Incoming return/line-feed pairs are converted to return characters.

◆ **Note** When receiving a file, if you get a message that you don't have enough room on the disk but you know you have room, try switching the file transfer method from MacBinary to Straight XModem.

Timing Options

The timing options regulate re-transmission attempts.

- *Timeout After... Seconds*—This option sets a length of time (in seconds) that the receiving computer waits between blocks of data for an appropriate response from the other computer. Enter a whole number from 1 to 32767. The option is preset to 10. You may need to increase the value if you connect to an online service that is slow to respond.
- *Retry Up To... Times*—This option sets a number of times the sending computer attempts to re-transmit a block of data that the receiving computer has either received with errors or not acknowledged. Enter a whole number from 1 to 32767. The option is preset to 10. For large files or noisy connections, you may need a larger number.

Transfer Options

Use this pop-up menu to define the size of blocks transmitted and the type of error checking performed. The option is preset to Standard.

- *Standard*—Data is transmitted in 128-byte blocks with simple checksums. No CRC checking is performed. Choose this option if the remote system doesn't support any of the other options listed here.
- *CRC-16*—Data is transmitted in 128-byte blocks, with the CRC-16 algorithm used to detect errors. Error checking is more reliable than it is with the Standard option.
- *1K Blocks*—Data is transmitted in 1K blocks (1 block = 1,024 bytes). This option transfers data faster than the Standard and CRC-16 options. The CRC-16 algorithm is used for error checking.
- *CleanLink*—Data is transmitted in 1K blocks, with the CRC-16 algorithm used for error checking. No acknowledgment is required between sender and receiver. Data transfer is faster with this technique because the sender doesn't wait for a block to be acknowledged before sending the next block. If the receiving computer detects an error, however, it cancels the transmission. Avoid this option if your connection tool is prone to transmission errors, because any error that occurs while the file is being transmitted cancels the entire file transfer.

Received File Options

Received File Options determine attributes of received files.

- *Creator ID*—This option is available only when you choose either Straight XMODEM or XMODEM Text from the Method pop-up menu. You specify the application to be launched when a text file sent by either of these tools is opened from the Finder.
- *Use Filename Sent by Remote Computer*—When this option is selected, the XMODEM tool saves a received file with the original filename used on the sending computer. If you deselect this option, you'll be asked to name the file and save it after file transmission is complete. This option is available only with MacBinary and MacTerminal 1.1 methods.
- *Enable Auto Receive*—Allows unattended file reception.

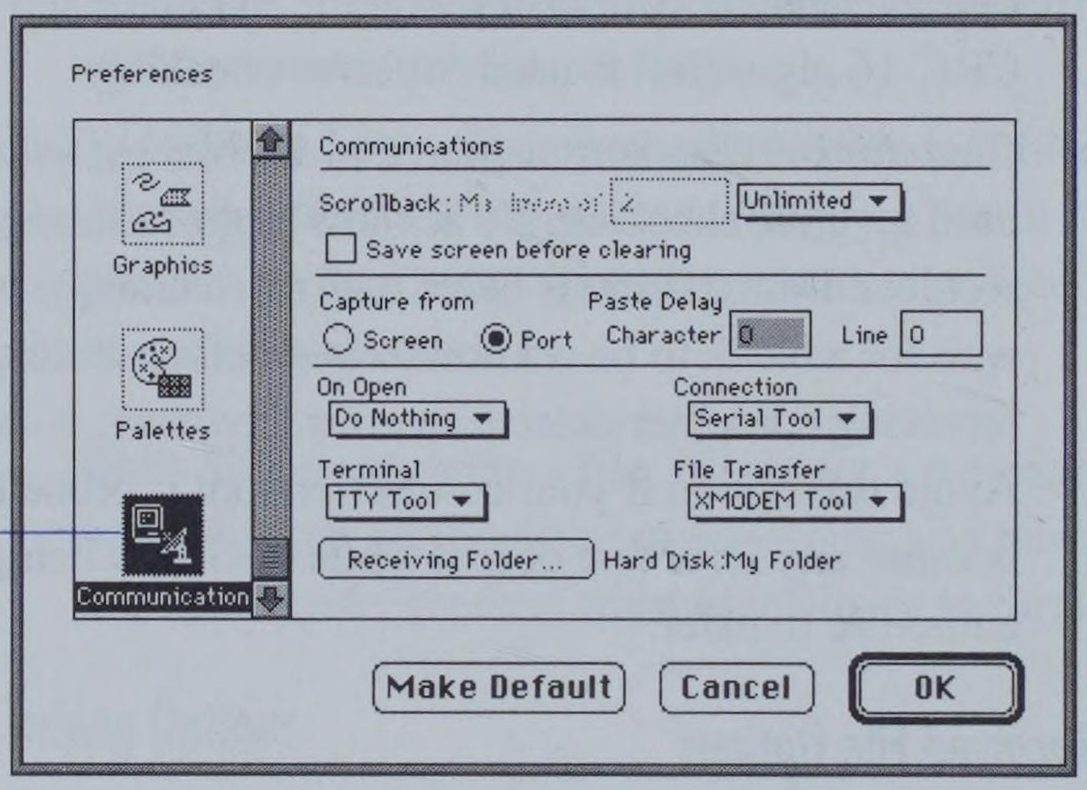
Setting Communications Preferences

You can set communications preferences for specific communications documents or for the communications environment (to be used as the default preferences each time you start ClarisWorks).

To set communication preferences:

1. **In a communications document, choose Preferences from the Edit menu.**

   The communications icon is already selected, so you see the Preferences for communications.



Communications icon

2. **Change one or more of the following preferences.**

- *Scrollback: Maximum of*—To change the amount of data stored in the scrollback pane, select Lines, Kilobytes, or Screens from the pop-up menu and type a number in the Scrollback: Maximum of box. The option is preset to Unlimited.
- *Save screen before clearing*—To save each screen in the scrollback pane before it's cleared, click this option.
- Some information services send a full screen of information and then clear the screen before sending the next one. If this option is selected, the data on the screen isn't lost.
- *Screen* or *Port*—To set the method of capturing data, click Screen or Port.

  For a description of Screen and Port, see "Capturing and Saving Incoming Data" on page 9-13.

- *Paste Delay*—To set the paste delay, enter a number in the Character box or Line box.

  If you are sending data faster than another computer can receive it, you may need to set a delay to slow transmission. For example, if you've pasted characters that aren't showing up, you may be sending data too fast.

  You can set a delay between characters or between lines. Type the delay you want (1 = 1/60 second). You may have to experiment to get the correct delay.

- *On Open*—To set connection preferences you want to be active when you open a communications document, choose one of the following options from the On Open pop-up menu:
  - To attempt connection upon opening a document, choose Automatically Connect.
  - To wait for a connection from another computer, choose Wait for Connection.
  - To do neither, choose Do Nothing.
- *Connection*—To set the connection tool, choose Apple Modem Tool or Serial Tool in the Connection pop-up menu. When you set this preference, it affects only new documents you create, not the current document.
- *Terminal*—To set the terminal type, choose VT102 Tool or TTY Tool from the Terminal pop-up menu. When you set this preference, it affects only new documents you create, not the current document.
- *File Transfer*—To set a file transfer method, choose a transfer tool from the File Transfer pop-up menu. When you set this preference, it affects only new documents you create, not the current document.
- *Receiving Folder*—To specify a folder for incoming files, click Receiving Folder and select the folder name in the dialog box that appears.

  If you don't set a receiving folder, incoming files are stored in the same folder as the ClarisWorks application.

3. **If you want these preferences only for the current document, click OK. If you want these preferences to be the default preferences for the communications environment, click Make Default and click OK.**

   The new settings take effect immediately. If you made these settings the default, they are in effect each time you start ClarisWorks.

Troubleshooting

Because of the wide variety of modems, computers, and online services, it's impossible to predict every situation that might cause trouble before or during a communications session. Solutions to the most common difficulties are listed here.

You cannot connect.

Check the following factors:

- Make sure you've chosen the Open Connection command from the Session menu. The status area of the current document shows the connection status. If the status is "Waiting," the connection is still in progress.
- Make sure you have the correct cabling and that the cables are connected properly.
- Make sure that the modem is plugged in and switched on. A ready light should glow steadily when the modem is on.
- Make sure that you have the proper equipment. For connections between two Macintosh computers, you'll need a null modem cable (an ImageWriter printer cable qualifies). For connections to computers other than the Macintosh, consult the manufacturer for a cable recommendation.

You're having trouble sending or receiving text or data.

Make sure that the baud rate settings match on both computers. If the settings match and you still have problems, you may need to select the On Line option for the terminal emulation tool (Terminal Settings dialog box).

Make sure that the two computers are using the same file transfer protocol (File Transfer Settings dialog box).

You see rectangular boxes or international characters scattered throughout incoming data.

The connection settings are probably incorrect. In the Connection Settings dialog box, try changing Parity to Even and Data Bits to 7, leaving Stop Bits at 1. If you still have problems, contact the system administrator at the online service.

Unexpected characters appear on the screen when you're receiving data.

Static or "noise" on the telephone line can cause unexpected characters (although some noise is normal). Try disconnecting and reconnecting from the service to see if you can get a better connection.

You lose characters during transmission, even though the settings for both computers match.

Try reducing the baud rate or changing the handshaking method (Connection Settings dialog box). Remember to have the person at the other computer adjust settings accordingly.

A bad connection could be the problem. Log off from the service and call back to try and get a better one.

No data is sent or received.

Make sure all cables are properly connected and that the telephone connection is open. The status area should show "Connected" status. Also, make sure the On Line option for the terminal emulation tool is selected (Terminal Settings dialog box).

The letters and words you type don't appear on the screen.

Try selecting the Local Echo option (Terminal Settings dialog box).

Nothing appears on the screen when you send data.

Make sure the connection is open. The status area should show "Connected" status. If the connection is open, try selecting the Local Echo option (Terminal Settings dialog box).

Data appears as double characters.

The remote computer may be echoing the keys you press, generating double characters because the Local Echo option is selected. Most host computers echo keystrokes. Deselect the Local Echo option (Terminal Settings dialog box).

Incoming data writes over the last character on the first line.

Select Auto Wrap to Next Line (Terminal Settings dialog box).

Incoming data writes over the same line.

Select the New Line on a Return option (Terminal Settings dialog box).

Lines of incoming data are double spaced.

Deselect the New Line on a Return option (Terminal Settings dialog box).

You cannot see the vertical cursor on the screen.

The cursor may have scrolled off the screen. Click the active scroll bar, or resize the window, to scroll the cursor back to the screen. Or, type a character—the cursor returns to view.

The screen shows unrecognizable characters.

The terminal type may be wrong. For example, if the host computer expects you to log on using a VT102 terminal, but you're using the TTY tool, communications won't make sense. Change the terminal (Emulation pop-up menu, Terminal Settings dialog box). After you change the terminal, disconnect and reconnect. Many host computers automatically identify the type of terminal you're using when you log on, and won't let you change terminals while online. Other systems require that you inform the host computer of your terminal type. You may need to contact the system administrator to find out which procedure is used.

A noisy telephone line can also cause unrecognizable characters. Try disconnecting and reconnecting.

Data is lost during file transfers with the Text transfer tool.

Try slowing down the rate of transmission by increasing the Delay Per Character or Delay Per Line options (File Transfer Settings dialog box). You can also try using handshaking if the host computer supports that option (Connection Settings dialog box). See the Paste Delay option in "Setting Communications Preferences" on page 9-38.

You get a low-memory message.

Try freeing up some memory by making one or more of the following changes:

- Close inactive documents.
- Reduce the amount of data stored in the scrollback pane. See "Setting Communications Preferences" on page 9-38.
- System 6 users can use the Finder rather than MultiFinder. For information, see the documentation that came with your Macintosh.

- Remove INIT files and desk accessories you don't really need from your System Folder.
- Reduce the size of the RAM cache (Control Panel). For information, see the documentation that came with your Macintosh.

◆ **Note** When you're receiving a file, you may get a message that you don't have enough space on your disk to receive the file. See "Method" on page 9-36.

Everything was going fine, but you suddenly started having problems.

If everything is working well and you suddenly experience any of the problems listed in this section, you may want to choose Reset Terminal (Session menu). This command resets options for the terminal emulation tool to previous settings.

Appendix A

Using ClarisWorks Functions

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Appendix A

Using ClarisWorks Functions

ClarisWorks provides powerful functions that help you perform calculations on data in spreadsheets and databases quickly and easily. This appendix gives a brief overview of functions and provides examples.

For convenience, functions are listed alphabetically.

About Functions

A function is a predefined sequence of operations that return a result. You can enter a function in a spreadsheet or database to perform a calculation. Functions simplify formulas that would otherwise be tedious or complex to express. For example, the SUM function spares you from typing a series of values separated by plus signs.

ClarisWorks supplies 100 functions that perform a wide variety of spreadsheet calculations. Most of these functions are also useful in database formulas, helping you to analyze and summarize data, screen information based on different parameters, isolate trends, perform computations, and so forth.

Functions consist of a function name followed by one or more **arguments** enclosed in parentheses. Arguments are the values you supply to a function so that it can perform a calculation. The section "Function Descriptions" on page A-6 describes how to express and use each function.

How to Use a Function

You can insert functions into spreadsheet formulas or database calculation and summary fields.

Adding a ClarisWorks Function to a Spreadsheet

The steps that follow show the basic procedure for using a function in a spreadsheet. For complete instructions, see "Working with Functions" in chapter 6. Because functions are usually part of formulas, consider reviewing "Working with Formulas" in chapter 6 if you aren't familiar with writing formulas in ClarisWorks.

To add a function to a spreadsheet:

1. **Select the cell in which you want the result to appear.**
2. **In the spreadsheet entry bar, type an equal sign (=) followed by the name of the function and the values on which you want it to operate.**

   The values (arguments) must be in parentheses. For example, to total the values in cells A2 through A10 and put the result in cell A11, select cell A11, and type the following line in the entry bar:

   ```
   = SUM (A2..A10)
   ```

3. **Click the accept box (checkmark) or press Enter.**

   The result appears in the selected cell.

   You can also enter a function with the Paste Function command (Edit menu). For step-by-step instructions, see "Entering Functions" in chapter 6.

Using a ClarisWorks Function in a Database

The formulas you create in a database operate roughly the same way they do in a spreadsheet. For calculation purposes, fields in the database correspond to cells in the spreadsheet, except that you cannot refer to fields in other records and you cannot use ranges.

In databases, you use the calculation or summary fields to create formulas that contain functions. When used in calculation fields, functions apply only to the fields within one record; whereas in summary fields, you can apply functions to specific fields shared by records throughout the database. To learn how to insert functions in formulas, see "Defining a Calculation Field" in chapter 7.

Errors

ClarisWorks occasionally encounters an error when it evaluates a formula. Errors are indicated by a leading number sign (#) and a trailing exclamation point (!). The following table contains a list of errors and their meanings.

Error	Description
#N/A!	Not available
#DIV/0!	Divide by zero error
#VALUE!	Invalid value error
#NUM!	Invalid number error
#REF!	Reference to invalid cell error
#ARG!	Invalid number of arguments or incorrect argument type error
#USER!	User defined error
#DATE!	Invalid date error
#TIME!	Invalid time error
#PRECISION!	Insufficient precision available to display value
###	Insufficient cell size to display value
#ERROR!	A general error message for errors not included above

Functions by Category

ClarisWorks has eight categories of functions. The following table lists the functions in each category.

