HyperCard® IIGS® Reference

Reference

Apple Computer, Inc.

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About This Book

HyperCard® IIGS® is a software package that allows you to create your own ways of doing things on your Apple IIGS® computer. This book is a reference to everything you might need to know as you use HyperCard, including how to use and create "smart" documents called *stacks*. Stacks can do many of the things that ordinary Apple IIGS application programs can do, and more, because you can decide for yourself how you want your stacks to work—without knowing a word of programming.

If you do know something about programming, or even if you're just curious, you might want to learn more about HyperTalk® the programming language that's built into HyperCard. This book doesn't cover HyperTalk in detail. You don't need to know anything about HyperTalk to use HyperCard effectively; but if you want to learn more about it, you can read the *HyperTalk Beginner's Guide*.

What you need to know to use this book

This book assumes that you know how to use your Apple IIGS, and that you understand the fundamentals of HyperCard. You should know

■ How to use the mouse and keyboard

■ How to choose from a menu

■ How to use ⌘-key commands (such as ⌘-X)

■ How to copy files and disks

■ How to open disks, folders, applications, and documents

■ How to do simple text editing

■ How to use the directory dialog box to locate files

■ What a HyperCard stack is

■ What the components of HyperCard stacks are—cards, backgrounds, buttons, fields, and graphics

If you're not sure how to do all of the first seven tasks listed, go through the documentation that came with your Apple IIGS before you do anything else.

If you don't know what a HyperCard stack is, or if you're not familiar with the components of stacks, go through the book *Getting Started With HyperCard IIGS* and the Tour that comes with HyperCard before using this book. (*Getting Started With HyperCard IIGS* tells you how to start the Tour.) These tutorials teach the concepts you need to know to use this book.

How to use this book

This book is a reference to everything you might need to know as you use HyperCard. (It doesn't cover scripting with HyperTalk—HyperCard's programming language.) This book is designed to help you find answers to your questions quickly and get on with your work.

Once you understand the basic concepts presented in the Tour stack and the book *Getting Started With HyperCard IIGS,* refer to this book as you begin doing your own work in HyperCard. If you're still not sure how to use the Home stack or how to find your way around in HyperCard, you might want to review the information in Chapter 1, "Using HyperCard Stacks." If you want to begin building stacks, consult Chapter 2, "Creating and Modifying Stacks."

This book is organized according to tasks. Use the Contents or the Index to locate instructions for specific tasks. You can also use the Index to find information about individual topics and commands.

Descriptions of specific tasks in this book often include numbered steps. Each step consists of a short instruction in boldface type followed (usually) by further explanation in plain type. Depending on your level of expertise with the Apple IIGS, you may find that you can speed through some or all of the instructions by reading just the boldface steps.

The book contains the following chapters and appendix:

- Chapter 1, "Using HyperCard Stacks," describes how to use HyperCard *stacks*—"smart" documents created with HyperCard. This chapter also explains how to get help with HyperCard and how to use stacks stored on file servers and compact discs.

- Chapter 2, "Creating and Modifying Stacks," provides information about building stacks. This chapter includes specific instructions for working with a stack as a whole.

- Chapter 3, "Working With Cards and Backgrounds," explains how to create and modify individual *cards* and *backgrounds*.

- Chapter 4, "Working With Buttons," explains how to create and modify *buttons* ("hot" spots) and use them to link related pieces of information.

- Chapter 5, "Working With Text and Fields," explains how to create and modify *fields* (the places you create to hold text), how to enter text into fields, and how to control text styles.

- Chapter 6, "Working With Graphics," describes HyperCard's Paint tools and commands and shows you how to use them to create graphics.

- Chapter 7, "Printing," explains how to print the information in a stack.

You can find definitions of unfamiliar terms in the Glossary. Terms that appear in *italics* in this book are defined in the Glossary.

The HyperCard IIGS Quick Reference Card gives keyboard shortcuts for HyperCard operations.

At the end of the book is a Tell Apple card. By answering the questions and mailing the card to Apple®, you help us improve our products and documentation. Fill the card out after you've worked with this book.

Where to get HyperCard stacks

A HyperCard stack can be as simple as a collection of information, or as complex as any Apple IIGS application program. (Chapter 2 shows some examples of HyperCard stacks.) You can use the stacks that come with HyperCard, create stacks yourself, or get stacks from a variety of other sources:

- You'll find HyperCard stacks for sale at your local computer software store.

- Check with your local Apple IIGS user group to find out the meeting time of the HyperCard special interest group. Members often share their stacks with each other. (The next section explains how to find a local Apple IIGS user group.)

- Most on-line electronic information services like CompuServe® and GEnie™ have HyperCard special interest groups. These groups have stacks you can get free, except for the service's time charges.

Other sources of information

Although this book is a reference to HyperCard, it doesn't contain tutorial instruction for novice users, and it gives only a brief look at *scripting* (creating programs that control the actions of HyperCard). Other kinds of information and instruction on HyperCard are available from a variety of sources. This section describes some of these sources.

Other learning materials

In addition to this book, the following learning materials are included in the HyperCard package:

Getting Started With HyperCard IIGS: A book that tells you how to install HyperCard, teaches the basic skills you need to get going, and shows you how to start creating and modifying stacks.

Tour: A stack that introduces basic HyperCard concepts by showing you what HyperCard can do.
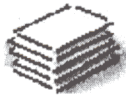
HyperCard IIGS Help: A stack that answers your questions while you're using HyperCard.
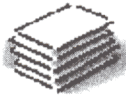
HyperTalk Beginner's Guide: A book that teaches you how to use HyperCard's programming language by helping you create a new stack, one step at a time.
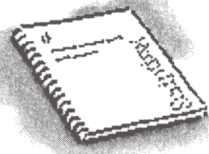
HyperTalk Help: A stack that provides easy access to information about HyperTalk for people who use HyperCard's programming language.
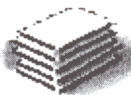
If you're serious about building stacks, you may also want to consult the following books, which were written at Apple and are published by Addison-Wesley as part of the Apple Technical Library:

HyperCard Stack Design Guidelines: A book that provides information about how to design and build effective stacks. Its focus is the look and behavior of stacks (for example, navigation methods and card layouts) rather than the mechanics of scripts.

HyperCard IIGS Script Language Guide: A book that provides detailed reference information about scripts and HyperTalk. This book is for people with some programming or scripting experience.

Several other excellent books have been written about HyperTalk. Books about HyperTalk that were written for HyperCard 1.2.5, which runs on Macintosh® computers, contain much information that also applies to HyperCard IIGS.

User groups   Apple IIGS user groups can be a great source of information about HyperCard, and about Apple computers in general. Members of user groups meet to share ideas, discuss problems, and exchange software and information. By attending user group meetings, you can learn more about HyperCard and see how others are using it.

Ask your authorized Apple dealer for the name of the Apple IIGS user group nearest you, or call (800) 538-9696, Extension 500.

Using HyperCard Stacks

This chapter begins with a brief summary of what HyperCard®
IIGS® is and what you can do with it. One of the first things you'll
learn is that documents created with HyperCard are called *stacks*.

The remainder of the chapter describes what you need to know to
use HyperCard stacks effectively, including

- What hardware and software you need to use HyperCard

- How to start HyperCard

- How to use the Home stack

- How to open, explore, and close stacks

- How to get help

To do the tasks described in this chapter, you need to have your
user level set to Typing or higher. When a task requires a user level
higher than Typing, the instructions say so. (The section "User
Levels and Options" in this chapter explains how to set your
user level.)

What is HyperCard?

HyperCard lets you create your own ways of doing things on your computer. Unlike most application programs, which are designed to perform one type of task (such as word processing or creating graphics), HyperCard can be used for many different kinds of tasks. For example, you can use HyperCard to do any of the following:

- Gather information and organize it in any way you like.

- Browse through information you've assembled yourself, or information gathered by someone else. You can follow links to topics you want to know more about, skip over things you're not interested in, and search for specific facts or text.

- Create HyperCard stacks that meet your own specific needs— for example, stacks that help you write a report, learn a new language, organize a collection of electronic clip art, or present information stored on a videodisc.

- Customize your computer work space—so that, for example, with a single mouse click, you can log onto another computer, launch an application that's hidden away in a folder, or send a message to a friend.

Using *HyperTalk*®, HyperCard's English-like script language, you can gain even more control over your HyperCard environment, whether or not you have prior programming experience. You can tap the power of HyperTalk without knowing anything about how it works. For example, you can link a button to a stack—creating a script that tells the button to take you to that stack—without writing a word of HyperTalk. And HyperCard comes with readymade scripts you can copy and paste. (You can learn to create your own scripts by working through the exercises in the *HyperTalk Beginner's Guide*.)

Chapter 1: Using HyperCard Stacks

The more you learn about HyperCard, the more uses you'll see for it. HyperCard allows you to shape the way your computer organizes and presents information, which can help you use the information efficiently. You may even find that HyperCard helps you discover new ways of organizing your work and new approaches to old problems. HyperCard provides you with a creative environment that's limited only by your imagination.

Chapter 2 shows examples of the kinds of stacks you can create with HyperCard.

Cards and stacks   In HyperCard, information appears on *cards*. HyperCard cards are a lot like paper index cards on which you can jot notes or miscellaneous information. In HyperCard, cards can contain both text and pictures:
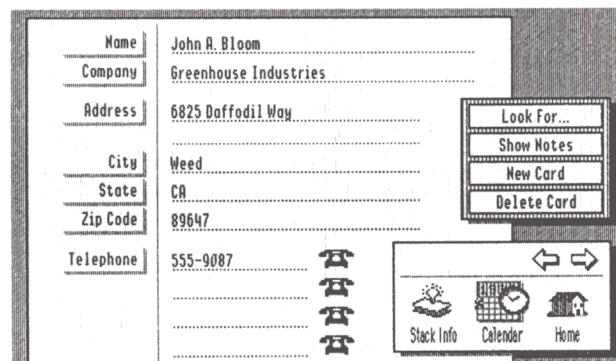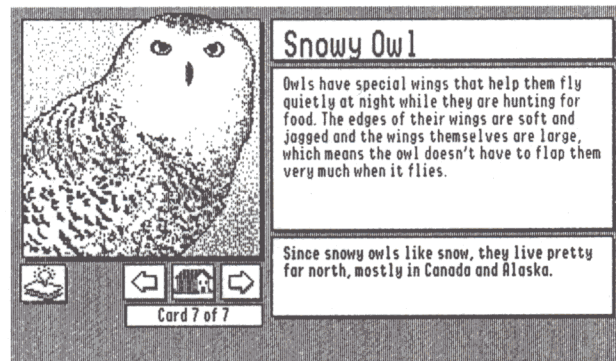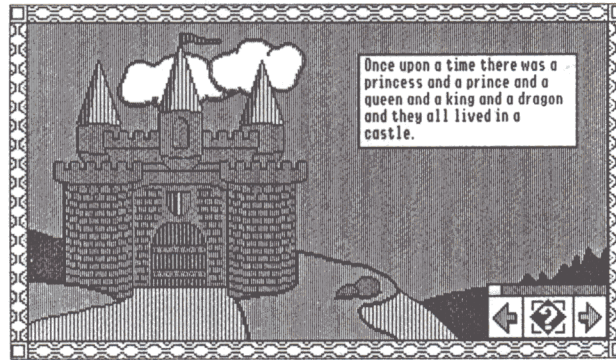
Figure 1-1   Cards—HyperCard's fundamental units of information

Chapter 1: Using HyperCard Stacks

Cards are grouped into *stacks*. The cards within a stack are usually (but not necessarily) related to one another, or based on a common theme. They usually have the same look and contain similar information.
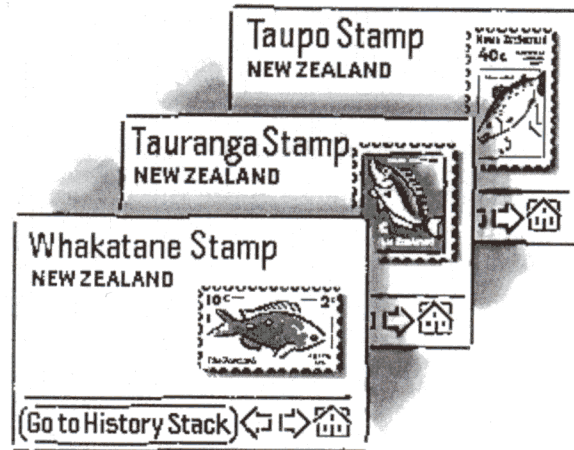
Figure 1-2   Cards are grouped into stacks

Every stack has a name. An icon for each stack appears in the Finder™:

StampStack

Figure 1-3   A HyperCard stack icon in the Finder

❖ *If your stack icons look different:* HyperCard stack icons will look like the icon in Figure 1-3 only if you have followed the standard installation procedure. If your stack icons look different, see "HyperCard Icons and the Finder," later in this chapter. ❖

You can learn a lot about the power of HyperCard just by exploring the stacks that come with it. These stacks provide good examples of the kinds of things HyperCard can do. If you wish, you can obtain additional stacks from the sources described in the Preface.