Category	Function name	
Business and Financial	FV (Future Value)	NPV (Net Present Value)
	IRR (Internal Rate of Return)	PMT (Payment)
	MIRR (Modified Internal Rate of Return	PV (Present Value)
	NPER (Number of Periods)	RATE
Date and Time	DATE	NOW
	DATETOTEXT	SECOND
	DAY	TEXTTODATE
	DAYNAME	TEXTTOTIME
	DAYOFYEAR	TIME
	HOUR	TIMETOTEXT
	MINUTE	WEEKDAY
	MONTH	WEEKOFYEAR
	MONTHNAME	YEAR
Information	ALERT	LOOKUP
	BEEP	MACRO
	CHOOSE	MATCH
	COLUMN	NA (Not Available)
	ERROR	ROW
	HLOOKUP (Horizontal Look Up)	TYPE
	INDEX	VLOOKUP (Vertical Look Up)
Logical	AND	ISNA (Is Not Available)
	IF	ISNUMBER
	ISBLANK	ISTEXT
	ISERROR	NOT
	ISLOGICAL	OR
Numeric	ABS (Absolute Value)	MOD (Modulo)
	EXP (Exponent)	PI
	FACT (Factorial)	RAND (Random)
	FRAC (Fraction)	ROUND
	INT (Integer)	SIGN
	LN (Natural Log)	SQRT (Square Root)
	LOG	TRUNC (Truncate)
	LOG10 (Log to Base 10)	

Category	Function name	
Statistical	AVERAGE	PRODUCT
	COUNT	STDEV (Standard Deviation)
	COUNT2	SUM
	MAX (Maximum)	VAR (Variance)
	MIN (Minimum)	
Text	CHAR (Character)	NUMTOTEXT
	CODE (ASCII Code)	PROPER
	CONCAT (Concatenate)	REPLACE
	EXACT	REPT (Repeat)
	FIND	RIGHT
	LEFT	TEXTTONUM
	LEN (Length)	TRIM
	LOWER	UPPER
	MID (Middle)	
Trigonometric	ACOS (Arc Cosine)	DEGREES
	ASIN (Arc Sine)	RADIANS
	ATAN (Arc Tangent)	SIN (Sine)
	ATAN2 (Arc Tangent 2)	TAN(Tangent)
	COS (Cosine)	

In a spreadsheet document, functions appear in alphabetical order in the Paste Functions dialog box (choose Paste Function from the Edit menu). In a database document, choose Define Fields from the Layout menu and create or edit a calculation or summary field to display the Formula dialog box containing these functions.

Function Descriptions

The functions in this section are listed in alphabetical order by function name. If the name is an abbreviation or an acronym, the full name appears next to it in parentheses. Do not use these spelled-out names in your formulas; they exist solely to help you identify and locate functions more easily.

Syntax

Each function described in this appendix is composed of one or more of the following elements:

FNAME	(*arg1..arg2,arg3,{arg4},...*)
FNAME	function name
( )	enclose all arguments in parentheses
arg	function argument
{ }	optional argument
...	indicates you can add as many arguments as you need

Arguments are values on which the function acts. Argument names appear in *italics* because they are placeholders for the actual values you must enter. Be sure to separate multiple arguments by commas. To specify a range of values, type two periods between the arguments representing the first and last values in the range. If the function you want to use doesn't require an argument, you must enter an empty pair of parentheses.

These are some examples of spreadsheet functions with their arguments:

`RAND ()`	no arguments
`SUM (A2..A10)`	sums a range of values from A2 through A10
`average (5,10,20)`	multiple arguments

Some functions have optional arguments; that is, the arguments are not required but you may supply them for added versatility. These optional arguments are indicated by braces (*{}*).

You can enter functions in either uppercase or lowercase letters. This appendix uses a mix of uppercase and lowercase with arguments in lowercase. Be sure to enclose text arguments in quotation marks (“ ”).

If you make a typing error when entering a function, or you enter a function that is not supported, you see the message “Bad Formula,” and you must reenter the formula.

Types of Arguments

In this appendix, the following terms indicate the type of argument required in a function:

- *value*—a number, date, logical or numeric expression, or cell reference. A numeric expression is a whole or real number, or an arithmetic operation (such as 2*3), but not an equation (such as 2x+3=9). (You cannot use unknown variables in function arguments.)
- *number*—a value that is numeric or generates a numeric result. An example is a reference to a cell that contains a number.
- *text*—alphanumeric characters. The text must be enclosed in quotation marks (" "). If the text itself contains quotation marks, the quotation marks must be doubled.
- *logical*—Boolean values: TRUE (or the number 1) or FALSE (or 0)
- *cell*—a reference to a spreadsheet cell or range of cells. A cell reference might be K23 and a range could be indicated by A1..D15.

Business and Financial

For all business and financial functions, *pv*, *fv*, and *pmt* are arguments for cash values. The **pv** argument is the present value of the investment, **fv** is the future value, and **pmt** is the payment to be made per period. Cash received is represented by a positive number, and cash paid out is represented by a negative number. The examples illustrate this convention.

The **nper** argument represents the number of periods. The **rate** and **nper** arguments must refer to the same period. For example, if *nper* is the number of months, then *rate* must be the effective monthly interest rate.

The **type** argument describes whether payments occur at the beginning or the end of the periods. If *type* is 0, the first payment is assumed to occur at the end of the first period. If *type* is 1, the first payment is assumed to occur at the beginning of the first period. If you omit this optional parameter, ClarisWorks assumes the value for *type* is 0.

Date and Time

ClarisWorks stores dates and times as serial numbers, the date-time code that ClarisWorks uses for date and time calculations. For all date and time functions, the following conventions are used for the serial number of an argument. The part of the number to the left of the decimal point represents the number of days since January 1, 1904. Negative numbers are used to represent days before January 1, 1904. The portion to the right of the decimal point, when present, represents the time of day.

An example of an exact time is 12:00:00 PM. The serial number 32768 indicates a date that is 32768 days after January 1, 1904, which happens to be Saturday, September 18, 1993, at 12:00:00 AM. The serial number 32768.675 represents the same day at 4:12 PM. The examples presented with the functions illustrate these conventions.

Logical

Logical functions evaluate Boolean expressions as true or false conditions. For example, the argument 1=1 is a true Boolean expression, whereas 1<0 is false. Logical functions also evaluate arguments that are not actual Boolean expressions, such as text or arithmetic operations that do not make a true or false statement. Logical functions take numbers, arithmetic operations (such as 2*4), equations (without unknown quantities), cell references, and field names as arguments. Some functions evaluate text arguments as false, while others return an error condition. Be sure to enclose text in quotation marks (“ ”). Following established convention, logical functions generally interpret nonzero whole or real numbers as true and a 0 argument as false, unless the purpose of the function is to invert the condition of the argument, as is the case of the NOT function. For example, NOT evaluates a 0 as true and the expression 1=1 as false.

Trigonometric

All trigonometric functions use radians as the units of measurement. (A radian is equal to 180/π degrees.) Once you have obtained a result you can convert the radians into degrees using the DEGREE function. Similarly, you can convert an argument expressed as degrees into radians using the RADIANS function. Arguments for trigonometric functions must range from–1 through 1, but you can also insert simple operations into a function, such as ACOS(5/7), if, as in this case, you want the function to calculate the cosine as well as its inverse.

ABS (Absolute Value)

Format `ABS(`*`number`*`)`

Definition Calculates the absolute value of the argument. Returns a positive value if available and converts negative numbers to positive numbers. Returns 0 if the argument is the address of a cell that is blank.

Argument

number—Replace with a numeric expression.

Examples

- `ABS(-5.57)` returns 5.57.
- `ABS(5)` returns 5.
- `ABS(A1)` returns the positive value of the number in cell A1.

ACOS (Arc Cosine)

Format `ACOS(`*`number`*`)`

Definition The arccosine, or inverse of a cosine. The result is the corresponding angle in radians, in the range from 0 to π. Taking the cosine of the result produces the argument of this function.

Argument

number—Replace with a cosine value or a simple operation that yields a cosine. Valid range is from –1.0 to 1.0.

Examples

- `ACOS(5/7)` returns 0.7752.

  This example shows that the arccosine of 5/7 is 0.7752 radians.
- `ACOS(0.5)` returns 1.0472.

  This example shows that the arccosine of the cosine 0.5 is π/3 radians (1.0472).
- `DEGREES(ACOS(0.5))` returns 60.

  This example shows that converting the result to radians yields 60 degrees.

ALERT

Format ALERT(*value*)

Definition Displays a message in a dialog box.

◆ **Note** This function cannot be used in databases.

Argument
value—Replace with any text or numeric expression.

Examples

- `ALERT("Whoops!")` displays a dialog box that shows Whoops!
- `ALERT(B7)` displays a dialog box that shows 121.

  In this example, cell B7 contains the number 121.
- `ALERT(B9+A4)` displays a dialog box that shows 13.

  In this example, cell B9 contains the number 5 and cell A4 contains an 8.
- `IF(B7>10, ALERT("B7 is greater than 10!"), B7)`

  In this example, if cell B7 is greater than 10 as the result of a calculation, an alert informs the user; otherwise, the value of B7 goes into this cell.

AND

Format AND(*logical1, logical2,...*)

Definition Evaluates the argument or arguments listed and returns TRUE if all arguments are true. If one argument listed is false, the AND function returns FALSE. If the argument is a number or arithmetic operation (such as 1+1) rather than an equation (such as 1+1=2), then 0 equals FALSE and all other values equal TRUE.

Arguments
logical1, logical2—Replace with one or more numeric expressions.

Examples

- `AND(B1)` returns TRUE if cell B1 contains a nonzero number.
- `AND(1-1=0, 1*1=1)` returns TRUE because both Boolean expressions are true.
- `AND(5,0,6)` returns FALSE because all values are not nonzero.

  These examples show all arguments must be nonzero to return a result of TRUE.

Related Function OR

ASIN (Arc Sine)

Format `ASIN(`*`number`*`)`

Definition The arcsine, or inverse of a sine. The result is the corresponding angle in radians, in the range from $-\pi/2$ to $\pi/2$. Taking the sine of the result produces the argument for this function.

Argument

number—Replace with a sine value or a simple operation that yields a sine. Valid range is from –1.0 to 1.0.

Examples

- `ASIN(1)` returns 1.570.

  This example shows that the arcsine of 1 is $\pi/2$ radians (1.57), which is 90 degrees.

- `ASIN(-2) returns #NUM!`

  This example shows that the arcsine of –2 is not defined (range must be from –1 to 1).

ATAN (Arc Tangent)

Format `ATAN(`*`number`*`)`

Definition The arctangent, or inverse of a tangent. The result is the corresponding angle in radians, in the range from $-\pi/2$ to $\pi/2$. Taking the tangent of the result produces the argument of this function.

Argument

number—Replace with a tangent value or a simple operation that yields a tangent.

Examples

- `ATAN(1)` returns .785.

  This example shows that the arctangent of 1 is .785 radians ($\pi/4$), which is 45 degrees.

- `DEGREES (ATAN(1))` returns 45.

ATAN2 (Arc Tangent 2)

Format `ATAN2(`*`x_number, y_number`*`)`

Definition Returns the angle (in radians) between the positive X axis and a line that starts at the origin (0,0) and passes through the x and y coordinates you specify (*x_num, y_num)*. The result is the angle in radians, in the range from $-\pi$ to π.

Arguments

x_number—Replace with an x-coordinate value.
y_number—Replace with a y-coordinate value.

Examples

- `ATAN2(1,1)` returns .785 ($\pi/4$ radians).
- `ATAN2(-2,-2)` returns –2.356 ($-3\pi/4$ radians).

AVERAGE

Format `AVERAGE(`*`number1, number2,...`*`)`

Definition Calculates the average of the set of numbers given as arguments (sum of the arguments divided by the count of the arguments).

Arguments

number1, number2—Replace with a number, cell reference, or range.

Examples

- `AVERAGE(5,7,9,10)` returns 7.75.

  This example shows that the average of the four arguments is 7.75.

- `AVERAGE(10,0,B2)` returns 10.

  When the value in cell B2 is 20, the result is (10 + 0 + 20)/3.

The following two examples use this sample spreadsheet.

- `AVERAGE(B3..B6)` returns 25.
- `AVERAGE(B3..B6,C3..C6)` returns 23.75.

	A	B	C
1			
2			
3		10	20
4		20	30
5		30	40
6		40	0

BEEP

Format `BEEP()`

Definition Plays the alert sound set in the Control Panel.

Example

- `IF(A1>=10,BEEP(),"Less than 10")`

  Plays an alert beep if the contents of cell A1 are greater than or equal to 10. If the value in cell A1 is less than 10, the text "Less than 10" is displayed.

CHAR (Character)

Format `CHAR(`*number*`)`

Definition Returns the ASCII character corresponding to the value specified in *number*.

Argument

number—Replace with a number, the address of a cell that contains a number, or a field that contains a number. The number can be fractional, but the fraction is discarded.

Examples

- `CHAR(65)` returns A.
- `CHAR(B7)` returns K (if cell B7 contains 75).
- `CHAR(99.8)` returns c (c is the 99th ASCII code).

  This example shows that a decimal number is valid, but the fractional portion of a number is ignored.

CHOOSE

Format `CHOOSE(`*`index,value1,value2,...`*`)`

Definition Searches a list of values for the values specified by *index*. The list can contain as much as 250 characters.

Arguments

index—Replace with any number, numeric expression, or cell reference.

value1, *value2*—Replace with any text, numeric expression, or cell reference (not a range).

Examples

- `CHOOSE(3,"1st","second",7,"last")` returns 7.

  The index is 3, and 7 is the third value listed. This example shows that the list can be text or numbers and that the result can be a number.

- `CHOOSE(2,"1st","hat",7,"last")` returns hat.

  The index is 2, and hat is the second value listed. This example shows that the list can be text or numbers and that the result can be text.

CODE (ASCII Code)

Format `CODE(`*`text`*`)`

Definition Returns the numeric ASCII code of the first character in *text*.

Argument

text—Replace with any text expression.

Examples

- `CODE("z")` returns 122 (for ASCII character z).
- `CODE("Abracadabra")` returns 65 (for ASCII character A).

  This example shows that only the first character of the text is examined.

COLUMN

Format `COLUMN(`*`{cell}`*`)`

Definition Returns the column number of the current cell or that of the cell referred to.

◆ **Note** This function cannot be used in databases.

Argument
cell—Optional. Must be a cell reference.

Examples

- `COLUMN()` returns 5.

  This example returns 5 when the formula is entered in any of the rows in the E column, which is column 5.

- `COLUMN(B7)` returns 2.

  This example shows that the cell B7 is in the B column, which is column 2.

Related Function ROW

CONCAT (Concatenate)

Format `CONCAT(`*`text1, text2,...`*`)`

Definition Joins (concatenates) strings of text.

Arguments
text1, *text2*—Replace with any text expression.

Examples

- `CONCAT("how", " Does", " this work?")` returns "how Does this work?"
- If cell B7 contains 5 and B8 contains "WOW!", then

  `CONCAT("Look at ",B7,": ",B8)` returns "Look at 5: WOW!"

COS (Cosine)

Format `COS(number)`

Definition The cosine of a number, where *number* is the angle in radians. Taking the arccosine of the result produces the argument of this function.

Argument

number—Replace with a numeric value or expression in radians.

Examples

- `COS(1.0472)` returns 0.5.

  In this example, the cosine of 1.0472 radians (which is 60 degrees) is 0.5.

- `COS(ACOS (0.5))` returns 0.5.

COUNT

Format `COUNT(value1, value2,...)`

Definition Returns the number of arguments given. Blank cells are not counted.

Arguments

value1, value2—Replace with any text, number, cell, range reference, or expression. You can combine these different types of values in the same list.

Example

- `COUNT(10,20,B2)` returns 3.

  This example shows that there are three numbers in the list.

COUNT2

Format `COUNT2(searchvalue, value1,...)`

Definition Reads the value in *searchvalue*, searches the remaining arguments for occurrences of that value, and displays the count in the cell or field specified.

Arguments

searchvalue—Replace with a search value (a number, cell reference, or range).
value1—Replace with a number, cell reference, or range.

Examples

- `COUNT2(10,20,10,34,10)` returns 2 because 10 (the value of the first argument) occurs twice in the arguments that follow.
- `COUNT2(5,3,2,5,B3)` returns 1 if B3 does not contain 5 and returns 2 if B3 contains 5.

DATE

Format `DATE(`*`year, month, day`*`)`

Definition Calculates a serial number for the specified date. A serial number is the date-time code that ClarisWorks uses for date and time calculations.