HyperCard includes tools you can use for modifying and creating stacks. With these tools, you create and manipulate the elements, or building blocks, that make up stacks. You can arrange the information on cards in any way you like. And you can tie together related information by creating *links*—so that a single click takes you immediately to the information you want, whether it's in the same stack or a different one.
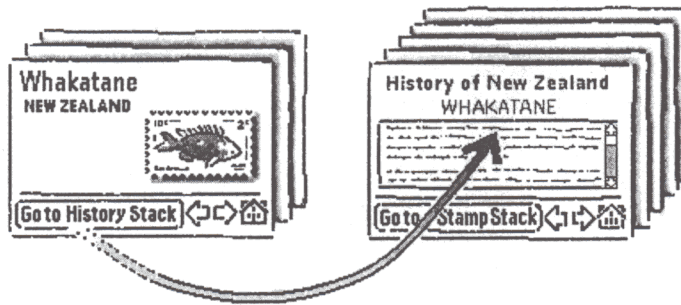
Figure 1-4   A link from one stack to another

When you're ready to begin building stacks of your own, go to Chapter 2, "Creating and Modifying Stacks."

What you need to use HyperCard

To use HyperCard, you need the following hardware and software:

- An Apple IIGS® computer with 1.5 megabytes (MB) of memory or more. (To find out how much memory your computer has, follow the instructions in "Checking Your Computer's Memory," later in this chapter.) Your authorized Apple dealer can help you add memory to your computer.

- An 800K disk drive.

- A hard disk. If you don't have a hard disk of your own, your computer must have access to a file server over an AppleShare® network.

- System software version 5.0.3 or later. Your authorized Apple dealer can help you obtain the system software you need.

- To print with HyperCard, you need the appropriate printer driver for your printer. The printer driver must be in the Drivers folder, which in turn must be in your System folder when you start your computer. For example, if you have an ImageWriter printer, the Drivers folder must include the ImageWriter driver. The documentation that came with your Apple IIGS discusses how to install system updates, including drivers.

HyperCard and your computer's memory

HyperCard requires a minimum of 1.5 MB of random-access memory (RAM) to run efficiently. However, the more memory you have installed in your computer, the better HyperCard will perform. The sections that follow describe how to find out how much memory your computer has and how to identify and deal with symptoms of low-memory conditions.

Checking your computer's memory

Once your computer is set up, you can easily find out whether you have enough memory to run HyperCard. Just follow these steps:

1. **Choose Control Panel from the Apple menu.**

2. **Scroll through the icons on the left until you see the RAM icon.**

3. **Click the RAM icon and check the numbers labeled "Memory in use" and "Free memory."**

If these numbers add up to 1,536 or more, you have enough memory.
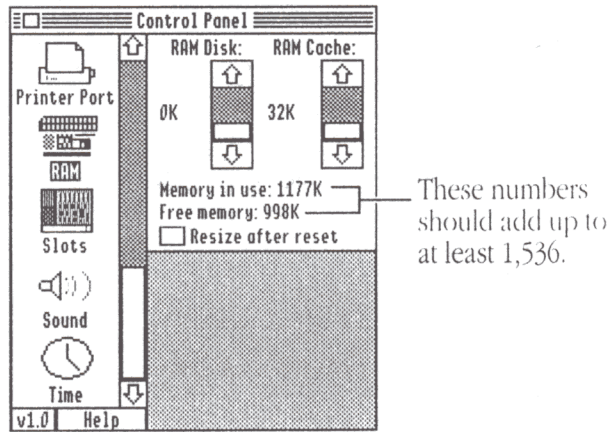
Figure 1-5   Checking your computer's memory

Your authorized Apple dealer can help you add memory to your computer if you need it.

Symptoms of low-memory conditions

HyperCard's use of memory depends on many factors, including the number of desk accessories you have installed in your system, the network software you're using (if any), and the complexity of the card or stack you're currently working with. Even if you have 1,536K or more of RAM installed in your computer, you may find that HyperCard sometimes performs differently than you expect. This is most likely to happen if your computer has close to the minimum amount of memory you need to run HyperCard and is part of an AppleShare network.

After you have installed HyperCard and learned to use it, you may want to evaluate its use of your computer's memory. The following symptoms are signs that HyperCard is running out of memory:

- Fields and buttons in the card layer disappear when you're using the Paint tools in the card layer.

- Fields and buttons in the background layer disappear when you're using the Paint tools in the background layer.

- The Undo command doesn't always work when you're using the Paint tools.

- Buttons that play complex sounds don't work.

You can keep working if these symptoms occur—HyperCard's behavior remains the same in most other ways, although it may run more slowly than it would with more memory.

The best way to avoid low-memory conditions and to improve HyperCard's speed and general performance is to install additional RAM. However, it may help to remove some of the desk accessories you have installed in your system; avoid using a RAM disk; and lower the RAM cache to 32K (or, if all else fails, to 0K).

For information about desk accessories, RAM disks, and the RAM cache, see the documentation that came with your computer.

For information about working with the Paint tools under low-memory conditions, see "Working With Paint Tools When Memory Is Low" in Chapter 6.

Installing HyperCard

Before using HyperCard, you should install it on your hard disk. (You must have a hard disk to run HyperCard.) See the book *Getting Started With HyperCard IIGS* for installation instructions. If you don't follow those instructions exactly, the HyperCard icons in the Finder may look and behave differently than you expect. For more information, see "HyperCard Icons and the Finder," later in this chapter.

After you install HyperCard, make sure you have a backup copy of each disk that comes with it, and lock your backup disks. (If you don't know how to lock a disk, see the documentation that came with your Apple IIGS.) It's a good practice to back up any new software before using it. However, it's particularly important to do this with HyperCard, because HyperCard automatically saves any changes you make to stacks—without asking. Keep a backup copy of each stack that comes with HyperCard, so that you can always retrieve the original copy of any stack.

Starting HyperCard

Before you start HyperCard, make sure you have a backup copy of each disk that comes with it, as described in the preceding section.

Beginning with the Home stack

The Home stack serves as a home base whenever you use HyperCard, and it's a good place to start exploring. It includes a visual directory of other HyperCard stacks and provides easy access to them. (You need to have a Home stack to run HyperCard.)

If you followed the installation instructions in *Getting Started With HyperCard IIGS,* there are two ways to start HyperCard so that it opens the Home stack:

In the Finder, double-click the HyperCard icon . . .   . . . or double-click the Home icon.

HyperCardIIGS   **Home**
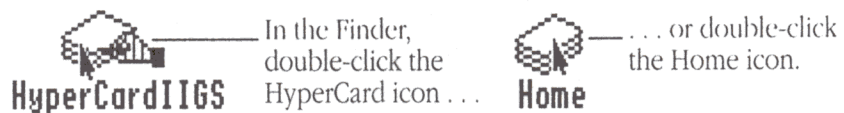
Figure 1-6   Starting HyperCard with the Home stack

You might have to close windows or open folders to find the HyperCard icon or the Home icon.

Chapter 1: Using HyperCard Stacks

If you did not follow the installation instructions exactly, or if you have subsequently moved the HyperCard program file to another location on your hard disk, you may find that these icons look or behave differently from the way they are described in this section. For more information, see "HyperCard Icons and the Finder," later in this chapter.

❖ *Where is Home?* When you start HyperCard by double-clicking its icon, it looks for the Home stack (1) in the System folder; (2) in your user folder, if you're running HyperCard over an AppleShare network, or in the folder that contains the HyperCard program, if you're not running HyperCard over a network; and (3) in any folder named Stacks that's inside the folder it checked in (2). If it can't find Home in any of these places, HyperCard displays the directory dialog box and asks where Home is. Use the directory dialog box (shown in the following figure) to locate and open the file called Home. ❖

This is the current directory level. You can see the next higher level in your disk directory (if there is one) by clicking here or pressing Esc.

Where is Home?
⊜:HardDisk:HyperCard:
  📁 Help   ⬆
  📁 Stacks
  📁 Tour
                 ⬇

[Volumes]

[Open]

[Close]

[Cancel]
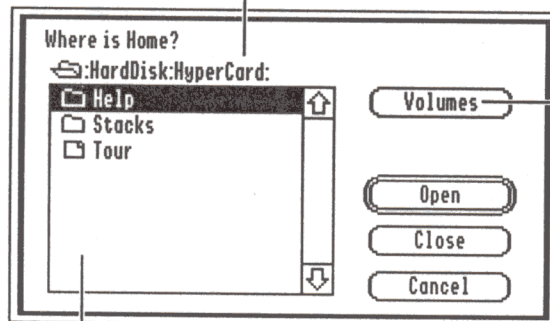
You can view the volumes that are currently available to your computer by clicking here or pressing the Tab key.

You can open a stack, folder, or volume in this list by double-clicking it. You need to locate the Home stack and open it.

Figure 1-7   The directory dialog box for finding a file

For more information about using the directory dialog box, see the documentation that came with your system software.

For more information about Home, see "The Home Stack," later in this chapter.

Beginning with a stack other than Home

You can start HyperCard so that it opens to a particular stack other than Home, as shown in the following figure:

— In the Finder,
double-click the
Stack stack's icon.
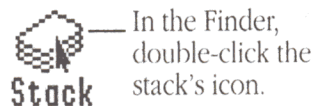
Figure 1-8 Starting HyperCard with a stack other than Home

You might have to close windows or open folders to locate the stack's icon.

If you can't start HyperCard by double-clicking a stack's icon, or if the icon looks different from the one shown in Figure 1-8, see the next section, "HyperCard Icons and the Finder."

❖ *Where is Home?* When you start HyperCard by double-clicking a stack's icon, it looks for the Home stack (1) in the System folder; (2) in the same folder as the stack you double-clicked; (3) in your user folder, if you're running HyperCard over an AppleShare network, or in the folder that contains the HyperCard program, if you're not running HyperCard over a network; and (4) in any folder named Stacks that's inside the folder it checked in (3). If it can't find Home in any of these places, HyperCard displays the directory dialog box shown in Figure 1-7, which you must use to locate the file called Home. After you tell it where Home is located, HyperCard opens to the stack whose icon you double-clicked. ❖

△ **Important:** Whether or not you want to start HyperCard with the Home stack, you need to have a Home stack on your disk to run HyperCard. △

❖ *See a padlock* (🔒) *in the menu bar?* When you open a locked stack, a padlock appears in the menu bar to the right of the rightmost menu title. The padlock means the stack is locked—you can't make changes to it. The section "Opening a Locked Stack," later in this chapter, describes how to work with such stacks. ❖

HyperCard icons and the Finder

If you install HyperCard exactly as described in *Getting Started With HyperCard IIGS,* and if you leave the HyperCard program and the Home stack where the Installer program puts them on your hard disk, the icons for the HyperCard program, Home, and other HyperCard stacks will look just like those in Figures 1-6 and 1-8 (that is, like miniature stacks). If you don't follow the instructions exactly, or if you move the HyperCard folder, the HyperCard program, or Home after installation, you may find that double-clicking stack icons to open them from the Finder won't work. You may also find that HyperCard's icons change their appearance, so that they look like standard Apple IIGS application and document icons.

When the Installer program installs HyperCard on your hard disk, it also places two files (called FTYPE.HyperCard and HyperCard.Icons) in the Icons folder on the same disk. These files contain information the Finder needs about HyperCard's icons and the location of the HyperCard program on your hard disk. If these files aren't inside the Icons folder, the Finder uses its standard icons instead of the HyperCard icons for all the HyperCard files, and cannot automatically locate the HyperCard program file. When this is the case, you can start HyperCard only by double-clicking the HyperCard program icon. Double-clicking the icon for a HyperCard stack won't work.

If the HyperCard icons you see in the Finder are correct, but you still can't start HyperCard by double-clicking a stack icon, it's probably because you have changed the arrangement of HyperCard's files on your hard disk. Even if the correct files are in your Icons folder, the information they contain about the location of the HyperCard program on your startup disk will not be valid if you have moved it. To avoid this situation, keep both the HyperCard program file and the Home stack where the Installer places them: inside the HyperCard folder, which in turn should be at the top level of your hard disk directory (visible in your hard disk's window).

If you need to keep the HyperCard program somewhere else, make sure you keep the Home stack at the same directory level (in the same window) as the HyperCard program file, and remember that you must always start HyperCard by double-clicking its icon. Double-clicking stack icons to open them won't work, but otherwise HyperCard will function the same way.

The Home stack

Home is HyperCard's central stack. You can return to it easily from any other stack at any time. You use the Home stack as your base of operations, a jumping-off point for your work in HyperCard. This section describes the standard Home stack that comes with HyperCard.

The cards in the standard Home stack contain information vital to HyperCard's performance:

- The first five cards in the Home stack, called the Home cards, are designed to hold buttons that take you to stacks.

- The Search Paths card tells HyperCard where to find stacks, applications, and documents that you use frequently.

- The User Preferences card lets you customize the way you interact with HyperCard.

The Home cards are designed to hold buttons that take you to your stacks.

The Search Paths card tells HyperCard where to look for different files.

The User Preferences card lets you customize the way you interact with HyperCard.
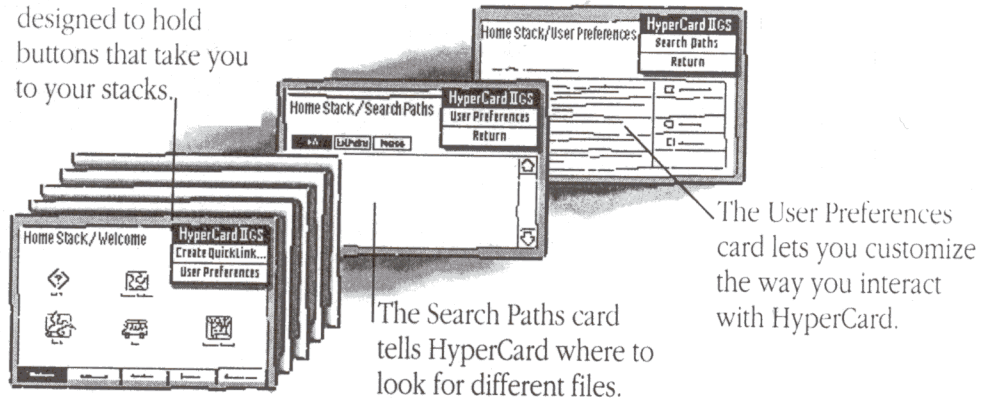
Figure 1-9   The cards in HyperCard's standard Home stack

▲ **Warning:** HyperCard will not operate without a Home stack. Do not delete the Home stack. ▲

The Home cards

If you haven't customized your standard Home stack, the first three Home cards (the first three cards in the stack) contain buttons that take you to all the stacks that come with HyperCard—from collections of electronic art to special stack-building tools. In addition, the standard Home stack has two blank Home cards. Collectively, the Home cards provide a visual directory for your stacks.

These buttons
move you through
the cards in the
Home stack.

The buttons on
the first three
Home cards take
you to the stacks
that come with
HyperCard.
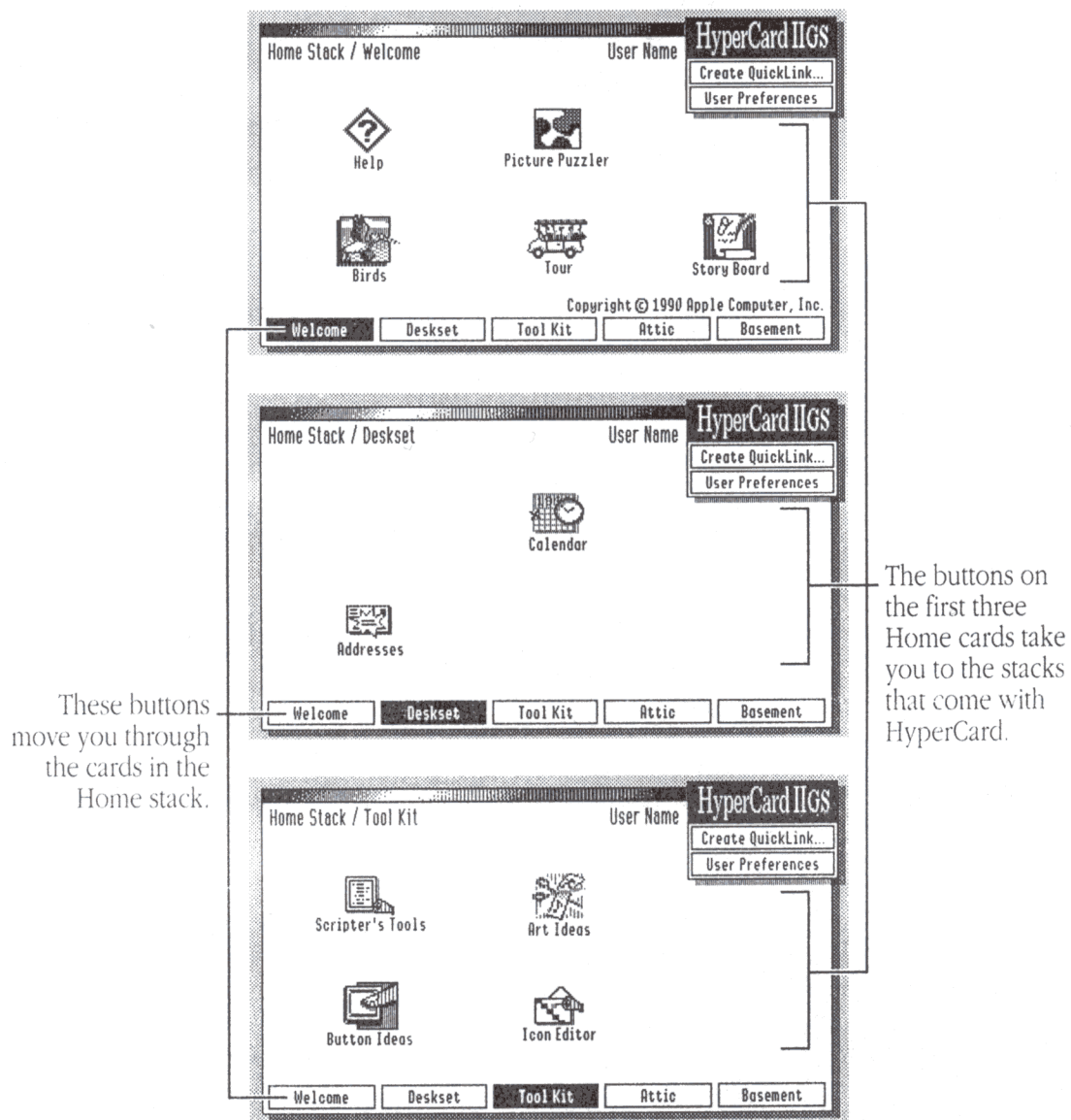
Figure 1-10   The first three Home cards

As you become more comfortable with HyperCard, you can make your Home cards even more useful by adding buttons that link your Home cards to your favorite cards, stacks, and applications.

➤   *See also:*   • "Customizing Your Home Stack" in Chapter 2

Chapter 1: Using HyperCard Stacks

User levels and options

You can adjust the settings on the User Preferences card to customize the way you interact with HyperCard. To get to the User Preferences card, first go to the Home stack (if you're not already there) by choosing Home from the Go menu, or pressing ⌘-H. Then click the User Preferences button.

Setting your user level

On the User Preferences card, click the user level that matches what you want to do in HyperCard:

This column explains what you can do at each user level.

When you click a higher user level . . .

Click here to change the user name.

. . . the appearance of the User Preferences card changes to reflect your choice.
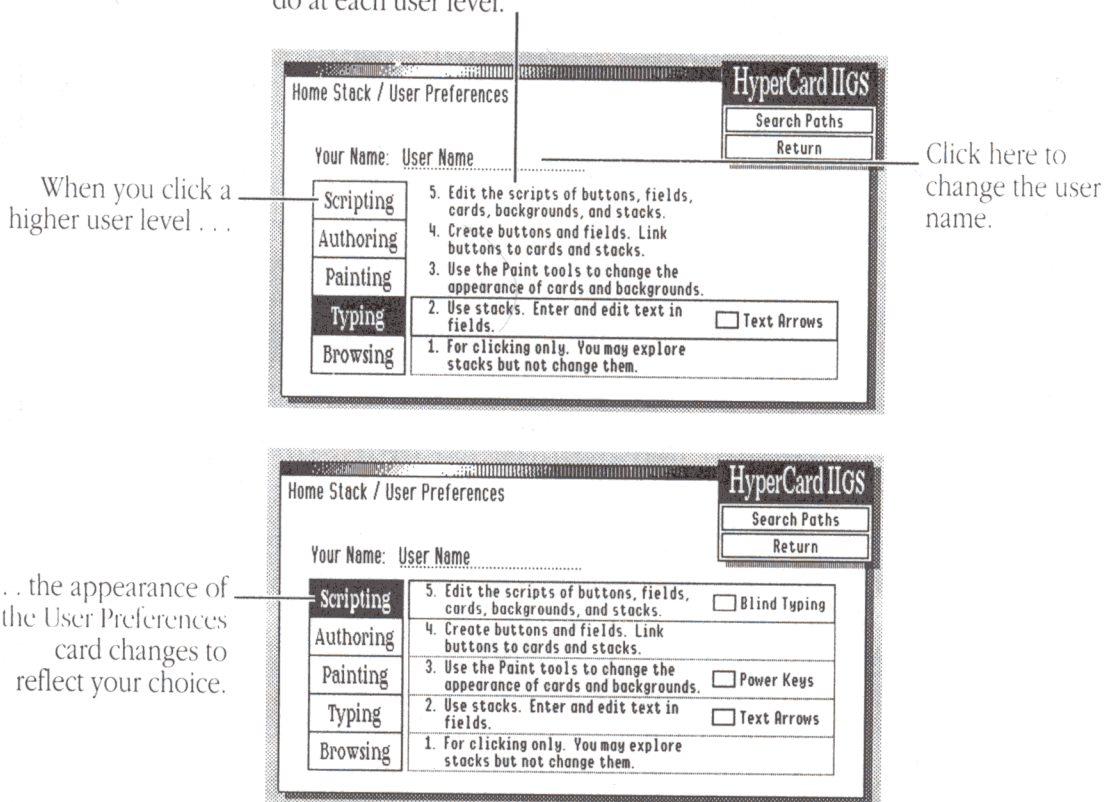
Figure 1-11 Setting your user level

The features available at the different user levels are cumulative—that is, each level gives you all the features from the previous levels, and also gives you additional capabilities. For example, the features available at the Browsing level are also available at the Typing level; the features available at the Browsing and Typing levels are also available at the Painting level; and so on. The higher the user level you choose, the more you can do with HyperCard.

You might want to set a low user level now and change it to a higher one later, when you feel comfortable experimenting with more advanced features. You can change your user level at any time.