Arguments

year—Replace with the desired year. Must be a number greater than 0 and less than 29941. If you use a two-digit number, the number is interpreted as the first century.
month—Replace with the desired month of the year (1–12). Must be a number.
day—Replace with the desired day of the month. Must be a number.

Examples

- `DATE(1990,5,22)` returns 31553.
- `DATE(1903,12,31)` returns -1.

  The first example shows that May 22, 1990, is 31553 days after January 1, 1904. The second example shows that serial numbers before January 1, 1904, are negative numbers.

DATETOTEXT

Format `DATETOTEXT(`*`serial_number {, format_number}`*`)`

Definition Returns the text equivalent for the serial number and format specified. A serial number is the date-time code that ClarisWorks uses for date and time calculations.

Arguments

serial_number—Replace with a numeric expression.
format_number—Optional. Replace with a number in the range 0–4. (See examples for sample formats.)

Examples

- `DATETOTEXT(31767)` returns 12/22/90.

  This example shows that the day represented by the serial number 31767 is December 22, 1990 (which is 31767 days after January 1, 1904).

- `DATETOTEXT(31767,0)` returns 12/22/90. This is the default format.
- `DATETOTEXT(31767,1)` returns Dec 22, 1990.
- `DATETOTEXT(31767,2)` returns December 22, 1990.
- `DATETOTEXT(31767,3)` returns Sat, Dec 22, 1990.
- `DATETOTEXT(31767,4)` returns Saturday, December 22, 1990.

  These examples illustrate the format styles available with the optional argument.

DAY

Format `DAY(`*`serial_number`*`)`

Definition Converts a serial number to a day of the month. A serial number is the date-time code that ClarisWorks uses for date and time calculations.

Argument

serial_number—Replace with a value in serial form, representing the number of days that have elapsed since January 1, 1904.

Example

- `DAY(31990)` returns 2.

  This example shows that the serial number 31990, or August 2, 1991, is day 2 of the month.

DAYNAME

Format `DAYNAME(`*`number`*`)`

Definition Calculates the name of a specified day.

Argument

number—Replace with a number in the range 1–7.

Example

- `DAYNAME(1)` returns Sunday.

  This example shows that Sunday is day 1 of the week.

DAYOFYEAR

Format DAYOFYEAR(*serial_number*)

Definition Converts a serial number to a day of the year. A serial number is the date-time code that ClarisWorks uses for date and time calculations.

Argument

serial_number—Replace with a number from –695055 through 10240315, which represents dates from January 1, 0001, through January 11, 29941. Zero represents the date January 1, 1904.

Example

- DAYOFYEAR(31990) returns 214.

  This example shows that serial number 31990, which is August 2, 1991, is the 214th day of the year.

DEGREES

Format DEGREES(*radians_number*)

Definition Converts the number of radians to degrees. The result is an angle in degrees.

Argument

radians_number—Replace with a numeric value in radians.

Examples

- DEGREES(PI()) returns 180.

  This example shows that π radians is equal to 180 degrees.

- DEGREES(RADIANS(30)) returns 30.

  This example shows the relationship between degrees and radians.

Related Function RADIANS

ERROR

Format ERROR()

Definition Returns the error value #ERROR!

Example

- IF(ISBLANK(A1), "HI", ERROR())

  Assuming cell A1 has some data in it, the result is #ERROR! If cell A1 is blank, the result is HI.

Related Function NA( )

EXACT

Format `EXACT(`*`text1,text2`*`)`

Definition Returns the logical value TRUE if both *text1* and *text2* are identical in case and characters.

Arguments
text1—Replace with any text expression.
text2—Replace with any text expression.

Examples

- `EXACT("dog","DOG")` returns FALSE.

  This example shows no exact match, because the function is case-sensitive. If both sets of text are of mixed case, and you want a case-insensitive comparison, you first need to convert the text using the UPPER or LOWER functions. See the following examples.

- `EXACT(UPPER("dog"),"DOG")` returns TRUE.
- `EXACT(UPPER("Dog"),UPPER("dog"))` returns TRUE (DOG and DOG).
- `EXACT(LOWER("Dog"),LOWER("dog"))` returns TRUE (dog and dog).
- `EXACT("wow", "wow!")` returns FALSE.
- `EXACT(B7,"Mine")` returns TRUE (when cell B7 contains "Mine").

EXP (Exponent)

Format `EXP(`*`number`*`)`

Definition Calculates *e* to the power of *number* (e^{number}).

Argument
number—Replace with a numeric expression.

Examples

- `EXP(0)` returns 1.
- `EXP(1)` returns 2.71828... (the value of e).
- `EXP(sin(radians(45)))` returns 2.02811...

  This example shows that the number can be produced from other calculations. In this case, the sine of 45 degrees is 0.71..., and $e^{0.71}$ equals 2.02811.

FACT (Factorial)

Format `FACT(`*`number`*`)`

Definition Computes the factorial of a number.

Argument

number—Replace with a positive whole number.

Example

- `FACT(5)` returns 120.

  This example shows that 5! is 120, because 5 x 4 x 3 x 2 x 1 = 120.

FIND

Format `FIND(`*`find_text, in_text {,start_offset}`*`)`

Definition Searches the *in_text* string for a character or series of characters specified in *find_text*. It starts the search at the character position represented by *start_offset* and returns the starting position (within the text string) of *find_text*. The search is case-sensitive and blanks are counted.

Arguments

find_text—Replace with the text expression you want to find. Enclose text in quotes.

in_text—Replace with the text expression you want searched. Enclose text in quotes.

start_offset—Optional. Must be a numeric expression greater than or equal to zero.

Examples

- `FIND("e", "where in the World")` returns 3.
- `FIND("w", "where in the World")` returns 1.
- `FIND("W", "where in the World")` returns 14.
- `FIND("the", "the best in the World",4)` returns 13.

FRAC (Fraction)

Format `FRAC(`*`number`*`)`

Definition Computes the fractional part of a real number.

Argument
number—Replace with a numeric expression. The result is always positive.

Examples

- `FRAC(22.575)` returns 0.575.

  This example shows that the fractional part (to the right of the decimal point) is .575.

- `FRAC(-22.767)` returns 0.767.

  This example shows a value returned with negative numbers.

Related Functions INT, ROUND, TRUNC

FV (Future Value)

Format `FV(rate, nper, pmt, {pv}, {type})`

Definition Calculates the future value of an initial investment and a series of periodic payments, based on a specific periodic interest rate over a given number of periods.

Arguments
rate—Interest rate per period.
nper—Number of periods.
pmt—Payment to be made per period.
pv—Optional. Present value of the investment. If *pv* is omitted, the present value is assumed to be 0.
type—Optional. Type of payment scheme. Must be 0 or 1. Default is 0. Use 0 for payment at the end of the first period. Use 1 for payment at the start of the first period.

Example

- `FV(9%,12,-100,-3000)` formatted for currency returns $10452.07.

  This example shows that if an initial investment of $3,000 (with additional payments of $100 a year) is made at an annual interest rate of 9%, in 12 years the investment yields $10,452.07. Payment and present value are negative because they are cash paid out. The cell used for the result was formatted for currency with precision to two decimal points.

HLOOKUP (Horizontal Look Up)

Format HLOOKUP*(lookup_value, compare_range, index {,method})*

Definition HLOOKUP is a horizontal row lookup. It searches the top row of the range indicated in *compare_range* looking for the search value (*lookup_value*). If the search condition is met (as determined by the *method* argument), the row number of the found cell is offset by the amount specified in *index*. The function then returns the contents of that cell. If the search condition is not met, an error is returned. The optional *method* argument controls the type of comparison used for the search. (Although *method* does not appear in the argument list when you paste this function into a cell, it is available for use.)

◆ **Note** This function cannot be used in databases.

Arguments

lookup_value—Replace with any text or numeric expression.
compare_range—Replace with a cell range of 1 or more rows.
index—Replace with a numeric expression.
method—Optional. Use 1 (the default) to return the first number less than or equal to the given value when *compare_range* is increasing from left to right. Use –1 to return the first number greater than or equal to the given value when the *compare_range* is decreasing from left to right. Use 0 to return the exact match to the given value (numeric order of the range is unimportant).

Examples

The following three examples use this spreadsheet.

	A	B	C	D	E
1		1	11	21	50
2		3	12	22	40
3		5	13	23	30
4		7	14	24	20
5		9	15	25	10

■ HLOOKUP(11,B1..E5,1) returns 12.

In this example, ClarisWorks searches from left to right in the first row to find the value (ascending order method). Cell C1 (which contains 11) is an exact match, so the index (which is 1) is added to the row number of that cell to obtain cell C2. Cell C2 contains the result of 12.

- `HLOOKUP(22.5,B1..E5,4)` returns 25.

  This example shows that the greatest number less than or equal to 22.5 is 21, found in cell D1. Adding the row index of 4 produces cell D5, which contains 25.

- `HLOOKUP(60,B1..E5,4)` returns #N/A!

  The search value of 60 is beyond the rightmost cell in the top row, so an error is returned.

The following two examples use this spreadsheet.

	A	B	C	D	E
1		50	40	30	20
2		3	12	22	44
3		5	13	23	34
4		7	14	24	18
5		9	15	25	10

- `HLOOKUP(30,B1..E5,2,-1)` returns 23.

  In this example, ClarisWorks searches from left to right in the first row to find the value 30. The exact value of 30 is found in cell D1. The index of 2 is added to the row to obtain cell D3, which contains 23.

- `HLOOKUP(25,B1..E5,3,-1)` returns 24.

  In this example, ClarisWorks searches from left to right in the top row to find a value greater than or equal to 25. The value of 30 is found in cell D1. The index of 3 is added to the row to obtain cell D4, which contains 24.

Related Functions LOOKUP, VLOOKUP

HOUR

Format `HOUR(`*`serial_number`*`)`

Definition Converts the time portion of a serial number to the number of the hour (in the range 0–23). A serial number is the date-time code that ClarisWorks uses for date and time calculations.

Argument

serial_number—Replace with a number. The number after the decimal point signifies the time of day.

Examples

- `HOUR(0.5660)` returns 13.
- `HOUR(31356.5660)` returns 13.

  This example shows that ClarisWorks uses only the fractional portion of a serial number (the portion to the right of the decimal point). The actual time in the examples is 13:35 (1:35 PM). Notice that the hour returned is in 24-hour format.

- `HOUR(TEXTTOTIME("1:35 PM"))` returns 13.

  You can also enter certain functions as the argument.

IF

Format `IF(`*`logical, true_value, false_value`*`)`

Definition Tests the number or expression in *logical* for a true or false condition. If *logical* is true, the expression in *true_value* is returned; if false, *false_value* is returned. If the value in *logical* is a number, any nonzero value is true.

Arguments

logical—Replace with a numeric value or logical expression.
true_value—Replace with a text or numeric expression.
false_value—Replace with a text or numeric expression.

Examples

- `IF(C1,5,10)` returns 10 if cell C1 is empty and returns the value 5 if it is nonzero.
- `IF(TRUE, "It's TRUE", "It's FALSE")` returns "It's TRUE."
- `IF(C3>10000, "Profit", "Loss")` returns "Profit" if the value in cell C3 is greater than 10,000.
- `IF(5>10, "5 is greater than 10", "5 is not greater than 10")` returns the *false_value* of "5 is not greater than 10."

  These examples show that if *logical* evaluates as TRUE (nonzero), the result of the function is the second argument.

INDEX

Format `INDEX(`*`range, row, column`*`)`

Definition Returns the value of the cell whose position is determined by the row and column offsets from the first cell specified in the *range* argument. The *range* argument specifies a range of cells. The *row* and *column* arguments specify the row and column offsets from the first cell in the range.

◆ **Note** This function cannot be used in databases.

Arguments

range—Replace with a cell range of one or more rows.

row—Replace with a number or numeric expression whose value is within the range specified.

column—Replace with a number or numeric expression whose value is within the range specified.

Examples

The following two examples use this spreadsheet.

	A	B	C	D
1		1	10	20
2		2	11	21
3		3	12	22
4		4	13	23
5		5	14	24
6				

- `INDEX(B1..D5,3,2)` returns 12.

  This example shows that the number 12 is in the cell that is in the third cell down and the second row over from B1 (the start of the range).

- `INDEX(B1..D5,4,3)` returns 23.

  This example shows that the number 23 is in the cell that is in the fourth cell down and the third row over from B1 (the start of the range).

INT (Integer)

Format `INT(`*`number`*`)`

Definition Returns the integer closest to the value in *number*. This integer is equal to or less than, but not greater than *number*. If the argument is a positive real number, the fraction is truncated. A negative real number is rounded down to the next lowest whole number.

Argument
number—Replace with a numeric expression.

Examples

- `INT(5.76)` returns 5.
- `INT(-9.36)` returns –10.
- `INT(-9.86)` returns –10.

  Note that in this example –9.86 is rounded down, not up to –9.00.

Related Functions FRAC, ROUND, TRUNC

IRR (Internal Rate of Return)

Format `IRR(`*`range {,guess}`*`)`

Definition Calculates an approximate internal rate of return on an investment and series of cash flows. The internal rate of return is the rate at which the present value of an expected series of cash flows equals the value of the initial investment. The calculation is based on repeated approximations for the internal rate of return, starting with the given guess. If no guess is present, 10% is used by default. If after 20 approximations the internal rate of return still hasn't achieved an accurate result, the function returns a #NUM! error and you can try another value for your guess.

◆ **Note** This function cannot be used in databases.

Arguments
range—Replace with a range of cells containing a numeric list of projected future cash flow amounts in the order in which the amounts are paid out or received. The first item in the cash flow represents the initial investment and should be negative. Any blank cells are interpreted as 0.
guess—Your estimate of the internal rate of return. Must be a numeric expression.

Example

- `IRR(C1..C11)` returns .0787 (when formatted as fixed with a precision of 4) or 7.87% (when formatted as a percent).

  In this example, the cell range C1..C11 contains the following values: –220000, 0, 25000, 40000, 40000, 40000, 40000, 40000, 40000, 40000, and 40000. The example illustrates the projected expenditure of $220,000, which increases revenues by $25,000 the second year and $40,000 for each of the next 8 years.

  Because no guess was specified, ClarisWorks uses an initial guess of 10%. Note that the first cell in the range contains –220000, the initial expenditure. The second cell contains 0, showing no positive or negative revenue results for the first year. The subsequent cells reflect the increase in revenues resulting from the initial expenditure.

  The IRR result of 0.0787 indicates an internal rate of return of 7.87% on the $220,000 over the 10-year period represented by the values in the range.

ISBLANK

Format `ISBLANK(`*`value`*`)`

Definition Determines whether an expression is blank or whether there is a number or text in the expression. Returns TRUE if the expression is blank, FALSE if a number or text exists.

Argument

value—Replace with any text or numeric expression.

Examples

- `ISBLANK("test")` returns FALSE.

  This example shows that the expression is not blank.

- `ISBLANK(-1)` returns FALSE.
- `ISBLANK(0)` returns FALSE.

  This example shows that 0 is not considered a blank.

- `ISBLANK(A1)` returns TRUE if nothing is found in cell A1.

  This example shows that A1 did not contain text, a number, or formula, and is, therefore, blank.

ISERROR

Format `ISERROR(value {,error_type})`

Definition Determines whether an error has occurred in evaluating an expression.

Arguments

value—Replace with a numeric or text expression.
error_type—Optional. Any of the following predefined errors:

#N/A!	Not available
#DIV/0!	Divide by zero error
#VALUE!	Invalid value
#NUM!	Invalid number
#REF!	Reference to invalid cell
#ARG!	Invalid # of arguments or incorrect argument type
#USER!	User-defined error
#DATE!	Invalid date
#TIME!	Invalid time
#ERROR!	Not a true error

Examples

- `ISERROR(K7)` returns FALSE.

  This example shows that no error was encountered when evaluating cell K7, assuming K7 contains text or a valid number.

- `ISERROR(Dayname())` returns TRUE.

  This example shows that an error was encountered when evaluating the Dayname function without the required argument present (the error is #VALUE!).

- `ISERROR(Dayname(11))` returns TRUE.