User level	What you can do
Browsing	Open, close, and browse through stacks, search for text, click buttons, move between stacks, save copies of stacks, and print the information in stacks.
Typing	The same things you can do at Browsing level, plus type and edit text in existing fields, set the Text Arrows option on the User Preferences card in the Home stack (explained in the next section), and add and delete cards.
Painting	The same things you can do at Typing level, plus set stack protection, delete stacks, create graphics with the Paint tools in the Tools menu, edit graphics and patterns using the Paint, Options, and Patterns menus (which appear when a Paint tool is selected), move between the background layer and the card layer, and use the Power Keys (explained in "The Power Keys Option," later in this chapter).
Authoring	The same things you can do at Painting level, plus create, modify, and delete buttons, links, fields, cards, backgrounds, and stacks using the Button tool, the Field tool, and commands in the Objects menu.
Scripting	The same things you can do at Authoring level, plus write and edit scripts and use the Blind Typing option (explained in "The Blind Typing Option," later in this chapter).

The File and Edit
menus you get
when your user
level is Browsing
or Typing.
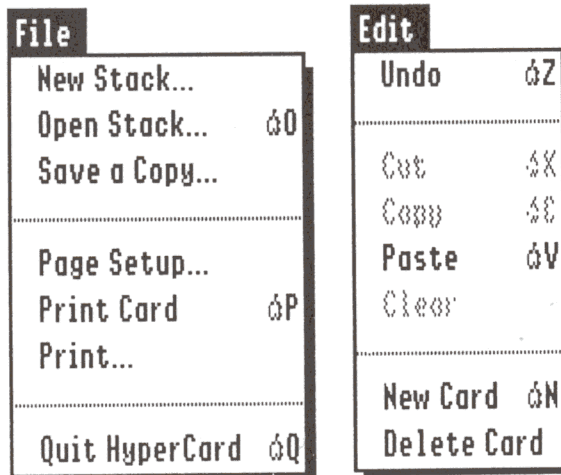
File
New Stack...
Open Stack...   ⌘O
Save a Copy...

Page Setup...
Print Card   ⌘P
Print...

Quit HyperCard   ⌘Q

Edit
Undo   ⌘Z

Cut   ⌘X
Copy   ⌘C
Paste   ⌘V
Clear

New Card   ⌘N
Delete Card

The File and Edit
menus you get
when your user
level is Painting,
Authoring, or
Scripting.

File
New Stack...
Open Stack...   ⌘O
Save a Copy...

Compact Stack
Protect Stack...
Delete Stack...

Page Setup...
Print Card   ⌘P
Print...

Quit HyperCard   ⌘Q

Edit
Undo   ⌘Z

Cut   ⌘X
Copy   ⌘C
Paste   ⌘V
Clear

New Card   ⌘N
Delete Card
Cut Card
Copy Card

Text Style...   ⌘T
Background   ⌘B
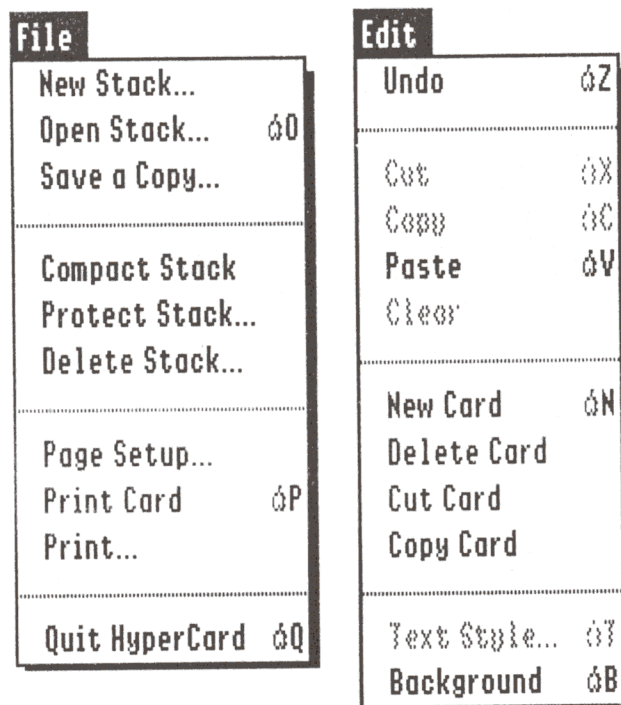
Figure 1-12 Short and full File and Edit menus

Chapter 1: Using HyperCard Stacks

❖ *User preferences and stack protection:* The tools and commands you have at your disposal while you're using a specific stack are determined by both the user level you set on your User Preferences card and the stack's user level (which is set in the Protect Stack dialog box). When a stack is set for a different user level than the one set on your User Preferences card, HyperCard uses the lower setting. (*Lower* means "closer to Browsing.") For information on setting and changing a stack's user level, see "Protecting Your Stack" in Chapter 2. ❖

The Text Arrows option

When you click any user level button except Browsing on the User Preferences card, a check box labeled Text Arrows appears (see Figure 1-11). You select or deselect this option by clicking it.

When this option is turned off, the arrow keys on the keyboard move you through cards in a stack; when this option is turned on, the arrow keys move the insertion point through text—just as they do in most word processors. (The Message box is a place where you can type instructions to HyperCard. It's discussed in the section "Looking for Specific Text," later in this chapter.)

☐ Text Arrows
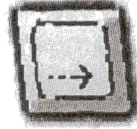
Takes you to the previous card in the current stack	Takes you to the next card in the current stack	Takes you back through cards you've seen	Takes you forward through cards you've reviewed

☒ Text Arrows

Moves the insertion point left over text	Moves the insertion point right over text	Moves the insertion point down through lines in a field, or to the end of the line in the Message box	Moves the insertion point up through lines in a field, or to the beginning of the line in the Message box

Figure 1-13   The effect of the Text Arrows option

When Text Arrows is turned on, you must press the Option key in combination with the arrow keys to move through cards in a stack:

To go to the previous card
in the current stack
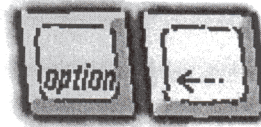
To go to the next card
in the current stack
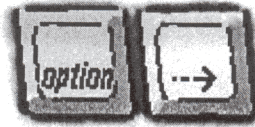
To go back through cards
you've seen
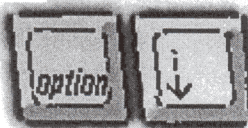
To go forward through
cards you've reviewed
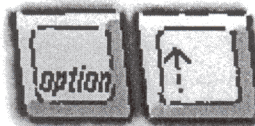
Figure 1-14   Moving through cards when the Text Arrows option is turned on

➤   *See also:*   • "Moving Around in a Stack" in this chapter

The Power Keys option

When you click Painting (or a higher user level) on the User Preferences card, a check box labeled Power Keys appears (see Figure 1-11). When the Power Keys option is turned on, you can use specific keys on the keyboard to make changes to graphics—pressing a single key does the work of choosing a menu command that affects the selected graphic (or the graphic element you've just created). You select or deselect the Power Keys option by clicking it.

➤ *See also:* • "Using Power Keys" in Chapter 6

The Blind Typing option

When you click Scripting on the User Preferences card, a check box labeled Blind Typing appears (see Figure 1-11). When this option is turned on, you can type in the Message box even when it's hidden (as long as the insertion point isn't in a field). Typing in the Message box sends instructions to HyperCard.

You select or deselect the Blind Typing option by clicking it. When the Blind Typing option is turned off, you can type in the Message box only when you see it on the screen. When this option is turned off, HyperCard beeps if you try to type in the Message box when it's hidden.

The Message box is discussed in the section "Looking for Specific Text," later in this chapter.

How HyperCard finds stacks

When you tell HyperCard to open a document, an application, or a stack—by clicking an icon on one of the Home cards, for example—HyperCard searches for the file by first looking in the folder that contains the current stack. Then it checks the Search Paths card in the Home stack (described next) to see where else to look for the requested file.

To see the Search Paths card, first go to the Home stack (if you're not already there) by choosing Home from the Go menu or pressing ⌘-H. Click the User Preferences button, and when the User Preferences card appears, click the Search Paths button.

The following figure shows the Search Paths card:

You can click these buttons to see the Search Paths fields for non-HyperCard documents or applications. The information in these fields helps HyperCard find documents and applications you try to open from within HyperCard.

This line tells HyperCard to look for stacks in the folder Stacks.
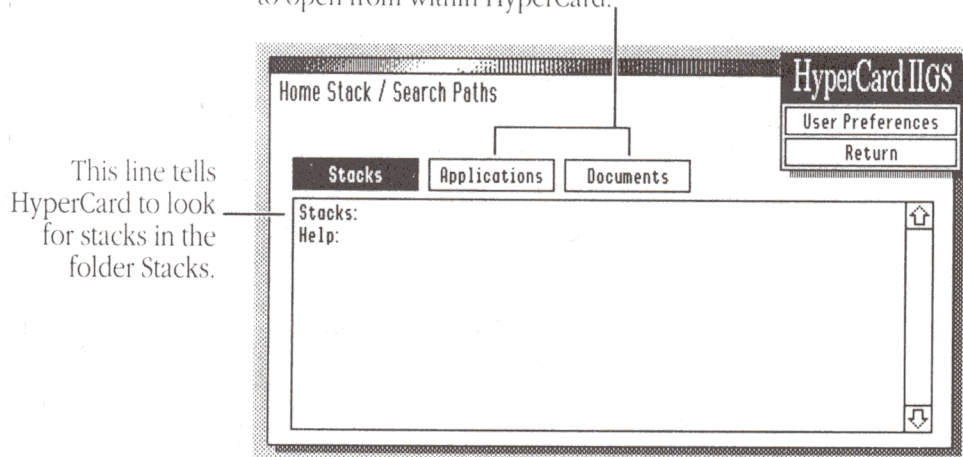
Figure 1-15   Where HyperCard looks for stacks

There are three fields on the Search Paths card that tell HyperCard where to look for files. One tells HyperCard where (in which folders) to look for stacks, another tells it where to look for documents, and a third tells it where to look for applications. To view each field, click the appropriate button on the Search Paths card. These fields contain lists of *search paths,* or pathways through the folders on your disk, that HyperCard should follow to retrieve a stack, application, or document.

If you ask HyperCard for a file it can't find (that is, one whose search path isn't recorded in the appropriate field on the Search Paths card), it displays a directory dialog box and asks you where the file is. (Figure 1-7 shows a directory dialog box.) Use the directory dialog box to locate the file. Once you've located the file, HyperCard notes the disk and folder (and subfolder, if necessary) where the file is located, and records this information in the appropriate field on the Search Paths card. The next time you ask for that file, HyperCard will know where to look for it without having to ask you (unless you've renamed it or changed the name of the disk or folder that contains it).

Although HyperCard updates the Search Paths card for you (as just described), you can also add search paths to the card yourself. For example, if you move a stack into a folder named Old.Stacks within the Stacks folder, you can add the following line to the Stacks field on the Search Paths card (so HyperCard will know where to find the stack):

```
:HardDisk:HyperCard:Stacks:Old.Stacks:
```

To add a line to one of the Search Paths fields, just click and type. When you rename a disk, folder, or file, you can change its name in the appropriate Search Paths field. Or, if you prefer not to deal directly with these cards, you can always use the directory dialog box to help HyperCard locate the files you need.

❖ *Occasional housecleaning:* HyperCard keeps a search path on record until you erase it. It's a good idea to erase a search path you no longer use, to free that space on the Search Paths card and help HyperCard search for files more efficiently. To erase a search path, just drag to select it, then choose Clear from the Edit menu. ❖

Getting to the
Home stack

While you're using HyperCard, you can get to the Home stack by doing any of the following:

■ Choose Home from the Go menu.

■ Press ⌘-H (press and hold the ⌘ key while you press H for Home).

■ Click the button with a house icon, which appears in many stacks, or another button that's linked to the Home stack.

■ Choose Message from the Go menu (or press ⌘-M), type `Go "Home"`, and press Return.

■ Choose Open Stack from the File menu (or press ⌘-O), and locate and open the Home stack using the directory dialog box.

Opening and closing stacks

Because HyperCard automatically (without asking) saves any changes you make to stacks as you work, it's a good idea to make sure you have a backup copy of a stack before you open it. That way, if you change the stack (intentionally or otherwise), you can always go back to the original version. ("Saving a Copy of a Stack" in Chapter 2 gives instructions for making a backup copy of a stack.)

Opening a stack

There are several different ways to open a stack:

PicturePuzzler —— Double-click the stack's icon in the Finder.

Picture Puzzler —— Click a button that's linked to the stack (if there is such a button).

go to stack "PicturePuzzler" —— Choose Message from the Go menu to open the Message box, type `go to stack` and the stack's name (in quotes), and press the Return key.

File
New Stack...
Open Stack...   ⌂O —— Choose Open Stack from the File menu and open the stack.
Save a Copy...

Figure 1-16   Opening a stack

❖ *About stack names:* A stack name that you see in the Finder or in a directory dialog box may differ from the name that appears on the HyperCard button that takes you to that stack. This is because the stack's name must follow the standard Apple IIGS naming rules for documents, whereas the rules for naming HyperCard buttons are more flexible. When you type in the Message box to open a stack, you must type the stack's name the way it appears in the Finder. ❖

When you double-click a stack's icon in the Finder, HyperCard will launch (and the stack will open) only if you have installed HyperCard correctly and have not subsequently moved any of its files. For more information, see "HyperCard Icons and the Finder," earlier in this chapter.

When you click a button or type in the Message box to open a stack, HyperCard looks for the stack using the strategy described in the section "How HyperCard Finds Stacks," earlier in this chapter. If it can't find the stack, HyperCard displays the directory dialog box and asks you to tell it where the stack is. (If the stack is on a floppy disk, make sure that disk is in one of your drives.)

When you choose the Open Stack command, HyperCard displays a directory dialog box and waits for you to tell it which stack to open:

This is the current directory level. You can see the next higher level in your disk directory (if there is one) by clicking here or pressing Esc.

Locate the stack you want to open by double-clicking to open folders or volumes in this list. When you see the stack you want, double-click it to open it.
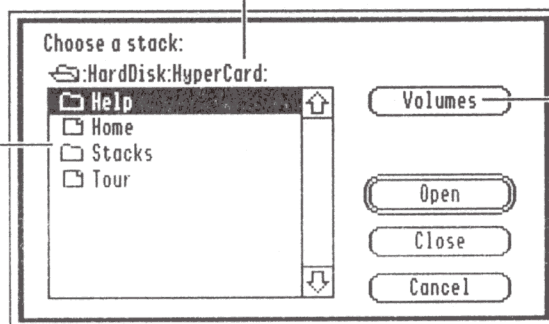
You can view the volumes that are currently available to your computer by clicking here or pressing the Tab key.

```
Choose a stack:
⊟:HardDisk:HyperCard:
  🗀 Help                    ⬆        ( Volumes )
  🗀 Home
  🗀 Stacks
  🗀 Tour
                                      ( Open )
                                      ( Close )
                           ⬇          ( Cancel )
```

Figure 1-17   Opening a stack with the Open Stack command

After you double-click the stack (or select it and click Open), HyperCard closes the stack you are currently looking at and opens the stack you selected.

Opening a stack protected with a password

When you tell HyperCard to open a stack that's set for private access, you see the following dialog box:

```
┌─────────────────────────────────────┐
│ This stack requires a password:     │
│ ┌─────────────────────────────────┐ │ ──── Type the password
│ │                                 │ │      here and click OK.
│ └─────────────────────────────────┘ │
│                                     │
│         ( OK )  ( Cancel )          │
└─────────────────────────────────────┘
```
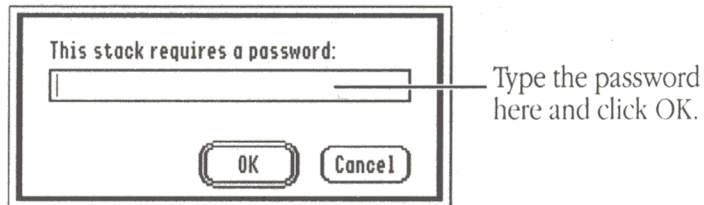
Figure 1-18 Opening a stack set for restricted access

To open the stack, you must know the password and type it correctly, character for character—except that capitalization doesn't matter. (As you type, you will see asterisks, not the actual letters you type.) Then click OK. If the password you type is incorrect, HyperCard tells you so and won't open the stack.

Opening a locked stack

When you open a stack that's locked—for example, a stack for which "Can't modify stack" is selected in the Protect Stack dialog box—a small padlock (🔒) appears in the menu bar:
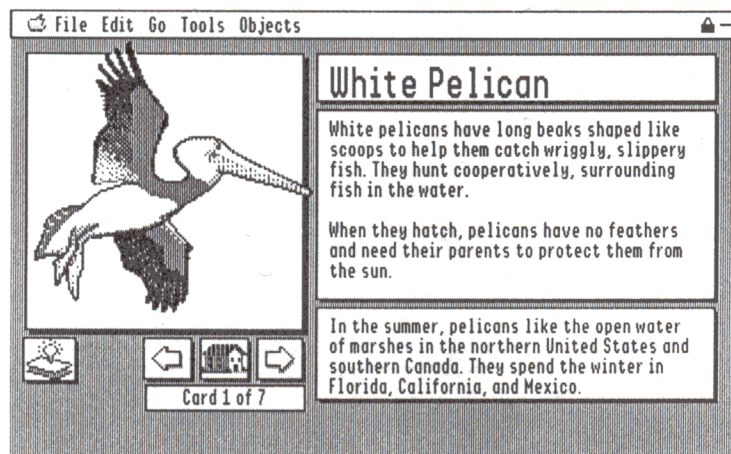
The small padlock tells you that the stack is locked—you can't make any changes to it.

Figure 1-19   Working with a locked stack

You can use a locked stack and copy information from it, but if you try to make any changes to it, the following dialog box appears:
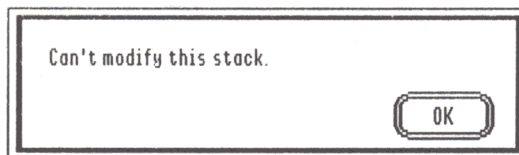
Figure 1-20   Trying to make changes to a protected stack

➤ *See also:*   • "Protecting Your Stack" in Chapter 2

Closing a stack   There are two ways to close a stack:

- Quit HyperCard. HyperCard saves any changes you've made to the current stack before closing it and quitting.

- Open another stack. (See "Opening a Stack," earlier in this chapter, for instructions.) HyperCard saves any changes you've made to the current stack before closing it and opening the other stack.

❖ *Before you close a stack:* It's a good idea to choose Compact Stack from the File menu before you close a stack that you've changed significantly. This rearranges the current stack on the disk, removing any unused space so that it fits into the smallest possible space. The Compact Stack command is always visible when your user level is Painting (3) or higher. You can make it visible when your user level is Typing (2) by holding down the ⌘ key while you pull down the File menu. ❖

Looking through stacks

One of the best ways to learn about HyperCard is to explore stacks—including the stacks that come with HyperCard, and any other stacks you can find. (The Preface gives information about where you can get additional stacks.)

Many stacks have a button you click to learn about the stack. It usually looks like one of these:

Figure 1-21   Buttons you can click to get information about a stack

Stack menus

HyperCard allows stack developers to customize the menus that appear with a stack. Therefore, you may encounter stacks that have one or more of their own menus. You see a stack's custom menus (if it has any) only when the stack is active. The Picture Puzzler stack and the Addresses stack are examples of stacks with their own menus.

Customizing menus requires a knowledge of HyperTalk and external commands (XCMDs). For information about customizing menus, see the Scripter's Tools stack.

Displaying the menu bar

If you use stacks other than the ones that come with HyperCard, you might encounter stacks in which the menu bar is hidden. To see the hidden menu bar, press the ⌘ key and the Space bar at the same time. To hide the menu bar again, press ⌘–Space bar again.

Moving around in a stack

Moving around in HyperCard stacks—moving from card to card, going to other stacks, and so on—is called *browsing*.

There are several ways to browse through stacks:

- Choose commands from the Go menu (or type their ⌘-key equivalents).

- Click icons on the Go palette.

- Click buttons or text in the stack.

- Press arrow keys on the keyboard.

- Type commands in the Message box.

- Use the Find command to search for specific text.

To browse through stacks by clicking buttons, you must first choose HyperCard's Browse tool (🖑).

This is the Browse tool. Use it for clicking buttons to browse through stacks.
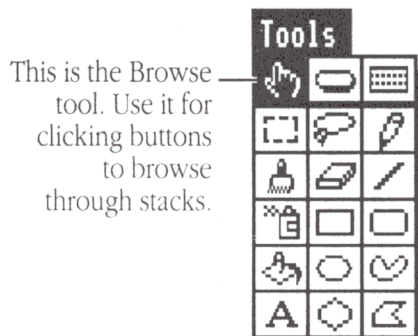
Figure 1-22   Choosing the Browse tool

❖ *Can't see the Tools menu?* If you can't see the menu bar, you can make it appear by pressing ⌘–Space bar. If you can see the menu bar but not the Tools menu, you can make the Tools menu appear by changing your user level to Painting, Authoring, or Scripting. (For instructions, see "User Levels and Options," earlier in this chapter.) ❖

The techniques for browsing are described in the sections that follow.

Using commands in the Go menu

You can use the commands in the Go menu to look through cards in the current stack, look for specific text, go to another stack, or go back through cards and stacks you've already seen.

```
Go
 Back        ⌘~
 Home        ⌘H
 Help        ⌘?
 Recent      ⌘R
 ···································
 First       ⌘1
 Prev        ⌘2
 Next        ⌘3
 Last        ⌘4
 ···································
 Find...     ⌘F
 Message     ⌘M
 ···································
 Show All Cards
```

Figure 1-23   The Go menu

Command	⌘-key equivalent	What the command does
Back	⌘-~	Takes you back to the last card you saw.
Home	⌘-H	Takes you to the Home stack.
Help	⌘-?	Takes you to Help.
Recent	⌘-R	Lets you review up to the last 18 cards you saw.
First	⌘-1 or ⌘-←	Takes you to the first card in the current stack.
Prev	⌘-2	Takes you to the previous card in the current stack.
Next	⌘-3	Takes you to the next card in the current stack.
Last	⌘-4 or ⌘-→	Takes you to the last card in the current stack.
Find	⌘-F	Lets you search for specific text.
Message	⌘-M	Lets you navigate by typing commands in the Message box.
Show All Cards	(No ⌘ key)	Shows you all the cards in the stack, one after the other.

❖ *Prev versus Back:* The Prev command takes you to the previous card in the current stack; Back takes you to the card you last looked at, which might be in another stack. ❖

The Back and Recent commands are explained in more detail in "Looking Through Cards You've Seen," later in this chapter.

The cards in a stack are arranged as if they were looped on a ring. When you're looking at the last card in the stack, choosing Next from the Go menu takes you back to the first card in the stack. When you're looking at the first card, the Prev command takes you to the last card of the stack.
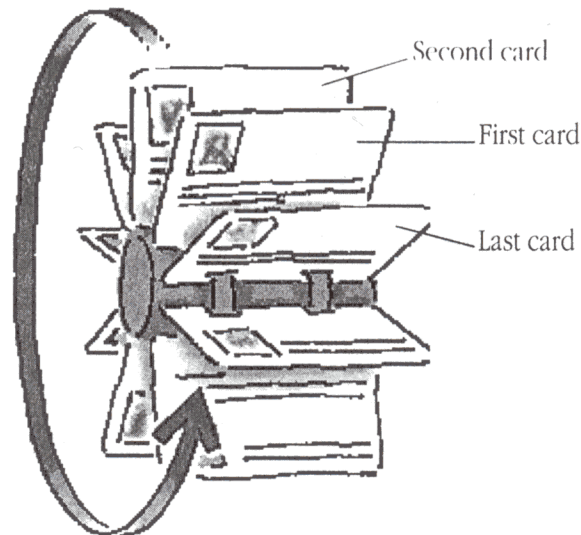
Figure 1-24 A stack is structured like a circular card file

Using the alternate Go menu and Go palette

An alternate Go menu that contains icons instead of words appears if you press and hold the ⌘ key while you pull down the Go menu. The icons are equivalent to the commands in the regular Go menu. You can choose any of these icons by dragging and releasing the mouse button, the same way you choose a regular menu command.