  This example shows that an error was encountered when evaluating the Dayname function with the required argument out of range (the error is #ARG!).

- `ISERROR(E1,#DIV/O!)`

  This example illustrates use of the optional argument, *error_type*. It returns TRUE if cell E1 contains #DIV/O! and returns FALSE if cell E1 contains other than #DIV/O!.

Related Function ISNA

ISLOGICAL

Format `ISLOGICAL (value)`

Definition Determines whether the argument contains a Boolean expression, in other words, whether the value, operation, or equation in the argument can be evaluated as either true or false. Returns TRUE if the expression is Boolean and FALSE if it is not.

Argument

value—Replace with any text, number, cell reference, or function that evaluates as a Boolean value.

Examples

- `ISLOGICAL(1+1)` returns FALSE.

  The argument is not Boolean because it cannot be evaluated as true or false. However, the argument (1+1=2) is TRUE.

- `ISLOGICAL(1<2)` returns TRUE.

  This example shows that the logical expression is a Boolean expression.

- `ISLOGICAL(1=0)` returns TRUE.

  The argument is false, but ISLOGICAL returns TRUE because the expression is Boolean.

- `ISLOGICAL("1<2")` returns FALSE.

  This example shows that text (indicated by the quotation marks) is not a Boolean expression.

ISNA (Is Not Available)

Format `ISNA(`*`value`*`)`

Definition Tests the contents of a cell for the #NA! error condition and returns TRUE if it finds this error. This function is useful to check the results of formulas that contain the MATCH, LOOKUP, VLOOKUP, or HLOOKUP functions.

- **Note** This function cannot be used in databases.

Argument

value—Replace with any text, number, cell reference, or function.

Examples

- `ISNA(A1)` returns TRUE.

  This example uses the sample spreadsheet on page A-38. In the third example for the MATCH function, MATCH returns #NA! in cell A1, so ISNA returns TRUE.

- `ISNA(NA())` returns TRUE.

Related Function ISERROR

ISNUMBER

Format `ISNUMBER(`*`value`*`)`

Definition Determines whether an expression is a number (TRUE) or not (FALSE).

Argument

value—Replace with any text, number, cell reference, or function that evaluates to a number (not text or blank).

Examples

- `ISNUMBER("a")` returns FALSE.
- `ISNUMBER(-2.5)` returns TRUE.

Related Function ISTEXT

ISTEXT

Format `ISTEXT(`*`value`*`)`

Definition Determines whether an expression is text (TRUE) or not text (FALSE).

Argument
value—Replace with any text, number, cell reference, or function that evaluates as text (not a number).

Examples

- `ISTEXT("hello!")` returns TRUE.
- `ISTEXT(542)` returns FALSE.

Related Function ISNUMBER

LEFT

Format `LEFT(`*`text, number_of_characters`*`)`

Definition Returns the number of characters specified in the *number_of_characters* argument from the text string specified in the *text* argument. The returned text string starts from the leftmost character in the *text* argument and extends for the number of characters specified in *number_of_characters*.

Arguments
text—Replace with any text expression.
number_of_characters—Replace with a number, or a cell reference or field name that contains a number.

Examples

- `LEFT("Pauline Mitchell", 4)` returns Paul.

  This example shows that the first four characters in the text are Paul.
- `LEFT("Pauline Mitchell",1)` returns P.

  This example shows that *P* is the first character in the text.

LEN (Length)

Format `LEN(`*`text`*`)`

Definition Calculates the length (number of characters) in text.

Argument
text—Replace with any text expression.

Examples

- `LEN("Cowabunga!")` returns 10.
- `LEN("Cow a bunga!")` returns 12.
- `LEN("")` returns 0.
- `LEN(B7)` returns 2 (when B7 is a 2-digit number, such as 42).
- `LEN(B7)` returns 6 (when B7 is a 6-digit number, such as 26.875; the decimal is a character).

LN (Natural Log)

Format `LN(`*`number`*`)`

Definition Calculates the natural logarithm of *number*.

Argument
number—Replace with a positive number.

Examples

- `LN(2.71828)` returns 1 (the natural log of e is 1).
- `LN(EXP(-5))` returns –5.
- `LN(-5)` returns #NUM! (negative numbers aren't allowed).

These examples use a fixed number format.

LOG

Format `LOG(`*`number {,base}`*`)`

Definition Calculates the logarithm of a number to a base.

Arguments
number—Replace with a positive number.
base—Replace with a positive number, not equal to 1. If omitted, the base is assumed to be 10.

Examples

- `LOG(2)` returns 0.301.
- `LOG(2,10)` returns 0.301.
- `LOG(8,2)` returns 3.000.
- `LOG(8,1.5)` returns 5.129.
- `LOG(7.5,0.75)` returns –7.004.

  These examples use a fixed format with a precision of 3.

LOG10 (Log to Base 10)

Format `LOG10(`*`number`*`)`

Definition Calculates the logarithm of a number to base 10. It is the inverse of the number E in scientific notation.

Argument

number—Replace with a positive number.

Examples

- `LOG10(1000)` returns 3.
- `LOG10(C2)` returns 5 if cell C2 contains 100000.

  This example shows that log10 returns the exponent of a scientific representation of the number.

LOOKUP

Format `LOOKUP(`*`lookup_value, compare_range, result_range {,method}`*`)`

Definition Searches for the given value (row by row) in the first range (*compare_range*) and returns the value of the corresponding cell in the second range (*result_range*). If no cells satisfy the search criteria, an error is returned. The optional argument called *method* controls the comparison type used to satisfy the search. (Although *method* does not appear in the argument list when you paste this function into a cell, it is available for use.)

◆ **Note** This function cannot be used in databases.

Arguments

lookup_value—Replace with any text or numeric expression.
compare_range—Replace with a cell range.
result_range—Replace with a cell range.
method—Optional. Use 1 (the default) for ascending ranges; values in *compare_range* must be in increasing order from left to right and top to bottom. Use –1 for descending ranges; values in *compare_range* must be in decreasing order from left to right and top to bottom. Use 0 to find an exact match; the order of *compare_range* is not important.

Examples

The following two examples use this spreadsheet.

	A	B	C	D	E
1		1	2	21	51
2		3	4	22	41
3		5	6	23	31
4		7	8	24	21
5		9	10	25	11

- `LOOKUP(8,B1..C5,D1..E5)` returns 21.

  This example shows that ClarisWorks goes from left to right in a row to search for the value 8 and then moves to check the next row. The value 8 is found in cell C4. The corresponding cell to C4 in the result range is E4, which contains 21.

- `LOOKUP(5.5,B1..C5,D1..E5)` returns 23.

  This example shows that the greatest number less than or equal to 5.5 is 5, and its corresponding spot in *result_range* is cell D3, which contains 23.

Related Functions HLOOKUP, VLOOKUP

LOWER

Format `LOWER(`*`text`*`)`

Definition Converts uppercase characters in the text argument to lowercase.

Argument

text—Replace with any text expression.

Example

- `LOWER("Wow, LOOK!")` returns "wow, look!"

Related Function UPPER

MACRO

Format `MACRO(text)`

Definition Executes the ClarisWorks macro specified by the *text* argument. The name of the macro to be executed must be enclosed in quotation marks.

Argument

text—The exact name of a saved ClarisWorks macro (case-sensitive), in quotation marks.

Examples

- `MACRO("CallBank")`

  This example executes the macro named CallBank. It can return a text expression, or serve as a connection macro applied in the ClarisWorks communications environment to dial your bank.

- `IF(J34<0,MACRO("CallBank"),0)` executes the CallBank macro.

  This example executes the CallBank macro when a given cell (in this case, J34) contains a negative value.

◆ **Note** If the MACRO doesn't execute properly, check your spelling and the accuracy of the upper- and lowercase entries. Also, a macro must be recorded in the environment it is called from. For example, to call a communications macro from a spreadsheet, start recording the macro in the spreadsheet and then open a communications document and perform the communications actions.

MATCH

Format `MATCH(lookup_value, compare_range, {type})`

Definition Finds the first occurrence of the value in the range and returns the position of that value with respect to the start of the range. The *lookup_value* argument contains the search value and the *compare_range* value contains the search range.

◆ **Note** This function cannot be used in databases.

Arguments

lookup_value—Replace with any text or numeric expression.
compare_range—Replace with a cell range.
type—Optional. The argument –1 indicates a descending range that contains values in decreasing order from left to right and top to bottom. A 1 indicates an ascending range (the default), where values in the range are in increasing order from left to right and top to bottom. Use 0 for an exact match, where range order is not important.

- **About ranges** When specifying an ascending (–1) or descending range (1), be sure all the values are in order or you can get unexpected results.

Examples

The following three examples use this spreadsheet.

	A	B	C
1	#N/A!	a	b
2		c	d
3		e	f
4		g	h
5		i	j

- `MATCH("f",B1..C5,0)` returns 6.

  In this example, the function searches a row from left to right to find a match, then drops down to look at the next row in the range. The letter *f* is the sixth element in the range (a,b,c,d,e,f).

- `MATCH("e",B1..C5,1)` returns 5.
- `MATCH("e",B1..C5,-1)` returns #N/A!

  The last example returns #N/A! because the method requires a descending range and the text is ascending.

MAX (Maximum)

Format `MAX(number1, number2,...)`

Definition Returns the largest number in the list of arguments (the maximum value found).

Arguments

number1, number2—Replace with a number, cell reference, or range.

Example

- `MAX(5, -2.2, -11)` returns 5.

  This example shows that 5 is the largest (maximum) number found in the list.

MID (Middle)

Format `MID(text, start_position, number_of_characters)`

Definition Returns the number of characters specified in the *number_of_characters* argument from the text string specified in the *text* argument starting at the position indicated by *start_position*.

Arguments

text—Replace with any text expression.
start_position—Replace with a numeric expression. If this argument contains a mathematical operation or equation that produces a real number, the fractional part of the number is truncated.
number_of_characters—Replace with a numeric expression.

Examples

- `MID("New Example",3,6)` returns "w Exam."

  The returned value starts from the third character in the text and extends for six characters.

- `MID("New Example",5.7,2)` returns "Ex."

  This example shows that the fractional parts of numbers are ignored. The returned value starts from the fifth position in the text and extends for two characters.

- `MID(C2,2,1)` returns 5 (when C2 contains the number 152).

MIN (Minimum)

Format `MIN(`*`number1, number2,...`*`)`

Definition Returns the smallest number in the list of arguments (the minimum value found).

Arguments

number1, number 2—Replace with a number, cell reference, or range.

Example

- `MIN(10,0,-20.5,0.25)` returns –20.5.

MINUTE

Format `MINUTE(`*`serial_number`*`)`

Definition Calculates minutes for a specified serial number.

Arguments

serial_number—Replace with a number in serial form. The number after the decimal point signifies the time of day, so a serial number with no decimal portion returns 0.

Examples

- `MINUTE(0.5660)` returns 35.
- `MINUTE(31356.5660)` returns 35.

  As these examples show, only the decimal part of the serial number is evaluated. In this case, .5660 converts to 35 minutes. The actual time is 1:35 PM.

MIRR (Modified Internal Rate of Return)

Format `MIRR(`*`safe, risk, values,...`*`)`

Definition Calculates the modified internal rate of return of a series of cash flows represented by a series of values, given safe and risk investment rates.

Arguments

safe—The rate returned by the investment that finances the negative cash flows.
risk—The rate at which the positive cash flows can be reinvested.
values—Future cash flows. Non-numeric values are ignored. Ranges can be used for values.

Example

- `MIRR(10%,15%,-5000,2000,4000,-2000,5000)` returns 19.66% (with the cell formatted as a percent).

  This example shows that for an investment represented by the cash flows –$5,000, $2,000, $4,000, –$2,000, and –$5,000; with a safe investment rate of 10%; and a risk investment rate of 15%; the modified internal rate of return is 19.66%.

MOD (Modulo)

Format `MOD(`*`number, divisor_number`*`)`

Definition Returns the remainder after dividing the value in *number* by the value in *divisor_number*. The result has the same sign as the value in *number*.

Arguments

number—Replace with a number, cell reference, or arithmetic operation.
divisor_number—Must not be 0.

Examples

- `MOD(15,8)` returns 7.
- `MOD(4.5,-2)` returns 0.5.

  This example shows that negative numbers can be used, but the sign of the result is that of the dividend (4.5), not the divisor.

Related Function TRUNC

MONTH

Format `MONTH(`*`serial_number`*`)`

Definition Calculates the month corresponding to *serial_number*. Returns an integer value ranging from 1(January) to 12 (December). A serial number is the date-time code that ClarisWorks uses for date and time calculations.

Argument

serial_number—Replace with a numeric expression. You can enter date values such as 6-15-92, and the function converts them to serial form (32308). If you do not enter a value in a database field, this function returns the number 1.

Example

- `MONTH(32768)` returns 9.

  This example shows that the serial number 32768 (corresponding to the date September 18, 1993) is in the ninth month of that year.

MONTHNAME

Format MONTHNAME(*number*)

Definition Calculates the name of the month.

Argument
number—Replace with a numeric expression in the range 1 to 12.

Example

- MONTHNAME(10) returns October

  This example shows that the tenth month of the year is October.

NA (Not Available)

Format NA()

Definition Returns the error value #N/A!

- **Note** This function cannot be used in databases.

Example

- IF(ISBLANK(A1), "HI", NA())

  If cell A1 has data in it, the result is #N/A! If cell A1 is empty, the result is HI.

Related Function ERROR( )

NOT

Format NOT(*logical*)

Definition Inverts the sense of the expression in *logical*. For example, TRUE is changed to FALSE. The argument must be numeric. Except for TRUE and FALSE, this function does not interpret text. If the argument is a number or arithmetic operation (such as 1+1) rather than an equation (such as 1+1=2), then 0 equals TRUE and all other values equal FALSE.

Argument
logical—Must evaluate to a Boolean expression.

Examples

- NOT(0) returns TRUE (0 evaluates as FALSE).
- NOT(1=1) returns FALSE (1=1 evaluates as a true Boolean expression).

NOW

Format `NOW()`

Definition Depending on the format of the cell, calculates the current date or serial number of the current date and time based on the internal clock of the computer.

Examples

- `NOW()` returns July 5, 1991.

  This example shows that the function was last executed on July 5, 1991, and the cell was formatted as a date.

- `NOW()` returns 31931.50871.

  This example shows that the function was executed on June 5, 1991, at 12:12:33 PM and the cell was not formatted as a date.

NPER (Number of Periods)

Format `NPER(`*`rate,pmt,pv{,fv}{,type}`*`)`

Definition Calculates the number of periods of an investment involving constant cash flows.

Arguments

rate—Interest rate per period.
pmt—Payment to be made per period.
pv—Present value of the investment.
fv—Optional. Future value of the investment or cash value remaining after final payment. If omitted, the future value is assumed to be 0.
type—Optional. Type of payment scheme. Must be 0 or 1, if used. Specify 0 if payments are due at the end of the period; specify 1, if due at the beginning of the period. If omitted, the payment type is assumed to be 0.

Example

- `NPER(10%/12,-250, 10000)` returns 48.86 months using a fixed number format with a precision of 2.

  This example shows that to purchase a $10,000 car at a 10% annual interest rate, with no down payment and payments of $250 a month, you have to make 49 monthly payments. The fraction 10%/12 means a rate of 10% per 12 months. The result is expressed in months because the rate is expressed in months.

NPV (Net Present Value)

Format NPV(*interest_rate,payment1,payment2,...*)

Definition Calculates the net present value of an investment based on a series of future cash flows, assuming a fixed periodic interest rate. The cash flows are assumed to occur at equal time intervals, with the first cash flow occurring at the end of the first period. To find the net present value of a series of cash flows whose first flow occurs at the *beginning* of the first period, you must add the first flow separately.

Arguments

interest_rate—Periodic interest rate. Must be a numeric expression.

payment 1, payment2—A series of values, such as payments or income. Must be entered in chronological order. Nonnumeric values are ignored. Ranges can be used for values.

Example

- NPV(10%,-5000,0,10000,10000,10000) returns $16007.04 in a currency number format.

  This example shows that the net present value of an initial $5,000 investment, followed by an annual income flow of $0, $10,000, $10,000, and $10,000, is $16,007.04 after four years.

NUMTOTEXT

Format NUMTOTEXT(*number*)

Definition Interprets the number in the argument as text. This function is useful for spreadsheet tasks, such as creating charts, where you don't want a number included in a calculation.

Argument

number—Replace with a number or a cell reference or field name that contains a number.

Examples

- NUMTOTEXT(1992) returns 1992.

  This example pertains to creating a chart, such as a bar chart. The number, 1992, is now interpreted as a label for a bar in the chart rather than being included as part of the data series used to build the chart.

- NUMTOTEXT(6675.3) returns 6675.3.

Related Function TEXTTONUM

OR

Format `OR(logical1, logical2,...)`

Definition Evaluates the argument or arguments listed and returns TRUE if any argument is true. It only returns FALSE if all arguments listed are false. If the argument is a number or arithmetic operation (such as 1+1) rather than an equation (such as 1+1=2), then 0 equals FALSE and all other values equal TRUE.

Arguments

logical1, logical2—Replace with one or more numeric expressions.

Examples

- `OR(5,0)` returns TRUE (one argument is true).
- `OR(1-1=0)` returns TRUE (this equation is a true Boolean expression).
- `OR(B1,K1)` returns FALSE if both cells are empty or contain zero.

  These examples show that if even one argument is true, the OR function returns TRUE.

Related Function AND

PI

Format `PI()`

Definition Calculates the value of π (the ratio of the circumference to the diameter of a circle).

Example

- `PI()` returns 3.141592653…

  This example shows the approximate value of π.

PMT (Payment)

Format `PMT(rate,nper,pv{,fv}{,type})`

Definition Calculates the payment needed given the interest rate, number of periods, preset value, future value, and type of payment.

Arguments

rate—Interest rate per period.

nper—Number of periods.

pv—Present value of the investment.

fv—Optional. Future value of the investment or cash value remaining after final payment. If omitted, the future value is assumed to be 0.

type—Optional. Type of payment scheme. Must be 0 or 1, if used. Specify 0 if payments are due at the end of the period; specify 1, if due at the beginning of the period. If omitted, the payment type is assumed to be 0.

- `PMT(10%/12,36,12000,-2000)` returns –$339.34 in a currency number format.

  This example shows that, to purchase a $12,000 car over three years at a 10% annual interest rate, with a $2,000 down payment, you have to make monthly payments of $339.34. The fraction 10%/12 means a rate of 10% per year (12 months). The three years are expressed in months (36) because the interest rate is expressed in months.

PRODUCT

Format `PRODUCT(`*`number1, number2,...`*`)`

Definition Calculates the product of the numbers in the argument list.

Arguments

number1, number2—Replace with a number, cell reference, or range.

Examples

- `PRODUCT(5,10,2,1)` returns 100.

  This example shows that 5 times 10 times 2 times 1 equals 100.

- `PRODUCT(5,10,2,SIN(RADIANS(30)))` returns 50.

  This example shows that 5 times 10 times 2 times the sine of 30 degrees (one half, or 0.5) equals 50.

PROPER

Format `PROPER(`*`text`*`)`

Definition Capitalizes the first character in each word.

Argument
text—Replace with any text expression.

Examples

- `PROPER("claris software works hard")` returns "Claris Software Works Hard."
- `PROPER("claris-software")` returns "Claris-Software."

  This example shows that hyphens are treated the same as a space, tab, or carriage return; thus the next character is capitalized.

Related Function UPPER

PV (Present Value)

Format `PV(`*`rate,nper,pmt{,fv}{,type}`*`)`

Definition Calculates the present value of an investment, which is the current value of a series of payments due in the future, based on a specific periodic interest rate over a given number of periods for a given payment amount.

Arguments
rate—Interest rate per period.
nper—Number of periods.
pmt—Payment to be made per period. Enter a negative number for money you pay and a positive number for money you receive.
fv—Optional. Future value of the investment or cash value remaining after final payment. If omitted, the future value is assumed to be 0.
type—Optional. Type of payment scheme. Must be 0 or 1, if used. Specify 0 if payments are due at the end of the period; specify 1 if due at the beginning of the period. If omitted, the payment type is assumed to be 0.

- `PV(10%,5,-100,5000)` returns –2725.5279 if you specified a fixed number format with a precision of 4.

  This example shows that to accumulate $5,000 in five years, with $100 payments made at the end of each year, you have to invest $2,725.53 today at an annual interest rate of 10%. The interest rate and the number of periods are both expressed in years.

RADIANS

Format RADIANS(*degrees_number*)

Definition Converts the number of degrees to radians, which are the standard units used for trigonometric functions.

Argument
degrees_number—Replace with a numeric expression.

Examples

- RADIANS(90) returns 1.5708.

  This example shows that 90 degrees is equal to approximately 1.5708 radians.

- RADIANS(-360) returns –6.2832.

  This example shows that –360 degrees is equal to –2 x π radians, which is –6.2832.

- RADIANS(DEGREES(PI())) returns π (3.1415).

  This example shows the relationship between degrees and radians.

Related Function DEGREES

RAND (Random)

Format RAND(*{number}*)

Definition Returns a random number. If no argument is specified, the number returned is between 0 and 1.0.

Argument
number—Optional. If specified, returns a whole number between 1 and *number*.

Examples

- RAND()*5 returns 0.67, 4.57, 2.1, and so on.

  This example returns a number between 0 and 1 and multiplies it by 5 to return real (fractional) numbers.

- RAND(5) returns either 1, 2, 3, 4, or 5.

  This example returns only whole numbers and is useful for specifying random cells.

- `RAND(5.3)` returns either 1, 2, 3, 4, 5, or 6.

  This example shows that fractional numbers are rounded up before the random number is made.

- `RAND(-4)` returns –1, –2, –3, or –4.

  This example illustrates the use of negative numbers.

RATE

Format `RATE(`*`fv,pv,term`*`)`

Definition Calculates the interest rate required for a present value to grow to a specified future value when compounded over the given term. If either the present value or the term is 0, the function returns a #DIV/0! error.

Arguments

fv—Future value of the investment.
pv—Present value of the investment.
term—Number of payments. Must be a positive number.

Example

- `RATE(20000,5000,10*12)` returns .0116 in a fixed format with a precision of 4.

  This example shows that a monthly interest rate of 1.16% (or 13.9% annually) is required for $5,000 to grow to $20,000 over a 10-year period. The 10 represents the term of 10 years and is multiplied by 12 to find the number of monthly payments.

REPLACE

Format `REPLACE(`*`old_text,start_num,num_chars,new_text`*`)`

Definition Replaces the characters in *old_text* with the text in *new_text* starting at the position indicated by *start_num* and continuing for the number of characters specified in *num_chars*.

Arguments

old_text—Replace with any text expression.
start_num—Replace with a number for the starting position in *old_text*.
num_chars—Replace with a number indicating the number of characters in *old_text* to replace.
new_text—Replace with any text expression.

Example

- `REPLACE("my sister",4,6,"brother")` returns "my brother."

  This example shows that starting with the fourth character and continuing for six characters (sister) the text is replaced with brother.

REPT (Repeat)

Format `REPT(`*`text, #_of_times`*`)`

Definition Repeats the text the specified number of times.

Arguments

text—Replace with any text expression.

#_of_times—Replace with a numeric expression equal to or greater than zero.

Examples

- `REPT("*",5)` returns *****
- `REPT("my dog barks",2)` returns "my dog barks my dog barks"

  These examples shows that text can be either a single character or a string of characters.

RIGHT

Format `RIGHT(`*`text, number_of_characters`*`)`

Definition Returns a string of text from the characters in the text argument. The returned text string starts from the end of the text argument and moves left, retrieving the number of characters specified in *number_of_characters*.

Arguments

text—Replace with any text expression.

number_of_characters—The number of characters you want to retrieve.

Examples

- `RIGHT("Pauline Mitchner",1)` returns `r`.

  This example shows that the *r* in Mitchner is the rightmost character.

- `RIGHT("New Example",7)` returns `Example`.

  This example shows that, counting from right to left, the seven rightmost characters are `Example`.

ROUND

Format ROUND(*number*, *number_of_digits*)

Definition Returns the value of the specified number rounded to the requested number of digits from the decimal point. A negative *number_of_digits* represents the number of digits to the left of the decimal point. A positive *number_of_digits* represents the number of digits to the right of the decimal point.

Arguments
number—Replace with any number or numeric expression.
number_of_digits—Replace with any number or numeric expression.

Examples

- ROUND(1572.589,-1) returns 1570.
- ROUND(1572.589,-2) returns 1600.
- ROUND(1572.589,-2.2) returns 1600.

  This example shows that the *number_of_digits* can be expressed with a value that contains a decimal point, but the digits to the right of the decimal point are ignored.
- ROUND(1572.589,1) returns 1572.6.
- ROUND(1572.589,2) returns 1572.59.

Related Functions FRAC, INT, TRUNC

ROW

Format ROW({*cell*})

Definition Returns the row number of the current cell or that of the cell referred to.

◆ **Note** This function cannot be used in databases.

Argument
cell—Optional. Must be a cell reference.

Examples

- ROW() returns 7.

  This example returns 7 when the formula is entered in any column in row 7.

- `ROW(B7)` returns 7.

  This example shows that cell B7 is in row 7.

Related Function COLUMN

SECOND

Format `SECOND(`*`serial_number`*`)`

Definition Calculates the second for a specified serial number. A serial number is the date-time code ClarisWorks uses for date and time calculations.

Argument
serial_number—Replace with a numeric expression. The number after the decimal point signifies the time of day.

Example
- `SECOND(0.5664)` returns 37.

  The serial number 0.5664 (1:35 PM) contains 37 seconds.

SIGN

Format `SIGN(`*`number`*`)`

Definition Returns 1 when the number is positive, –1 when it's negative, and 0 when it's zero.

Argument
number—Replace with any number or numeric expression.

Examples
- `SIGN(0)` returns 0.
- `SIGN(123.56)` returns 1.
- `SIGN(-500)` returns –1.
- `SIGN(ABS(-500))` returns 1.

SIN (Sine)

Format `SIN(`*`number`*`)`

Definition The sine of a number, where *number* is the angle in radians. The arcsine of the result produces the argument of this function.

Argument

number—Replace with a numeric value or expression in radians.

Example

- `SIN(radians(30))` returns 0.5.

  This example shows that the sine of 30 degrees is one half (.5).

SQRT (Square Root)

Format `SQRT(`*`number`*`)`

Definition Calculates the square root of a number.

Argument

number—Replace with a positive number or numeric expression.

Examples

- `SQRT(12.25)` returns 3.5.
- `SQRT(B11/4)` returns 5.5 (when cell B11 contains 121).
- `SQRT(-11)` returns #NUM!

  This example shows that you cannot take the square root of a negative number.

STDEV (Standard Deviation)

Format `STDEV(`*`number1, number2,...`*`)`

Definition Calculates the standard deviation of a population based on a sample given as a list of arguments. A standard deviation is a measure of how widely values are dispersed from the average value (the mean).

Arguments

number1, number2—Values in the population sample. Replace with a number, cell reference, or range.

Example

- `STDEV(15,21,30,56.886)` returns 18.500.

SUM

Format `SUM(`*`number1, number2,...`*`)`

Definition Adds the numbers in the argument list.

Arguments

number1, *number2*—Replace with a number, cell reference, or range.

Example

- `SUM(5,10,2,1)` returns 18.

  This example shows that the numbers in the list, when added, equal 18.

TAN (Tangent)

Format `TAN(`*`number`*`)`

Definition The tangent of a number, where *number* is the angle in radians. The arctangent of the result produces the argument for this function.

Argument

number—Replace with a numeric value or expression in radians.

Example

- `TAN(radians(45))` returns 1

  This example shows that the tangent of a 45 degree angle is 1.

TEXTTODATE

Format `TEXTTODATE(`*`date_text`*`)`

Definition Calculates the serial number of *date_text*. A serial number is the date-time code ClarisWorks uses for date and time calculations.

Argument

date_text—Replace with any text expression that is a date.

Examples

- `TEXTTODATE("August 1, 1991")` returns 31989.
- `TEXTTODATE("Aug 1, 1991")` returns 31989.
- `TEXTTODATE("8/1/91")` returns 31989.

  These examples show that several format styles are acceptable and equivalent.

TEXTTONUM

Format `TEXTTONUM(`*`text`*`)`

Definition Converts text to its numeric representation, which can then be used by any function requiring a number as an argument. It examines the text for special characters, such as commas, dollar signs, and decimal points, and if they follow standard conventions for numbers, the number is converted. If the text has numbers and text that don't conform, all characters except the number digits are removed.

Argument

text—Replace with any text expression.

Examples

- `TEXTTONUM("456.78")` returns 456.78.
- `TEXTTONUM("456abc78")` returns 45678.
- `TEXTTONUM("456  12")` returns 45612.

  These examples show that spaces and text are removed when converting.

- `TEXTTONUM("456  .12")` returns 45612.

  In this example, the text does not conform to standard number rules (there should not be a space before the decimal point). Accordingly, all nondigit characters (such as decimal points, commas, and dollar signs) are removed.

◆ **Note** This function is not the same as the value function found in other applications.

Related Function NUMTOTEXT

TEXTTOTIME

Format `TEXTTOTIME(`*`time_text`*`)`

Definition Calculates the serial number of *time_text*. A serial number is the date-time code ClarisWorks uses for date and time calculations.

Argument

time_text—Replace with any text expression of time in hours, minutes, seconds order. Seconds are optional and you can use the AM or PM designations.

Examples

- `TEXTTOTIME("13:30")` returns 0.5625 (24-hour clock).
- `TEXTTOTIME("1:30 PM")` returns 0.5625 (12-hour clock).

  These examples show that 12- and 24-hour time formats are supported.

TIME

Format `TIME(`*`hour,minute,second`*`)`

Definition Calculates the serial number of a specified time, based on a 24-hour clock. A serial number is the date-time code ClarisWorks uses for date and time calculations.

Arguments

hour—Replace with a numeric expression in the range of 0 to 23.
minute—Replace with a numeric expression in the range of 0 to 59.
second—Replace with a numeric expression in the range of 0 to 59.

Example

- `TIME(12,0,0)` returns `0.5`.

  This example shows that 12 o'clock noon (0 minutes, 0 seconds) is halfway (0.5) through the day.

TIMETOTEXT

Format `TIMETOTEXT(`*`serial_number {,format}`*`)`

Definition Returns the text expression for the specified time and format.

Arguments

serial_number—Replace with the serial number for a time. (A serial number is the date-time code ClarisWorks uses for date and time calculations.) The number to the right of the decimal point specifies the hour as a fraction of a 24-hour day. For example, 0 equals midnight and 0.5 equals noon.
format—Replace with a number from 0 to 3, where

0 = hour:min AM/PM	(using a 12-hour clock)
1 = hour:min:sec AM/PM	(using a 12-hour clock)
2 = hour:min	(using a 24-hour clock)
3 = hour:min:sec	(using a 24-hour clock)
default = hour:min AM/PM	(using a 12-hour clock)

Using a format other than 1, 2, or 3 causes the results to display in the default format. Using a negative number for the format generates the same result as using a format of 1.

Examples

- `TIMETOTEXT(0.55)` returns `1:12 PM`.

  This example shows that the time represented by the serial number 0.55 represents 1:12 PM.

These examples illustrate the format styles available with the optional argument:

- `TIMETOTEXT(0.55,0)` returns 1:12 PM (the default format).
- `TIMETOTEXT(0.55,1)` returns 1:12:00 PM (seconds shown).
- `TIMETOTEXT(0.55,2)` returns 13:12 (24-hour clock format).
- `TIMETOTEXT(0.55,3)` returns 13:12:00 (24-hour clock format, with seconds).

TRIM

Format `TRIM(`*`text`*`)`

Definition Removes any extra spaces in the text, or leading and following zeros in numbers.

Argument

text—Replace with any text expression.