You can also "tear off" the alternate Go menu (as shown in the following figure) to create a moveable *Go palette* that you can leave open while you work, so you have easy access to all the navigation commands. To do this, hold down the ⌘ key and drag down through the menu, past the bottom or beyond either side.

You can close the Go palette by clicking here.

To move the palette, drag from here.
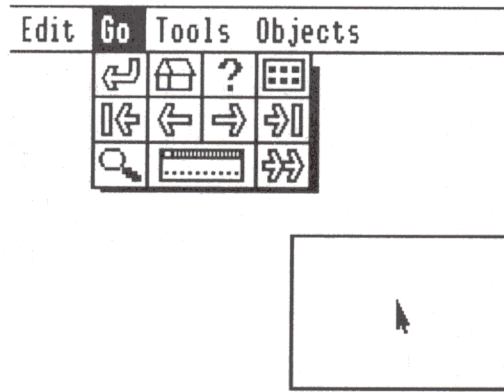
To tear off the alternate Go menu, drag beyond the bottom or side of the menu.

Click any icon to choose the command it represents.

Figure 1-25   Tearing off the alternate Go menu

Clicking an icon in the Go palette does the same thing as choosing the corresponding command from the Go menu:
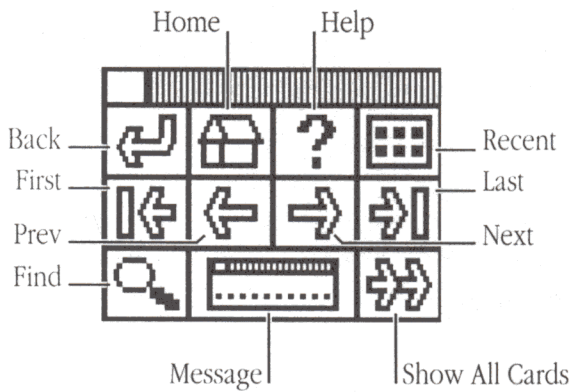
Figure 1-26   The Go palette

You can make the Go palette disappear by clicking its close box.

Clicking buttons to move around

A stack can have lots of different kinds of buttons. Some buttons take you to another place in the stack (or to another stack) when you click them. Other buttons make things happen right where you are—a button might make a sound, make a message appear, or create an interesting visual effect.

❖ *Where are the buttons?* You can find all the buttons on a card (except those that have been deliberately hidden) by holding down the and Option keys at the same time. Gray or colored rectangles appear around the buttons. ❖

Clicking buttons is one of the most effective ways to explore a stack. Here are some buttons that are commonly used for moving around in stacks:

| First card in stack | Previous card in stack | Next card in stack | Last card in stack | Return | Home |
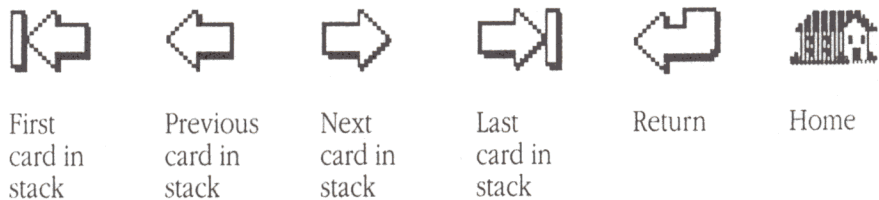
Figure 1-27   Navigating with buttons

❖ *You click only once:* One click is enough to make a HyperCard button work—don't double-click it. When you double-click a HyperCard button, sometimes HyperCard saves the second click until another card appears. Then you might find you've accidentally clicked a button you didn't mean to click. ❖

Clicking text to move around

In some stacks you can click text in fields to make things happen. For example, you can click a topic on the first card of the HyperCard Help stack to see a list of related subtopics, and then click one of the subtopics to go to a card that contains information about it. Clicking text can do the same kinds of things that clicking buttons can do.

Stacks that take advantage of this feature of HyperCard will contain information about which text in the stack you might want to click and why. Clicking text will have no effect unless the stack includes a script that tells HyperCard what to do when a particular portion of text is clicked.

Using the arrow keys to move around

You can move from card to card by using the arrow keys on the keyboard. The way you use arrow keys to move around in a stack depends on whether the Text Arrows option is selected on the User Preferences card in your Home stack.

When the Text Arrows option is turned on, you must press the Option key along with the arrow keys to move through cards.

To go . . .	When Text Arrows is turned on, press	When Text Arrows is turned off, press
To the previous card in the current stack	option ←--	←--
To the next card in the current stack	option --→	--→
Back through cards you've seen	option ↓	↓
Forward through cards you've reviewed	option ↑	↑

Figure 1-28 Navigating with arrow keys

➤ *See also:* • "The Text Arrows Option" in this chapter

Going to a specific card

If you know the name, number, or ID of a specific card in a stack, you can go to the card directly by using the Go command in the Message box. (You can use the Message box to send instructions to HyperCard.)

You can find the name, number, or ID of the current card by choosing Card Info from the Objects menu. (To see the Objects menu, you must have your user level set to Authoring or Scripting. "User Levels and Options," earlier in this chapter, gives instructions for changing your user level.)
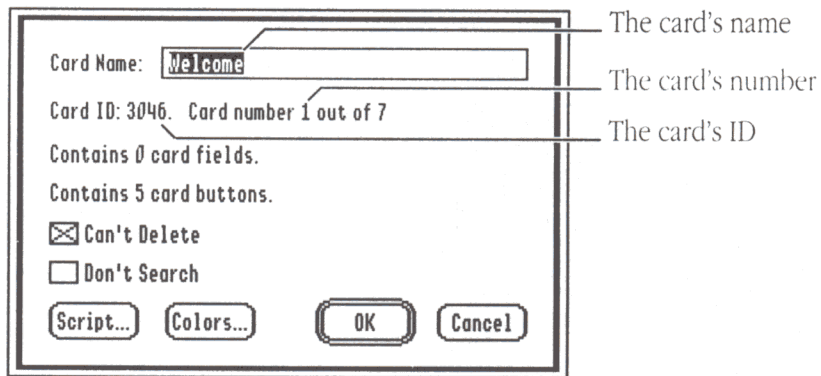
Figure 1-29   The Card Info dialog box

To get to a specific card from any other card in the same stack (or from another stack, such as the Home stack), follow these steps:

1. **Open the Message box (if it isn't already open).**

   Choose Message from the Go menu, or press ⌘-M.

2. **Type any of the following, substituting the name, number, or ID of the card you want to go to:**

```
┌────────────────────────────────────────────────┐
│ ▦ ▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏ │   To go to the card with the
│                                                  │   specified name in the
│   go to card "card name" ──────────────────      │   current stack
└────────────────────────────────────────────────┘
```

```
┌────────────────────────────────────────────────┐
│ ▦ ▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏ │   To go to the card with the
│                                                  │   specified number in the
│   go to card 4 ────────────────────────────      │   current stack
└────────────────────────────────────────────────┘
```

```
┌────────────────────────────────────────────────┐
│ ▦ ▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏ │   To go to the card with the
│                                                  │   specified ID in the current
│   go to card ID 16724 ─────────────────────      │   stack
└────────────────────────────────────────────────┘
```

```
┌────────────────────────────────────────────────┐
│ ▦ ▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏▏ │   To go to the card with the
│                                                  │   specified name in the
│   go to card "card name" in stack "stack name" ──│   specified stack. (Specify
└────────────────────────────────────────────────┘   the stack name only when
                                                      the card you want to go
                                                      is in another stack.)
```

Figure 1-30   Going to a specific card

3. Press Return or Enter.

To hide the Message box, click its close box or press ⌘-M again.

Seeing all the cards in a stack

You can take a quick look at a stack by flipping through all of its cards quickly. The easiest way to do this is to choose Show All Cards from the Go menu. But you can also use the Message box to flip through the cards in a stack. Follow these steps:

1. Open the Message box (if it isn't already open).

Choose Message from the Go menu, or press ⌘-M.

2. Type `show all cards` and press Return.

HyperCard shows you all the stack's cards quickly, one after the other.

To hide the Message box, click its close box or press ⌘-M again.

If you want to stop flipping through the cards, either press the mouse button or press ⌘-. (⌘-period). (This will also stop the action if you choose Show All Cards from the Go menu.)

Some stacks have a button you can click to see all the cards. It usually looks something like this:

Figure 1-31   A button for flipping through the cards in a stack

Looking for specific text

You can also move around in a stack by asking HyperCard to find specific field text. This makes it easy to find just the information you need in a stack—no matter how large the stack is.

When HyperCard searches for specific text that you've asked it to find, it pays no attention to case or to diacritical marks: "apple Cømpüter," "apple computer," and "Apple Computer" are all considered the same.

You can search an entire stack for the text you want, or search only in a specific background field.

Finding field text anywhere in a stack

1. **Choose Find from the Go menu, or press ⌘-F.**

    HyperCard displays the Message box with the Find command in it:

Find "|" ———————————————————— The insertion point
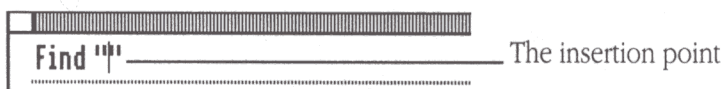
Figure 1-32   Searching for text

2. **Type the text you want to find.**

   Make sure the text you want to find is between the quotation marks that appear after the word "Find" in the Message box.

3. **Press the Return key or the Enter key.**

   HyperCard displays the first card containing a word or words that begin with the specified text. (It looks for the first card with a field that contains everything between the quotation marks, even if the words are in a different order or in different fields). HyperCard puts a box around the first word that starts with the text you're looking for.

   If HyperCard can't find the text, it beeps. If this happens, check the text in the Message box for typos and spelling errors.

4. **If you want to find the next occurrence of the same text, press Return or Enter again.**

   You can repeat this step as many times as you like to find additional occurrences of the same text.

To stop a search in progress, press ⌘-. (⌘-period).

❖ *Note:* HyperCard won't look for text in fields for which the option Don't Search is selected in the Field Info dialog box. It will also exclude from the search all fields that belong to backgrounds for which the Don't Search option is selected in the Bkgnd Info dialog box, and all fields on cards for which Don't Search selected in the Card Info dialog box. ❖

Once you're through with the Message box, you can close it by clicking the close box in its upper-left corner. The next time you choose Find, the Message box reappears with the Find command in it—and the last text you typed between the quotation marks is selected. You can search for the same text again by pressing Return or Enter. To search for different text, just type the text you want to find and press Return or Enter.