Example

- `TRIM("my  dog  bobo")` returns "my dog bobo"

  This example shows that the extra spaces were removed (trimmed) from the text.

TRUNC (Truncate)

Format `TRUNC(`*`number`*`)`

Definition Truncates a number to an integer by discarding the fractional portion of the number.

Argument

number—Replace with any numeric expression.

Examples

- `TRUNC(10.9)` returns 10.
- `TRUNC(-10.9)` returns –10.

Related Functions FRAC, INT, MOD, ROUND

TYPE

Format `TYPE(`*`value`*`)`

Definition Returns a number that represents one of four types of value. (See the examples.)

Argument

value—Replace with any expression.

Examples

- `TYPE(A5)` returns 1 (blank) if the cell A5 is empty.
- `TYPE(TRUE)` returns 2 (logical).
- `TYPE(1.5)` returns 3 (number).
- `TYPE("hello")` returns 4 (text).
- `TYPE(3/3/93)` returns 3 (number).
- `TYPE(PI())` returns 3 (number).

UPPER

Format `UPPER(`*`text`*`)`

Definition Converts lowercase characters in the text to uppercase.

Argument

text—Replace with any text expression.

Example

- `UPPER("make uppercase")` returns "MAKE UPPERCASE."

Related Functions LOWER, PROPER

VAR (Variance)

Format `VAR(`*`number1, number2,...`*`)`

Definition Calculates the variance of a population based on a sample given as a list of arguments.

Arguments

number1, number2—Values in the population sample. Replace with a numeric expression (a number, cell reference, or range).

Example

- `VAR(115,121,130,156)` returns 327.

VLOOKUP (Vertical Look Up)

Format `VLOOKUP(`*`lookup_value, compare_range, index {,method}`*`)`

Definition VLOOKUP is a vertical column lookup. It searches the left column of the range indicated in *compare_range* looking for the search value *(lookup_value*). If the search condition is met (as determined by the *method* argument), the column number of the found cell is offset by the amount specified in *index*. The function then returns the contents of that cell. If the search condition is not met, an error is returned. The optional *method* argument controls the type of comparison used for the search. (Although *method* does not appear in the argument list when you paste this function into a cell, it is available for use.)

- **Note** This function cannot be used in databases.

Arguments

lookup_value—Replace with any text or numeric expression.
compare_range—Replace with a cell range of 1 or more rows.
index—Replace with a numeric expression.
method—Optional. Use 1 (the default) to return the first number less than or equal to the given value when *compare_range* is increasing from left to right. Use –1 to return the first number greater than or equal to the given value when the *compare_range* is decreasing from left to right. Use 0 to return the exact match to the given value (numeric order of the range is unimportant).

Examples

The following two examples use this spreadsheet.

	A	B	C	D	E
1		1	99	21	50
2		3	12	22	40
3		5	212	23	30
4		7	14	24	20
5		9	15	25	10

- `VLOOKUP(9,B1..E5,2)` returns 25.

  This example shows that ClarisWorks searches from the top to the bottom of a column to find the value. Cell B5 contains 9, which is an exact match, so the column index of 2 is applied to return cell D5, which contains 25.

- `VLOOKUP(5.5,B1..E5,1)` returns 212.

  This example shows that the greatest number in column B that is less than or equal to 5.5 is 5, found in cell B3. Applying the index of 1 results in cell C3, containing 212.

The following example uses this spreadsheet.

	A	B	C	D	E
1		Tom	99	21	50
2		Scott	12	22	40
3		Mike	212	23	30
4		Bob	14	24	20
5		Andy	15	25	10

- `VLOOKUP("Scott",B1..E5,1,-1)` returns 12.

  This example shows that ClarisWorks searches columns from top to bottom to find the value. Because –1 is specified as the method, the items in the cells must be in decreasing order. Cell B2 contains an exact match to the requested value "Scott," so the column index of 1 is applied to return cell C2, which contains a value of 12.

Related Functions HLOOKUP, LOOKUP

WEEKDAY

Format `WEEKDAY(`*`serial_number`*`)`

Definition Converts a serial number to a number for the day of the week.

Argument

serial_number—Replace with a number in serial date form.

Example

- `WEEKDAY(32768)` returns 7.

  This example shows that the serial number 32768 is the seventh day of the week (Saturday). In the example, the serial number corresponds to the date September 18, 1993, so that date falls on a Saturday.

WEEKOFYEAR

Format `WEEKOFYEAR(`*`serial_number`*`)`

Definition Converts a serial number to a number for the week in the year.

Argument

serial_number—Replace with a numeric expression.

Example

- `WEEKOFYEAR(32768)` returns 38.

  This example shows that September 18, 1993, the date represented by the serial number 32768, falls in the thirty-eighth week of that year.

YEAR

Format `YEAR(`*`serial_number`*`)`

Definition Computes the year for the given serial number. A serial number is the date-time code ClarisWorks uses for date and time calculations.

Argument

serial_number—Replace with a number in serial form.

Examples

- `Year(Now())` returns 1993.

  The NOW function returns a serial number that can then be used by the YEAR function to calculate the current year.

- `Year(29500)` returns 1984.

  This example shows that 29,500 days after January 1, 1904, falls in the year 1984.

Appendix B

Sharing Documents with ClarisWorks

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Appendix B

Sharing Documents with ClarisWorks

You can share ClarisWorks documents with other applications using special files called translators. Translators make it possible to use documents from other applications in ClarisWorks, and to use ClarisWorks documents in other applications. The ClarisWorks application comes with translators for many popular software applications. This appendix lists applications and file formats you can work with when importing, exporting, and inserting documents using the ClarisWorks translators.

Before you share documents, you must install the ClarisWorks translators. For details, see the *ClarisWorks Installation Guide*. For information on how to import, export, and insert documents, see "Importing, Inserting, and Exporting Documents" in chapter 2.

Word Processing

Format	Open	Save As	Insert
Acta 3.0	√		√
AppleWorks	√		√
AppleWorks 2.0		√	
AppleWorks GS	√		√
EPSF			√
GIF			√
MacPaint 2.0			√
MacWrite 5.0	√	√	
MacWrite II	√	√	√
Microsoft Word	√	√	
Microsoft WinWord	√	√	
Microsoft Word 3.0	√	√	√
Microsoft Word 4.0	√	√	√
Microsoft Word 5.0	√		
Microsoft Word PC	√	√	√
Microsoft Works 1.1	√	√	√
Microsoft Works 2.0	√	√	√
Microsoft Write 1.0		√	
PICT			√
QuickTime Movie			√
RTF	√	√	√
Text	√	√	√
TIFF			√
WordPerfect 1.0	√		√
WordPerfect 1.0.2		√	
WordPerfect PC 4.2	√	√	√
WordPerfect PC 5.0	√		√
WriteNow	√		√

Format	Open	Save As	Insert
WriteNow 1.0		√	
WriteNow 2.0 – 2.2		√	
WriteNow NeXT	√	√	√

Draw and Paint

Format	Open	Save As	Insert
EPSF	√		√
GIF	√		√
MacPaint 2.0	√		√
PICT	√	√	√
QuickTime Movie	√		√
TIFF	√		√

Spreadsheet

Format	Open	Save As	Insert
AppleWorks SS	√		
ASCII Text	√	√	
DBF	√	√	
DIF	√	√	
EPSF			√
GIF			√
MacPaint 2.0			√
Microsoft Excel 3.0	√	√	
Microsoft Works 2.0 SS	√		
PICT			√
QuickTime Movie			√
SYLK	√	√	
TIFF			√

Database

Format	Open	Save As	Insert
AppleWorks DB	√		√
ASCII	√	√	√
DBF	√	√	√
DIF	√	√	√
Microsoft Works 2.0 DB	√		√
SYLK	√	√	√

- **Tip** To use a FileMaker database in ClarisWorks, first export the database from FileMaker as a DIF file and then import it into ClarisWorks. To use a ClarisWorks database in FileMaker, first save the database as a DIF file from ClarisWorks and then import it into FileMaker.

Communications

You can save a communications document in the Text format. You cannot import or insert a file in the communications environment.

About SYLK and DIF

SYLK (Symbolic Link Format) and DIF (Data Interchange Format) are file formats that are oriented to rows and columns. You usually use SYLK to move data between spreadsheets and DIF to move data between databases. SYLK format preserves text, numbers, formulas, and text styling (such as bold and italics) while the DIF format preserves field names.

Other File Formats

Several software companies (such as DataViz, Inc.) have also developed translators you can use to open documents from other applications. To purchase additional translators, contact:

DataViz, Inc.
55 Corporate Drive
Trumbull, Connecticut 06611, USA
Telephone: (203) 268-0030

To use one of these translators, you must install it in the Claris Translators folder (inside the Claris folder in your System folder). Claris takes no responsibility for the translators it does not develop.

Appendix C

Printing Labels

Printing on a LaserWriter C-2

Printing on an ImageWriter C-3

Setting Up Custom Labels C-4

Appendix C

Printing Labels

This appendix explains how to print labels (either Avery or custom) on a LaserWriter or ImageWriter printer, and how to set up custom labels.

For general information on creating and printing labels (on any printer), refer to "Creating Labels" in chapter 7.

Printing on a LaserWriter

Every printer has built-in margins. If these built-in margins conflict with your layout margins, your text may be clipped. Using a larger print area takes advantage of as much printable space as possible and may avoid clipping. (If you are creating an Avery label on a LaserWriter that allows a larger print area, ClarisWorks reminds you to select a larger print area when you create the layout.)

To set up a LaserWriter for a larger print area for Avery or custom labels:

1. **Choose Page Setup from the File menu and click Options.**

   You see the LaserWriter Page Setup dialog box.

2. Click the Larger Print Area checkbox.

   If you don't see the Larger Print Area checkbox, you cannot use the larger print area option.

   If your text is clipped even after selecting a larger print area, adjust the size and placement of fields in the label layout. See "Rearranging and Customizing Layouts" in chapter 7. Then make trial printouts on plain paper until the text prints properly.

If you print custom (non-Avery) labels on a LaserWriter, you may also need to adjust the layout margins. See "Printing Custom Labels on a LaserWriter" on page C-5.

Printing on an ImageWriter

To print either Avery or custom labels on an ImageWriter, you need to make some adjustments.

ClarisWorks sets the layout margins automatically when you create a preset Avery label. If you print custom labels on an ImageWriter, you must set the layout margins yourself. See "Printing Custom Labels on an ImageWriter" on page C-5.

Some printers roll the platen back when starting a new page, causing labels to peel off in the printer. To prevent this problem, use high-quality labels like Avery labels that adhere well to their backing, and don't leave unused label stock in your printer. If your printer has a pull tractor, use the tractor to avoid backward movement. Or feed the labels manually.

To feed labels manually:

- **Note** If you are using LaserWriter labels on an ImageWriter, first choose Page Setup from the File menu and deselect No Gaps Between Pages in the AppleTalk ImageWriter dialog box.

  Turning off No Gaps Between Pages prevents the printer from ejecting the first hand-fed page.

1. Choose Print from the File menu, and then click Hand Feed in the print dialog box.
2. As you print, feed the labels one page at a time into the printer.

Setting Up Custom Labels

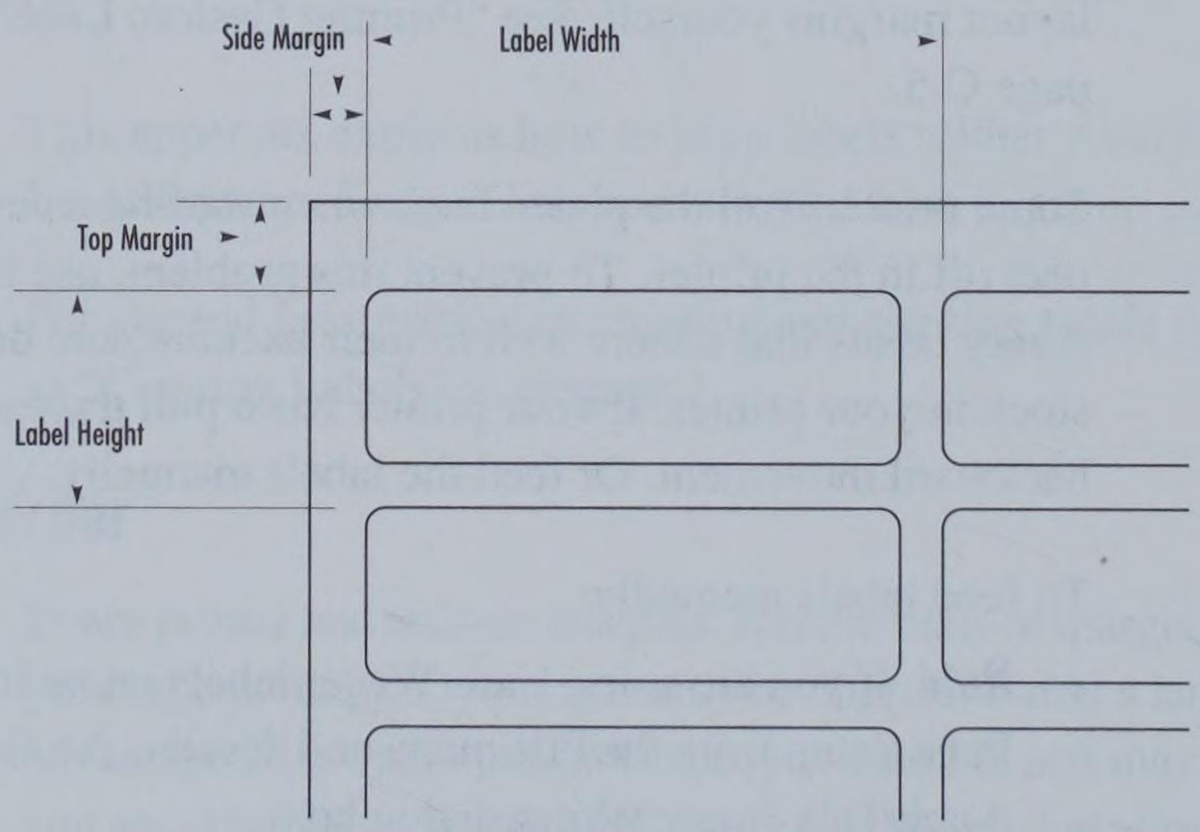
This section describes how to measure custom labels and additional procedures for printing custom labels on LaserWriter and ImageWriter printers.

If you are using non-Avery label stock, try to match your label dimensions with a preset type listed in the tables in "Label Specifications" on page C-6. If you find a match, follow the directions in "Creating Labels" in chapter 7 to create a layout and choose that preset Avery label type. If you can't find a match for your label dimensions, set your own custom measurements.

Measuring Labels

Measure from the left edge of one label to the left edge of the next label to determine the label width, and from the top edge of one label to the top edge of the next label to determine the label height.

The following illustration shows the dimensions you set in ClarisWorks to determine label size.



After you measure your labels, refer to "Creating Labels" in chapter 7 for further directions on creating custom labels.

Printing Custom Labels on a LaserWriter

When you do a trial print of your custom labels on a LaserWriter, the rows may wrap onto the next line (for example, a row that should contain four labels may print only three, wrapping the fourth label onto the next line). Or the page may "break" early, forcing the last row of labels onto the next page. To eliminate incorrect wrapping, reduce the size of the right margin. To eliminate an early page break, reduce the size of the bottom margin.

To set the right or bottom margin for custom labels printed on a LaserWriter:

1. **Choose Document from the Format menu.**

   ClarisWorks displays the Document dialog box.

2. **Enter a number in the Bottom or Right (or both) text boxes.**

   This affects the margins for the current layout only. Each layout in a database document can have different margins.

◆ **Note** Margins for labels to be printed on a LaserWriter must be at least .25 inches wide (the maximum print area of the LaserWriter), or the text may be clipped. If it is necessary to reduce the bottom margin to a value smaller than .25 inch (to prevent some or all of the bottom row of labels from printing on the next page), the last line of your labels may be clipped.

Printing Custom Labels on an ImageWriter

If you create custom labels to be printed on an ImageWriter, you must set the top and bottom layout margins.

To set the margins to print custom labels on an ImageWriter:

1. **Choose Document from the Format menu.**

   ClarisWorks displays the Document dialog box.

2. **Type "0" in the Top and Bottom text boxes.**

   This sets the margins for the current layout, not for the entire document. Each layout in a database document can have different margins.

Label Specifications

The following tables list the types and dimensions for each of the Avery labels that ClarisWorks can create automatically. Use these tables to see if your non-Avery label stock has the same dimensions as a preset Avery label. If you find a match, make a note of the Avery number and then follow the directions for creating Avery labels in "Creating Labels" in chapter 7.

- **Important** When measuring labels, be sure to measure from the edge of one label to the edge of the next.

The first table lists labels for ink-jet and laser printers like the Apple LaserWriter. The second table lists specifications for European laser printer labels. The third table lists labels for dot-matrix printers like the Apple ImageWriter.

- **Note** Depending on the printer you are using, ClarisWorks may modify the margins from the values shown here.

Laser Printer Labels

All dimensions are in inches.

Avery label number	Label type	Height	Width	Number across	Number down	Top margin	Side margins
5095, 5395, 5895	Name Badge	2.500	3.750	2	4	0.583	0.688
5096, 5196, 5896	3.5" Diskette	3.000	2.750	3	3	0.500	0.125
5097, 5197, 5897	5.25" Diskette	1.50	4.188	2	6	1.000	0.156
5160, 5260, 5660	Address	1	2.75	3	10	0.500	0.188
5161, 5261	Address	1	4.188	2	10	0.500	0.156
5162, 5262, 5662	Address	1.4	4.188	2	7	0.833	0.156
5163, 5263, 5663	Address/Shipping	2	4.188	2	5	0.500	0.156
5164	Address/Shipping	3.4	4.188	2	3	0.500	0.156
5196: see 5096							
5197: see 5097							
5395: see 5095							
5198	Audio Cassette	1.667	4.000	2	6	0.500	0.500
5199	Video Cassette Face	1.833	3.300	2	5	0.917	1.069

Avery label number	Label type	Height	Width	Number across	Number down	Top margin	Side margins
5260: see 5160							
5261: see 5161							
5262: see 5162							
5263: see 5163							
5266	File Folder	0.667	4.000	2	15	0.500	0.531
5267	Return Address	0.500	2.063	4	20	0.500	0.281
5293	Round	1.667	2.000	4	6	0.500	0.438
5294	Round	2.500	2.750	3	4	0.500	0.250
5295	Round	3.333	3.937	2	3	0.500	0.625
5383-5883	Name Tag	2.167	3.500	2	4	1.167	0.750
5384	Name Tag	3.000	4.000	2	3	1.000	0.250
5385	Rotary Index Card	2.167	4	2	4	1.167	0.250
5386	Rotary Index Card	3	5	1	3	1.000	1.750
5388	Index/Post Card	3	5	1	3	1.000	1.750
5389	Post Card	4	6	1	2	1.500	1.250
5660: see 5160							
5662: see 5162							
5661: see 5163							
5883: see 5383							
5895: see 5095							
5897: see 5097							
LSK-3	Index Maker 3 Tab	0.500	4.375	2	20	0.500	0.500
LSK-5	Index Maker 5 Tab	0.500	2.050	4	20	0.500	0.300
LSK-8	Index Maker 8 Tab	0.500	2.125	4	20	0.500	0.500
RI-213-5	Ready Index 5 Tab	2.000	–	1	5	0.630	5.125
RI-213-8	Ready Index 8 Tab	1.220	3.250	1	8	0.630	5.125
RI-213-10	Ready Index 10 Tab	1.000	3.250	1	10	0.630	5.125
RI-213-12	Ready Index 12 Tab	0.840	3.250	1	12	0.500	5.125
RI-213-15	Ready Index 152 Tab	0.630	3.250	1	15	0.940	5.125

European Laser Printer Labels

Label dimensions are in millimeters.

Avery label number	Label type	Height	Width	Number across	Number down	Top margin	Side margins
L7160	Address	38.10	66.05	3	7	15.88	7.20
L7161	Address	46.56	66.04	3	6	9.55	7.21
L7162	Address	33.87	101.60	2	8	13.75	4.67
L7163	Address/ 5.25" Diskette	38.10	101.60	2	7	15.88	4.67
L7164	Address/ 3.5" Diskette	71.97	66.04	3	4	5.29	7.21
L7165	Address	67.73	101.60	2	4	13.76	4.67
L7166	Address/ Shipping	93.13	101.60	2	3	9.53	4.67
L7168	Half Sheet	143.53	199.64	1	2	5.70	4.70
L7650	Round	68.00	68.00	3	4	15.48	5.25
L7651	Mini Address	21.17	40.64	5	13	11.64	4.67
L7654-F	Video Face	46.56	78.74	2	6	9.55	27.53
L7654-S	Video Spine	16.93	144.78	1	16	13.76	32.61
L7663	5.25" Diskette	71.97	120.00	1	4	5.29	17.93
L7664	3.5" Diskette	33.76	104.14	2	8	14.19	45.31

Dot-Matrix (ImageWriter) Printer Labels

All dimensions are in inches.

◆ **Note** The top and bottom margins are zero for all dot matrix labels.

Avery label number	Label type	Height	Width	Number across
4022	Address	2.000	4.100	1
4065	Address	1.000	4.100	1
4143, 4066	Address	1.000	4.100	2
4144	Address	1.000	2.600	3
4145, 4013	Address	1.000	3.600	1
4146, 4014	Address	1.500	4.100	1
4160	Name Badge	2.500	3.600	1
4241	3.5" diskette	2.687	2.850	1
4266	File Folder	0.500	3.600	1

Glossary

absolute reference: In a spreadsheet, a reference to a specific cell, identified by its column and row address.

alignment (draw documents, objects): The way objects are arranged in relation to each other and to graphics gridlines.

alignment (spreadsheet): The way data in columns lines up against the left border of a cell, against the right border, or in the center.

alignment (text): The way text in a word processing document or text frame lines up in the center, along left and right margins, or when justified.

anchor points: In a spreadsheet, the cell address of the upper-left and lower-right cells in a selected range of cells.

application environment: In ClarisWorks, one of six types of software you use to work in different types of documents and frames. Each environment has its own set of menus.

argument: A value acted upon by a database or spreadsheet function. In a spreadsheet, the argument to a function can be a cell address; in a database it can be a field name. *See also* operands.

arrow keys: The Up, Down, Left, and Right arrow keys on a Macintosh keyboard.

arrow pointer: *See* pointer.

ascending sort order: Alphabetical sequence (A to Z) for words, lowest-to-highest order for numbers, and earliest to latest for dates and times. *See also* sort order.

ASCII: Acronym for *American Standard Code for Information Interchange*. A standard that assigns a unique binary number to each text character and control character. ASCII code is used for representing text inside a computer and for transmitting text between computers.

auto entry field: In a database document, a data entry option that specifies automatic entry of data you define into new records. *See also* field.

auto wrap: In a communications document, a setting that determines whether characters that extend beyond the right margin wrap to the beginning of the next line.

autogrid: In the draw and paint environments, a hidden guide that helps you create objects of precise sizes and keep the objects lined up on the page. *See also* divisions (ruler).

automatic recalculation (Auto Calc): In a spreadsheet, the process of computing the results of formulas each time you confirm an entry in a cell.

axes: In a spreadsheet chart, the straight lines used to measure and compare data. Values are usually arrayed along the Y (vertical) axis of the chart. Divisions, or categories, are usually arrayed along the X (horizontal) axis. Pie charts have no real axis.

axis titles: Names you can add to the X and Y axes of a spreadsheet chart.

bar chart: A chart that represents spreadsheet data as bars, side by side or stacked. Often used to illustrate relative quantities.

baud rate: In communications, the speed at which data is transmitted and received through your modem.

bezigon: A shape with curves or straight lines that pass through specific points. Each point can be edited individually.

binary format: In communications, a format for transferring files from one computer to another that makes an exact copy of the file, including tab and return characters.

blank layout: In a database document, a layout that contains no fields.

body part: In a database layout, the portion of the layout that holds the data in individual records. *See also* part.

bookmark: In a database document, the tab on the record book. You can drag the bookmark quickly from one record to another. *See also* record book.

break: A formatting character that tells ClarisWorks to start a new column or page.

break (communications): An electrical signal that most modems can send to interrupt a process running on the remote computer.

Browse: A database view in which you enter data as well as add, edit, sort, and find records. Records are organized in Browse according to the current layout.

brush pointer: The indicator on the screen when the paint tool is selected.

bulletin board: In communications, a computer system set up for the exchange of information and files.

buttons: In ClarisWorks documents, onscreen elements you click to give instructions to ClarisWorks and the Macintosh. In ClarisWorks Help, onscreen elements you click to move to a topic.

calculation field: In a database document, a field that contains the results of a formula you enter when you define the field. *See also* field.

calculation (manual): In a spreadsheet, the process of computing the results of formulas only when you choose to do so.

cell: In a spreadsheet, the box formed at the intersection of a column and a row.

cell address: In a spreadsheet, the combined designation of column letter and row number that identifies a cell. The address of a cell in column H, row 12, is H12.

cell format: In a spreadsheet, the width of columns, the height of rows, the inclusion or exclusion of borders, and the specifications for number, style, and text attributes.

cell range: In a spreadsheet, a group of selected cells. You identify a cell range by the upper-left cell and lower-right cell, separated by two periods. A cell range might also be a group of cells in a single column or row. Examples are A2..H12 or A1..A25.

cell reference: A cell address used in a formula.

character set: A collection of characters that can be used on the screen during a communications session or to code computer instructions. Similar to a Macintosh font.

chart: A graphic representation of the data in a spreadsheet, used to illustrate relationships among sets of data. A chart is a graphic object that can be pasted into another type of document.

chart title: In a spreadsheet chart, the name ClarisWorks uses for the chart. ClarisWorks takes the chart title from text in the cell at the upper-left corner of the chart range, or you can enter a title in the Chart Options dialog box.

circular reference: In a spreadsheet, a formula reference that directly or indirectly refers back to the formula cell.

Clipboard: A temporary storage area in computer memory where ClarisWorks places the most recent selection you have cut or copied. *See also* pasting.

collapse (outline topic): To hide certain outline topics and subtopics from view. *See also* expand.

column: In a spreadsheet, the vertical arrangement of cells identified by a letter designation at the top. In a word processing document, the vertical arrangement of text. In communications, the number of characters across the page.

column break: *See* break.

column display: In communications, a setting that determines the number of columns of characters in which incoming data is displayed.

column guides: In a word processing document, the gray borders at the left and right sides of a column.

columnar layout: In a database document, a layout that shows and prints fields in columns. Each record appears as a row.

connect time: In communications, the time that passes while you're connected to an online service or bulletin board (usually the amount of time for which you're billed).

connection tool: In communications, the software that manages the port connection.

constant data: In a spreadsheet or database, a value you type, as opposed to a value that is the result of a formula.

copy: To place a copy of selected text or objects on the Clipboard without removing the selection from its original location. You can paste the contents of the Clipboard elsewhere. *See also* pasting.

CRC: Cyclical redundancy checking, a method of verifying data in a communications session.

crossbar pointer: The indicator on the screen when the spreadsheet tool is selected.

current cell: The active cell in a spreadsheet. What you type in the entry bar goes into the current cell.

custom style: A combination of text formats (font, size, style, color) that you set up as a single text style.

cut: To remove selected text or objects and place a copy of the selection on the Clipboard. You can paste the Clipboard contents elsewhere. *See also* delete; pasting.

data bits: In communications, a setting for the number of bits used to make up a character.

data capture: In communications, a method of saving data on a disk as you receive it.

data series: A set of values represented in a spreadsheet chart. If a chart is plotted by columns, each series represents one column. If a chart is plotted by rows, each series represents one row.

database: A collection of information; also, software you use to collect, organize, and search for information.

database book: *See* record book.

date field: In a database document, a field that must contain a date. *See also* field.

delete: To remove (erase) selected text, data, or objects from a document. *See also* cut.

delimiters: Punctuation marks (« ») used when you merge a database with a text document or frame. Delimiters distinguish a field name from ordinary text.

depth: In a painting, the amount of color or grayscale information that displays.

descending sort order: Reverse alphabetical sequence for words (Z to A), highest-to-lowest order for numbers, and latest to earliest for dates and times. *See also* sort order.

dictionary: *See* Main dictionary or User dictionary.

dictionary (installing): The process of letting ClarisWorks know where to look for dictionaries when you check spelling. You need to install a dictionary when you want to switch to a different dictionary.

divisions (chart): In a spreadsheet chart, the intervals or categories into which data series values are organized.

divisions (ruler): Invisible segments into which each unit of measurement on a ruler is separated. Divisions affect the precision of the autogrid. *See also* autogrid.

document: A file created by a Claris application. In ClarisWorks, you can create and work with six different types of documents, each designed primarily for a specific task—word processing, drawing, painting, spreadsheet work, database management, or communications.

drawing tool: A tool you use to draw shapes or lines in the draw environment. *See also* tool.

editing: The process of revising a computer-based document.

edition: Used with Publish & Subscribe. A file that contains data from a publisher. When the publisher changes, the edition is updated. The contents of an edition can be read by subscriber files. *See also* publisher; subscriber.

entry bar: In a spreadsheet, the box used at the top of the window to enter or edit data or formulas in a selected cell.

environment: *See* application environment.

environment tool: A tool you use to draw a frame or switch to another application environment. *See also* tool.

existing document: A document you have previously saved.

expand (outline topic): To show hidden outline topics and subtopics. *See also* collapse.

export: To save a copy of a ClarisWorks document in another application's file format. *See also* import.

field: In a database record, an element that holds a category of information. *See also* specific type of field: auto entry, calculation, date, number, summary, text, and time.

field definition: In a database document, a field name and certain additional attributes, such as the type of data the field can contain. The data type determines the work you can do with the field. *See also* field type.

field label: A text object that contains the name of a field. Visible in Browse or Layout views.

field (merge): In the mail merge process, a database field whose contents will be inserted into the target text or spreadsheet when you print.

field (search): In a database document, the field or fields in a find request that contain the search criteria you type.

field (selected): In a database document, the current (active) field.

field type: Indicates the kind of information you plan to enter in a database field, such as number, date, or calculation. *See also* field definition.

field variable: In mail merge, a placeholder for the contents of a database field. You put the field variable in a word processing document or text frame.

fields (matching): In a database document, a method for selecting records that match search criteria you enter as a formula, rather than as search criteria in a find request.

file format: The way an application organizes and stores the contents of a document.

file transfer tool: In communications, the software that controls the method in which data is transferred from one computer to another.

fill character: A character that repeats to fill the space between a tab and the next character in the line (or the end of the line).

fill tool: The tool used to add or change the pattern and color or gradient of an object. *See also* tool.

filling down: In a spreadsheet, the process of pasting data or a formula from the top selected cell into a range of selected cells directly below.

filling right: In a spreadsheet, the process of pasting data or a formula from the leftmost selected cell into a range of selected cells directly to the right.

find: A database feature used to search for records that match search criteria you enter in a find request.

find request: A view of a database used to search for records that contain specific search criteria in certain fields.

first-line indent: The amount of space between the left edge of a page or column and the first text character in the first line of a paragraph.

font: A complete set of type of one size and face, where face is the appearance or design of the type.

font size: The measure of type size in points.

font style: The attributes of a font, such as its slant or thickness (weight). Italic and boldface are examples of font styles.

footer: A page element that repeats at the bottom of every printed page in a document.

footer part: In a database layout, a repeating element that appears at the bottom of each page. *See also* part.

footnote: A comment or citation at the bottom of a text page that refers to a numbered (or custom) signal in the text.

format: A way of displaying numbers and text.

formatting characters: "Invisible" characters that represent formatting instructions you give from the keyboard by pressing Return, Tab, or the Space bar.

found set: In a database, the group of records that remains available for browsing after you execute a find request.

fractional character widths: An adjustment that compensates for irregular character spacing when you print certain fonts and styles.

frames: Graphic objects that can contain text, paintings, or spreadsheets. Frames give you access to tools from other ClarisWorks application environments. *See also* linked frames.

function: In a database or spreadsheet, a predefined formula that performs mathematical, logical, or textual calculations, acting on values you specify or supply.

fv: An argument that represents the future cash value of an investment. Used in business and financial functions.

grand summary part: In a database layout, a part that can contain summary fields which apply to all records. *See also* part.

graphics ruler: The measuring scale you use to control the automatic grid in the draw and paint environments and the spacing of gridlines in the draw environment.

gridlines: A matrix of dotted lines used to size and align objects in the draw environment.

grouping: The process of consolidating several selected objects into one object.

handles: Black squares ClarisWorks places at the edges of selected objects. You use handles to resize and reshape objects.

handshake: In communications, a method of regulating the flow of data between your Macintosh and a remote computer; both computers must use the same handshake method.

header: A page element that repeats at the top of every printed page in a document.

header part: In a database layout, a repeating element that appears at the top of each page. *See also* part.

hidden record: In a database document, a record that has been temporarily removed from the active set of records.

host computer: A remote computer you connect to for information or for participation on a bulletin board.