❖ *To speed your search:* If you're looking for specific text in a very large stack, it's best to give HyperCard a large enough portion of the target text to distinguish it from other text in the stack's fields. This prevents HyperCard from displaying cards that don't actually have the text you're trying to find. HyperCard finds text faster when you specify the target text in strings of three characters or more, not counting spaces. ❖

Finding text in a specific background field

If you want to search for text only in a specific background field, you need to know the name, number, or ID of the field. To find out a field's name, number, or ID, first choose the Field tool from the Tools menu, and then double-click the field. (You must have your user level set to Authoring or Scripting.)
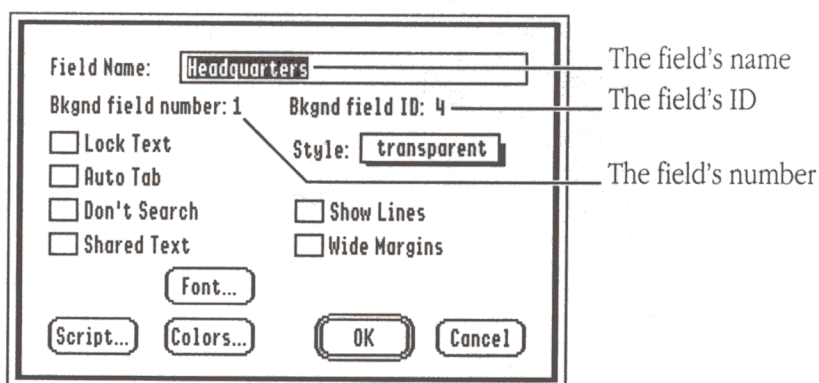
Figure 1-33   Finding out a field's name and number

To search for text only in a specific background field, follow these steps:

1. **Choose Find from the Go menu, or press ⌘-F.**

2. **Type the text you want to find.**

3. **Click after the last quotation mark in the Message box.**

4. **Type a space, then type** `in background field` **and the name (in quotes), number, or ID of the field in which you want to search.**

   If you type the field name, enclose it in quotes.

Find "Hong Kong" in background field "Headquarters"

Figure 1-34   Searching for text in a specific field

5. **Press the Return key or the Enter key.**

   HyperCard displays the first card containing a word (or words) in the specified background field that begins with the specified text, and puts a box around that word.

   If HyperCard can't find the text, it beeps. If this happens, check the text in the Message box for typos and spelling errors.

6. **To find the next occurrence of the same text, press Return or Enter again.**

   You can repeat this step as many times as you like to see additional occurrences of the same text.

   To stop a search in progress, press ⌘-. (⌘-period).

   ❖ *Note:* HyperCard won't look for text in fields for which the option Don't Search is selected in the Field Info dialog box. It will also exclude from the search all fields that belong to backgrounds for which the Don't Search option is selected in the Bkgnd Info dialog box, and all fields on cards for which Don't Search is selected in the Card Info dialog box. ❖

Finding a whole word or phrase

To search for a specific whole word or phrase in any field in a stack, follow these steps:

Chapter 1: Using HyperCard Stacks

1. **Press ⌘-Shift-F.**

   The Message box appears with the Find Whole command in it:

   ```
   Find whole "▮"
   ```

   Figure 1-35   Searching for a whole word or phrase

2. **Type the word or phrase you want to find.**

3. **Press the Return key or the Enter key.**

For the Find Whole command to find a match, all the characters must be in the same field on a card, and they must be in the same consecutive order as they appear between the quotation marks. For example,

```
Find Whole "Apple Computer"
```

tells HyperCard to find cards that have the phrase "Apple Computer" in a field—it won't find "Apple Computers" or "This apple is a computer." (The Find command without Whole would find matches for all three cases.)

Find Whole won't stop on cards that have only partial matches. For example,

```
Find Whole "Ed"
```

won't find "Edward."

To stop a search in progress, press ⌘-. (⌘-period)

As with Find, you can use Find Whole to search for text in a specific background field (as described in the previous section).

The HyperTalk Help stack describes other ways to search for text in background fields, including searching for a specific string (that is, a specific sequence of characters, regardless of word breaks) and for individual characters.

Moving from one stack to another

You can move easily from one stack to another using any of the following techniques:

- Click a button that's linked to the stack (if there is such a button).

- Choose Message from the Go menu, type `go "stack name"`, and press Return. (Replace *stack name* with the name of the stack.)

- Choose Open Stack from the File menu and use the directory dialog box to locate and open the stack.

- If the stack is represented by a button on one of the Home cards, you can press ⌘-H to go to the Home stack, then go to the Home card that contains the stack's button and click the butto●

Looking through cards you've visited

As you go from card to card and stack to stack, HyperCard automatically keeps a record of where you've been. When you want to back up and review the cards you've visited, you can do either of the following:

- Choose Back from the Go menu, or press Tilde (~) or Esc, to go to the last card you visited, no matter what stack it's in. To continue retracing your steps, choose Back (or press Tilde or Esc) again. You can review up to the last 100 cards you visited, in the reverse of the order in which you viewed them.

  ❖ *If the Tilde key doesn't take you back:* Chances are you have one of the Paint tools selected. While you're working with the Paint tools, press ⌘-Tilde to go back to the last card you visited. (Pressing Tilde alone while using a Paint tool undoes your last action.) ❖

  After you review the cards, you can press the Up Arrow key to come forward again through the reviewed cards (or press Option–Up Arrow, if Text Arrows is selected on your User Preferences card).

- Choose Recent from the Go menu to see miniature versions of the cards you've visited most recently—up to the last 18 cards you looked at (as shown in the following figure). A card miniature appears just once, even if you've visited the card more than once. Click a miniature and then click OK (or double-click a miniature) to go to the card it represents:

Double-click any miniature to go
to the card it represents.
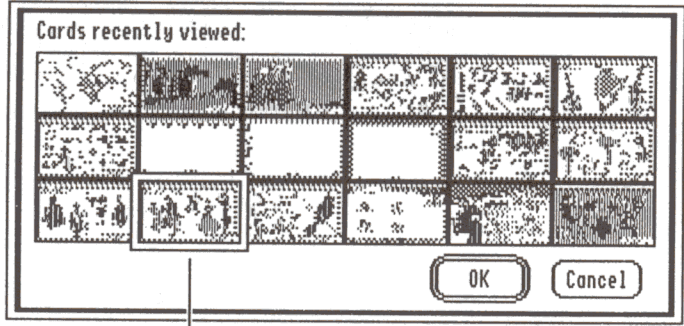
This is the card you were looking at
when you chose Recent.

Figure 1-36   Using Recent to go back to cards you've visited

To return to the card you were looking at when you chose Recent, double-click the miniature that has a box around it, press Return, or click OK.

Returning Home

No matter where you are in HyperCard, you can always get back to the Home stack. Here are four ways to do it:
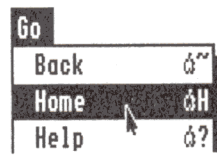
Choose Home from the Go menu.

Press ⌘-H.

Click any button with the house icon, or another button that's linked to the Home stack.

Choose Message from the Go menu, type `go "Home"`, and press Return.

Figure 1-37   Returning to the Home stack

When you return to the standard Home stack (the one that comes with HyperCard) using any of these methods, you return to the Home card you visited most recently—that is, the last Home card you saw the last time you were in the stack.

You can also go Home by choosing Open Stack from the File menu and using the directory dialog box to locate and open the Home stack. This method always brings you to the first Home card, regardless of which Home card you visited most recently.

Entering text

The most common way to add text to a card is by typing into fields.

❖ *Check your user level:* To type and edit text in stacks, you must have your user level set to Typing (2) or a higher level. If you need instructions for changing your user level, see "User Levels and Options," earlier in this chapter. ❖

If your user level is Painting (3) or higher, you must choose the Browse tool (☝) from the Tools menu (if it isn't already selected) before you can type text in fields.

Choose this tool to type text in fields . . .

. . . not this tool.
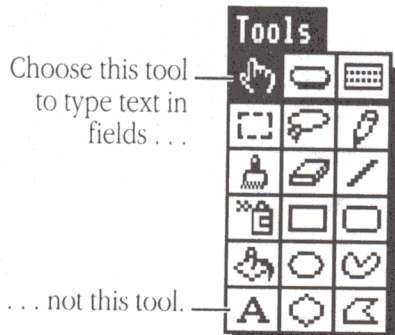
Figure 1-38   Choosing the Browse tool

When your user level is Typing (or higher), the Browse tool becomes an I-beam (Ⅰ) when you move it over a field you can type in:

The I-beam pointer over an editable text field.

Name	John A. Bloom
Company	Greenhouse Industries
Address	6825 Daffodil Way
City	Weed
State	CA
Zip Code	89647
Telephone	555-9087

Look For...
Show Notes
New Card
Delete Card

Stack Info   Calendar   Home
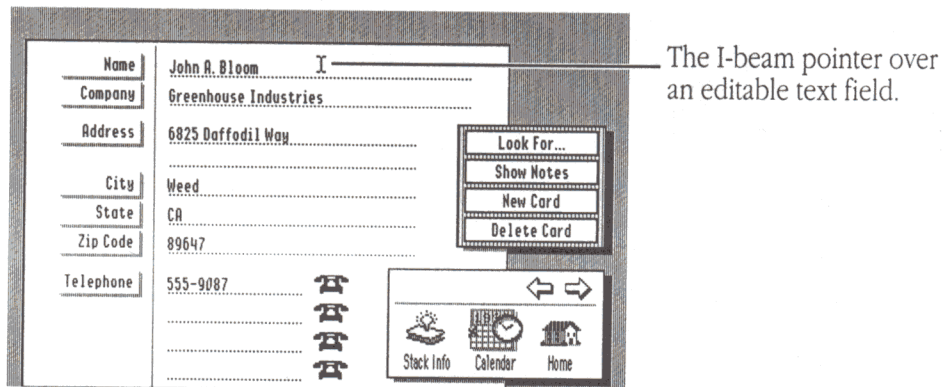
Figure 1-39   The I-beam pointer for typing and editing text

To enter text in a field, just move the I-beam over the field, click in the field, and type. You edit field text in HyperCard the same way you edit any Apple IIGS text—you can click anywhere in the field and begin typing, or drag to select text for copying, pasting, deleting, or replacing.

To fix typing mistakes while you're editing text in a field, do one of the following:

- Press the Delete key to delete characters to the left of the insertion point, one character at a time.

- Drag the I-beam over the incorrect text to select it, and then retype or delete it.

While you're editing text in a field, choosing Undo undoes all the changes you've made since the last time you clicked in the field to edit. Therefore it's not a good idea to use Undo to fix typing mistakes, unless you want to retype everything you've typed since you last clicked in the field. To fix editing mistakes, it's better to use the Delete key, or select the incorrect text and retype or delete it. To save the changes in a field (so that Undo can't undo them), click anywhere outside the field.

Opening applications

You can launch an application from HyperCard by following these steps:

1. **Open the Message box (if it isn't already open)**

   Choose Message from the Go menu, or press ⌘-M.

2. **Type one of the following messages in the Message box, substituting the names of the application and document you want to open:**

   `open "application"` ——————————————— This launches the specified application.

   `open "document" with "application"` ——————— This launches the specified application and opens the specified document.

Figure 1-40   Opening an application

3. **Press Return or Enter.**

4. **If HyperCard displays the directory dialog box and asks you where one of these files is, use the dialog box to locate and open the file.**

When you quit the application you've opened, you return to the card in HyperCard from which you launched the application.

You might encounter stacks with buttons that launch applications. When you launch an application by clicking one of these buttons on a card, you return to the same card in HyperCard after you quit the application.

➤ *See also:* • "Customizing Your Home Stack" in Chapter 2

Getting help in HyperCard

While you're working in HyperCard, you can always get immediate assistance from the HyperCard Help or HyperTalk Help stacks. These stacks provide the following types of information:

- HyperCard Help covers HyperCard tasks through the Authoring level.

- HyperTalk Help provides reference and conceptual information about HyperTalk, HyperCard's script language. (For information about how you might want to use HyperTalk, see the *HyperTalk Beginner's Guide.*)

There are several ways to get to the HyperCard Help stack:

- Choose Help from the Go menu.

- Press ⌘-?.

- Type `Help` in the Message box and press Return.

- Click the Help icon on the Home card called Welcome (in the standard Home stack).

Once you've opened the HyperCard Help stack, it shows you how to find the information you need.

If you need help using HyperTalk, click the HyperTalk button at the bottom of any card in the HyperCard Help stack to go to the HyperTalk Help stack.

Although there's some overlap between the material covered in this book and the information in the HyperCard Help stack, these two sources of information give different kinds of help:

- This book gives more details on some topics than the HyperCard Help stack does. Turn to this book when you need a more thorough discussion of a topic. To find information quickly in this book, look up the subject in the Index or Contents.