I-beam pointer: The indicator on the screen when the text tool is selected. *See also* text tool.

image: A shape or visual effect you create in a paint document or frame. Images are made of pixels. *See also* pixel.

import: To open a document created in another application in ClarisWorks. *See also* export and insert.

information service: A computer service you connect to, usually for a fee, that provides various collections of information to numerous users.

inline character: A picture in a line of running text.

insert: To place the entire contents of a document created in another application into a ClarisWorks document. *See also* import.

justification: In a word processing document or text frame, the process of adjusting text within text margins or frame borders, respectively. In a spreadsheet, the process of adjusting data or text in a cell.

label: In an outline, a character or symbol that marks the start of an outline topic.

label layout: In a database document, a layout that shows and prints field contents in an arrangement suitable for label stock.

layout: In a database document, a graphic representation of the way records will look when you browse or print. You can use different layouts to display, organize, and print the same information in different ways. Also, a database feature you use to create and revise layouts.

layout (part): *See* part.

leading: The amount of space between lines of text. *See also* line spacing.

leading grand summary part: In a database layout, a grand summary part that is placed above the information summarized by the part. *See also* part.

legend: In a spreadsheet chart, the labels for the data series in the chart.

level (outline): One of sixteen hierarchical positions of a topic or subtopic, indicated by text format and indentation.

line break: A formatting character used for separating one line from the next without starting a new paragraph. Pressing Shift-Return enters a line break. Also called *soft return*.

line chart: A chart that represents spreadsheet data as lines. Often used to show trends over time.

line spacing: The vertical distance from the base of one line of type to the base of the next line below. Line spacing defaults to one line and can be set in points, lines, inches, millimeters, centimeters, or picas. Also called *leading*. *See also* leading.

lines off top: In communications, incoming data that scrolls off the computer screen.

linked frames: For text, two or more frames in which text flows from one frame to the next. For spreadsheet or paint, two or more frames that show different areas of the same document. *See also* frames.

local echo: A communications setting that determines whether characters you type on the keyboard or numeric keypad go to your Macintosh screen as well as to the remote computer.

locking: The process of protecting a selected object from most changes.

logging off: In a communications session, the process of disconnecting from an information service.

logging on: In a communications session, the process of identifying yourself to an information service. Also the process of connecting.

logical expression: In a spreadsheet, any statement that returns a value of TRUE(1) or FALSE(0).

macro: A sequence of actions you save as a single command, useful for automating repetitive tasks. *See also* shortcut.

mail merge: The process of inserting data from a database document into a text document or frame, used primarily to print individually addressed mailings.

Main dictionary: The primary dictionary against which ClarisWorks checks spelling. *See also* User dictionary.

margins: The blank space around the top, bottom, left, and right of a document's working area.

merge document: In mail merge, a base document (typically a word-processed letter) that contains text common to all printed merge copies.

mixed dialing: In communications, a combination of tone and pulse dialing methods.

mixed reference: In a spreadsheet, a combination of relative and absolute cell references.

modem: A device that turns data from your computer into information that can be transmitted over telephone lines or intercomputer networks.

movie: A series of video images with sound that you can play from a ClarisWorks document on a System in which the QuickTime extension is installed.

normal view: A text setting in which the hierarchy and labels of an outline are hidden from view.

nper: An argument that represents the number of periods. Relates to the interest rate. Used in business and financial functions.

number field: In a database document, a field that can contain any number you can type, including decimal points if appropriate. *See also* field.

number format (currency): A format that adds a currency symbol to a number.

number format (fixed): A format that rounds numeric entries to a fixed number of decimal places.

number format (general): A format that causes a number to fill a cell with a floating number of decimal places to the right of the decimal point. This format displays the number in the best possible fit for the selected cell width.

number format (percent): A format that multiplies a number by 100 and displays the number in a fixed decimal format with a percent sign.

number format (scientific): A format that displays entries as exponential powers of 10.

object: An element that you can select by itself, resize, and move around within a document.

omitted record: In a database document, a record that has been temporarily removed from the active set of records using the Omit option of the Find command.

online: The state of being in direct communication with another computer via a network or telephone line.

onscreen help: A system of instructions to which you have direct access on the computer screen.

operands: In a formula, the values acted on to perform a calculation. *See also* argument.

operators: Symbols used in a formula to define the action to be performed.

order (sort): *See* sort order.

outline view: A text setting in which you can see the hierarchical structure and labels that organize text into an outline.

page: Part of a document that fits on a single sheet of paper.

page break: *See* break.

page guides: The gray border on each page that shows where the document's top, bottom, left, and right margins are set.

page view: A view that shows you how a document will appear when you print. Page view shows margins and headers and footers, if any. It is also the only way to see database summary information on the screen.

paint tool: The tool, represented by a brush, used to make paint frames. *See also* tool.

painting tool: A tool you use to create images or effects in the paint environment. *See also* tool.

palette: A small window of options you can apply to an object or image you create. ClarisWorks includes palettes for colors, patterns, gradients, line widths, arrow styles, and shortcuts.

panes: Split views of the same document. Panes can be horizontal (across the screen) or vertical (down the screen).

paragraph: The basic formatting unit of a text document. Text format changes apply to all of a selected paragraph or paragraphs (except for individually styled words and lines).

paragraph (selected): An active paragraph. A paragraph is selected when the text insertion point is blinking anywhere in the paragraph, whether or not the entire paragraph is highlighted.

parity: In a communications session, a method of checking to see that data isn't garbled during transmission.

part: In a database document, a section of a layout used to organize data on the page or to summarize data within the document. *See also* a specific part name: body, footer, header, grand summary, leading and trailing grand summary, and sub-summary.

password: In a communications session, a private word you must enter to be allowed access to an information service or bulletin board.

pasting: The process of placing the contents of the Clipboard in the same or a different location. *See also* Clipboard; copy; cut.

pen tool: The tool used to change the width, pattern, and color of lines or an object's border. Also adds arrowheads to lines. *See also* tool.

phone book: In communications, a collection of names and phone numbers you set up yourself.

pica: A typographic measure equal to 1/6 inch (12 points).

pie chart: A circular chart that represents spreadsheet data as slices of a pie. Often used to show the relative contribution of values to a total.

pixel: Short for "picture element"; a single dot on the screen. Arrangements of pixels make up the images you see in a painting. *See also* image.

pmt: An argument that represents the payment to be made per period. Used in business and financial functions.

point: A typographic measure equal to 1/72 inch.

point of origin: In a spreadsheet, the cell location that shows at the upper-left corner of the window or frame.

pointer: The tool used to select, resize, and move objects. Also activates the draw menus. Appears as the arrow icon in the tool panel. *See also* tool.

precedence: In a spreadsheet or database formula, the sequence in which calculations are performed when a formula has more than one operator.

precision: In a spreadsheet or database document, the number of digits displayed to the right of a decimal point. For numbers in scientific format, precision applies to the mantissa.

printable area: *See* working area.

protected cell: In a spreadsheet, a cell you have locked to prevent changes.

public network: An access point for multiple users to various communications services.

publisher: In Publish & Subscribe, a text selection, range of data, or an object written to an edition for others to subscribe to. *See also* edition; subscriber.

pulse: The dialing method used with many rotary-dial telephones.

pv: An argument that represents the present cash value of an investment. Used in business and financial functions.

QuickTime: A system extension that makes it possible to play movies on a Macintosh.

quit commands: Commands you give a communications service to disconnect. Common examples are *bye*, *exit*, *logoff*, *logout*, *off*, and *quit*.

ragged: In text alignment, the edge of a paragraph that is not set to line up with a ruler setting. Left-aligned paragraphs are ragged on the right side; right-aligned paragraphs are ragged on the left.

raise (outline topic): To move an outline topic and its associated subtopics to a higher level in the outline.

record: In a database document, a collection of fields that contain data about a single activity, individual, subject, or transaction. Corresponds to a printed form such as an invoice.

record book: In a database document, the book icon that shows the number of the current record. *See also* bookmark.

record (selected): In a database document, one or more records selected for the next action.

relative reference: In a spreadsheet, a reference to a cell identified by the cell's location in relation to other cells, not by its column and row address.

remote computer: Another computer, in another location, with which you communicate by way of a modem.

request (find): In a database document, a blank view of the current layout, used to enter search criteria.

resolution: In a paint document or frame, the pixel value at which painted images display. A greater value shows a clearer picture.

row: In a spreadsheet, the horizontal arrangement of cells identified by a number designation on the left.

scatter chart: A chart that represents spreadsheet data as unconnected points. Often used to show how points group around a value.

search criteria: Characters you enter to look for certain text (word processing), records (database), or cells (spreadsheet).

selection: The process of activating text, a text paragraph, a spreadsheet cell, or an object so that you can work with it.

series: *See* data series.

session: A complete communications cycle—connecting, doing work, and disconnecting.

session document: A ClarisWorks communications document.

Shift-clicking: A mouse technique for selecting a block of text or multiple objects.

shift constraint: The process of holding down the Shift key while you manipulate an object to limit the object to a certain angle or shape.

shortcut: A predefined sequence of actions that takes place automatically when you click a button in the Shortcuts palette. *See also* macro.

size (text): The measure of font size in points.

sliding objects: In a database document, a method for closing up space within the contents of adjacent fields when you print.

smart quotes: Curling typeset-quality quotation marks (“ ”), as opposed to straight quotation marks (" ").

smoothing: The process of rounding out sharp angles in a polygon or freehand object.

soft return: *See* line break.

sort order: In a database or spreadsheet, the hierarchy of fields or cells by which you want ClarisWorks to sort. Also, the method used to sort data (in ascending or descending order). *See also* ascending sort order; descending sort order.

spacing: *See* line spacing.

spreadsheet: A document arranged in columns and rows, usually used to work with numeric data. A spreadsheet can contain formulas that allow complex “what-if” analyses of data.

spreadsheet tool: The tool you use to work in a spreadsheet and to draw spreadsheet frames. Displays a crossbar pointer when selected. *See also* tool.

stacked windows: A layered arrangement of windows that exposes a corner of each window. Stacking makes it more convenient to click back and forth between windows.

stacking order: The arrangement of objects in a document. The most recently created object is placed at the front of the stack (you can rearrange the stacking order by moving objects to the front or back).

standard layout: In a database document, the preset arrangement of all the fields you have created, with each field on a separate line and the fields stacked vertically.

stationery: A document in which you save all the formatting of an original document. Stationery can be used repeatedly as a template for new documents.

status area: The area in a database window that shows the sort status and the status of found records.

stop bits: In communications, a setting used to mark the end of a transmitted character.

style (custom): *See* custom style.

style (text): The way a font appears on the screen and when you print.

subscriber: A text selection, range of data, or an object read from an edition. When the contents of the edition change, the subscriber is updated. *See also* edition; publisher.

sub-summary part: In a database layout, a part that applies a calculation to the values in a certain field for a group of sorted records. *See also* part.

subtopic: In an outline, individual line items organized under a topic. *See also* topic.

summary field: In a database document, a special field you use to organize and summarize data in different records when you print or use page view. *See also* field.

tab: A formatting character you insert to cause text to line up at a point called a tab stop on the text ruler when you press Tab.

tab (align on): A tab used to align text on a decimal point, or other character you specify.

tab (center): A tab used to center text on the tab position.

tab (left): The standard tab used to align the left end of text on the tab position.

tab marker: An icon you drag into the text ruler to set a tab stop.

tab order: In a database document, the order in which you move through fields in a record when you press the Tab key. Initially set to the order in which you created the fields, unless you change it.

tab (right): A tab used to align the right end of text on the tab position.

tabs (preset): Tab stops that are automatically set when you create a new text document. Tab stops are preset at 1/2-inch intervals.

terminal: In communications, a system of hardware and software you use to send and receive information.

terminal emulation: The process of setting up a computer to imitate the settings on another computer.

terminal tool: In communications, the software that determines the type of terminal your computer imitates (determined by the type of terminal to which you're connecting).

text attributes: The font, size, style, color, alignment, and line spacing assigned to text. Text attributes determine how text looks when you print.

text expression (text string): Characters you type, including alphabetic and numeric characters, as search criteria or as values in a formula.

text field: In a database document, a field that can contain any characters you can type—letters, numbers, or symbols. *See also* field.

text format: In communications, a format for capturing and saving data that doesn't recognize and doesn't save tab and return characters in incoming data.

text insertion point: A blinking vertical line that indicates where the next text character you type will appear.

text ruler: The measuring scale you use to control the indentation of paragraphs, text justification, tab settings, spacing between lines, and the number of columns on the page.

text tool: The tool, represented by an "A" in the tool panel, used to type text and draw text frames. Displays an I-beam pointer when selected. *See also* I-beam pointer; tool.

thesaurus: A collection of words that you can use to find synonyms for a selected word or a word you specify.

tiled windows: An arrangement of windows that fills the screen with any open windows and makes each window the same size.

time field: In a database document, a field that must contain a time. *See also* field.

tone: The dialing method used with most push-button telephones.

tool: An iconic representation of an action you can perform in ClarisWorks. *See also* a specific tool name: drawing, environment, fill, paint, painting, pen, spreadsheet, and text.

tool panel: A collection of tools at the left side of the document window used to draw and edit objects and images.

topic: In an outline, an individual line item. *See also* subtopic.

trailing grand summary part: In a database document, a grand summary part that is placed below the information summarized by the part. *See also* part.

translator: A utility that allows you to convert documents from other applications to ClarisWorks documents, and vice versa.

transmission channel: The means of communicating from one computer to another. The transmission channel can be a telephone line or an inter-computer network.

ungrouping: The process of restoring the individuality of objects that have been consolidated into one object.

unlocking: The process of removing protection (locking) from a selected object so that the object can be changed.

unprotected cell: In a spreadsheet, a cell that has not been locked to prevent changes.

unsmoothing: The process of restoring angular shapes to polygon or freehand objects that have been smoothed.

User dictionary: A dictionary you create for specialized words that don't appear in the Main dictionary. *See also* Main dictionary.

user name, user ID: In communications, names and numbers that identify you to information services or bulletin boards.

views (multiple): Separate windows for the same document.

window: A contained area in which you view the contents of a document (file).

window (active): The view in which whatever you do takes effect. A window is active when the title bar shows lines beside the title and the scroll bar is shaded.

word wrap: A word processing feature that automatically flows text from one line to the next, without requiring you to press the Return key.

working area: The part of a document within the margins that contains what you type or draw.

WYSIWYG: Acronym for *What You See is What You Get* (pronounced "wizz-ee-wig"). A method of displaying a document on the screen so that you see the document as it will appear when printed.

zoom controls: Representations of a large and a small mountain that you click to enlarge or reduce the view of a document's contents.

zoom percentage: The amount of reduction or enlargement of the active document's contents. Actual size is 100%. Percentages greater than 100 enlarge your view of a document's contents; percentages less than 100 reduce it.

zoom percentage box: A box that shows the current percentage of enlargement or reduction of document contents.

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