- The HyperCard Help stack provides immediate assistance on your computer's screen and gives concise instructions for tasks. You can use HyperCard Help when you've forgotten some procedure you read about in this book, or when you want a quick overview of a feature that's unfamiliar to you. The HyperCard Help stack uses HyperCard's features to explain HyperCard and provides an excellent example of what HyperCard can do.

Using a stack on a file server

If your Apple IIGS is part of a network that includes AppleShare file servers, you can use HyperCard stacks stored on file server volumes. However, you need to be aware of the following considerations when you use stacks on a file server:

- As with any file on a file server, you must have the appropriate access privileges to use the stack. For information about access privileges, consult your network administrator.

- If the stack is on a locked medium—a locked disk, a CD-ROM, or a locked folder on the file server—or if it's locked in the Finder (that is, if its Locked option is selected in the Icon Info dialog box), any number of network users can use the stack at the same time. However, no one can make changes to the stack.

- When a stack is unlocked on a file server, only one person can use it at a time. This user can make changes to the stack, but others cannot open the stack while it's in use.

The AppleShare network software uses a lot of your computer's random-access memory (RAM), which means there is less memory available for HyperCard to use. Depending on how much RAM you have installed in your computer (and on several other factors, such as the number of desk accessories installed in your system), you may find that HyperCard behaves in unexpected ways while you're using the Paint tools or playing complex sounds. For more information about such symptoms and what to do about them, see "HyperCard and Your Computer's Memory," earlier in this chapter.

Using a stack on a CD-ROM

You can use any HyperCard stacks you have on a CD-ROM (compact disc) just as you would other stacks. However, changes you make to a stack on a CD-ROM won't be saved. If you want your changes saved as you work, be sure to copy the stack to an unlocked disk and open the stack from the unlocked disk.

It's best not to run HyperCard itself from a CD-ROM (or from any other locked medium), or use a Home stack that's on a locked disk. Although you can't damage anything by doing this, you might encounter some annoying problems, like the following:

- If your Home stack is on a locked disk, HyperCard can't update the Home stack's Search Paths card when you tell it where to find stacks via the directory dialog box. Therefore, it never learns where your stacks are and has to keep asking you to locate stack when you want to open them.

- When you're running HyperCard from a locked disk and you launch an application, HyperCard returns you to the first card of the Home stack when you quit the application, instead of the card from which you launched the application. This is because HyperCard can't mark your place when you leave, as it would if it were on an unlocked disk.

Quitting HyperCard

To quit HyperCard, choose Quit HyperCard from the File menu, or press ⌘-Q.

HyperCard doesn't ask whether you want to save changes, because it saves your information automatically as you work.

```
▛▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▜
▌ File            ▐
▌ New Stack...      ▐
▌ Open Stack...  ⌘O ▐
▌ Save a Copy...    ▐
▌                   ▐
▌ Compact Stack     ▐
▌ Protect Stack...  ▐
▌ Delete Stack...   ▐
▌                   ▐
▌ Page Setup...     ▐
▌ Print Card    ⌘P  ▐
▌ Print...          ▐
▌                   ▐
▌ Quit HyperCard ⌘Q ▐
▙▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▟
```
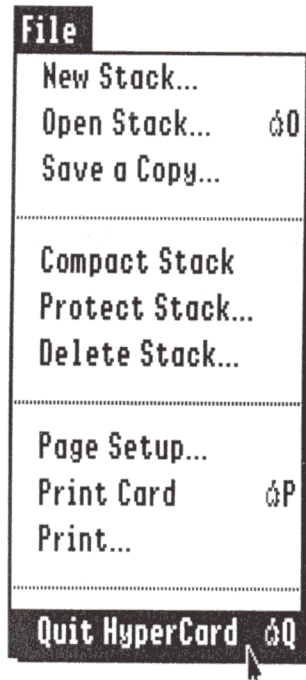
Figure 1-41   Quitting HyperCard

Creating and Modifying Stacks

This chapter provides examples of the kinds of stacks you can create, tips for modifying existing stacks, and instructions for creating a new stack. This chapter also describes how to customize the standard Home stack that comes with HyperCard.

To do the tasks in this chapter, you must have your user level set to Authoring or higher. For a few of the tasks, your user level must be set to Scripting. When a task requires the Scripting level, the instructions say so. (For instructions on setting your user level, see "User Levels and Options" in Chapter 1).

Creating stacks

Once you've learned to get around in HyperCard, you can begin thinking about the kinds of stacks you might want to create. You don't need any programming experience to create stacks. Using HyperCard's tools, you can combine text, graphics, and numbers according to your own specific needs; and you can add buttons to link related pieces of information.

Figures 2-1 through 2-5 show cards from stacks people have created with HyperCard. These cards give you an idea of the kinds of stacks you can build:

You can type name, address, and phone number information here.

You can click these buttons to look for information or to add or delete cards.

This button takes you to the Home stack.

This button dials the phone number shown to the left.

This button gives you information about the stack.

This button takes you to the Calendar stack.

Figure 2-1   A stack that helps you keep track of phone numbers and addresses
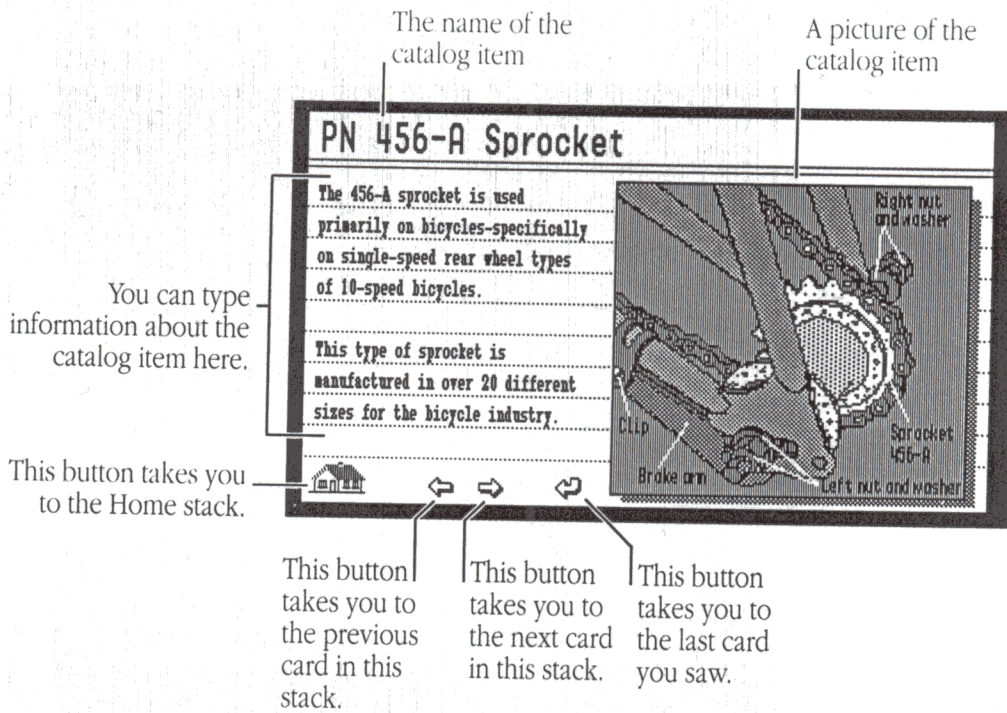
The name of the catalog item

A picture of the catalog item

You can type information about the catalog item here.

This button takes you to the Home stack.

This button takes you to the previous card in this stack.

This button takes you to the next card in this stack.

This button takes you to the last card you saw.

Figure 2-2   A stack that catalogs information about bicycle parts

You can click any country shown on this map to see information about the time zone(s) and current time(s) for that country.

This button allows you to find time zone information about a country by typing its name in a dialog box.

This button allows you to specify your own location and other information needed to calibrate the stack.

This button takes you to the Home stack.
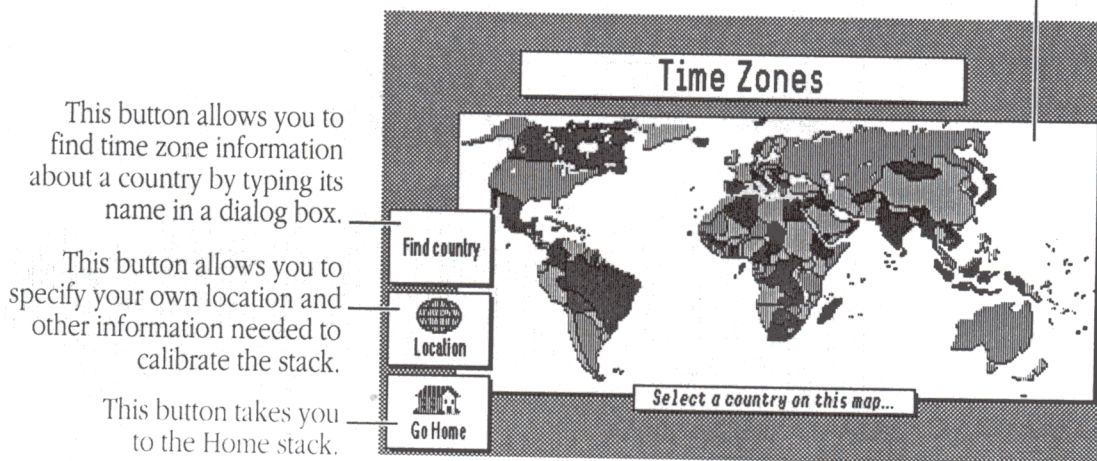
Figure 2-3   A stack that provides information about time zones

These buttons take you forward and back through the parts of the current lesson.

This button prints all the text for the current lesson.

This indicates the current lesson's difficulty.

The text for each part of a lesson appears here.

This button allows you to try the techniques taught in the current lesson.

This button starts a demonstration.

This area is used for illustrations or as a workspace.

This button shows you information about using the stack.

This button takes you to an index of key words and related lessons.

Working with stacks
Protecting Stacks - Protected Stacks

Stacks can be [protected] in several different ways:
1. The disk may be locked (with the little black window on the back). See the pictures.

Advanced
Intermediate
Beginner

Let Me Try

Examples

This disk is write-protected.

This disk is not write-protected.

Introduction   Lessons   Lesson Plan   Glossary   Index

This button takes you back to the current lesson from any other part of the stack.

This button provides information for the teacher about the current lesson.

This button takes you to a glossary.

Figure 2-4   A stack that teaches schoolchildren how to use HyperCard

You can type information about the record here.

CATEGORY
Rock

ARTIST
No Sisters

TITLE
Sound Advice

NOTES
1. Blueprint for Trouble 4:10
2. Totally Great 2:15
3. Roscoe's Family 3:30
4. Talk to me in French 2:55
5. Sibling Revelry 5:10

RECORD COLLECTION
Card 20

Index   Sound
Sort   Quit
About this stack

You can use these buttons to organize and work with the stack.

This button takes you to the Home stack.

This button takes you to the previous card in this stack.

This button takes you to the next card in this stack.

Figure 2-5   A stack that catalogs a record collection

The stacks that come with HyperCard are examples of the kinds of stacks you can create with HyperCard. You can explore these stacks to find out how they work by using the techniques described in the section "Examining a Stack," later in this chapter.

The way a stack works is determined by its *scripts,* which contain instructions that tell the parts of the stack what to do. The instructions are written in HyperTalk, HyperCard's English-like programming language. However, you don't need to know HyperTalk to create scripts. For example, you can link a button to another card without writing a word of HyperTalk. The button will contain a script that tells HyperCard which card to go to—but you don't have to know anything about how the script works to make the button act the way you want it to.

If you decide you want to learn how HyperTalk scripts work, go through the exercises in the *HyperTalk Beginner's Guide.*

The card layer versus the background layer

When you look at a card, what you see is a composite of two layers—a foreground layer, called the *card layer,* and a *background layer.* Both layers can contain text, buttons, and graphics. You see the elements of both layers when you look at a card, as if the card layer were a transparent layer in front of the background.

The background layer

The card layer

What you see when you look at a card is a composite of the card layer and the background layer.
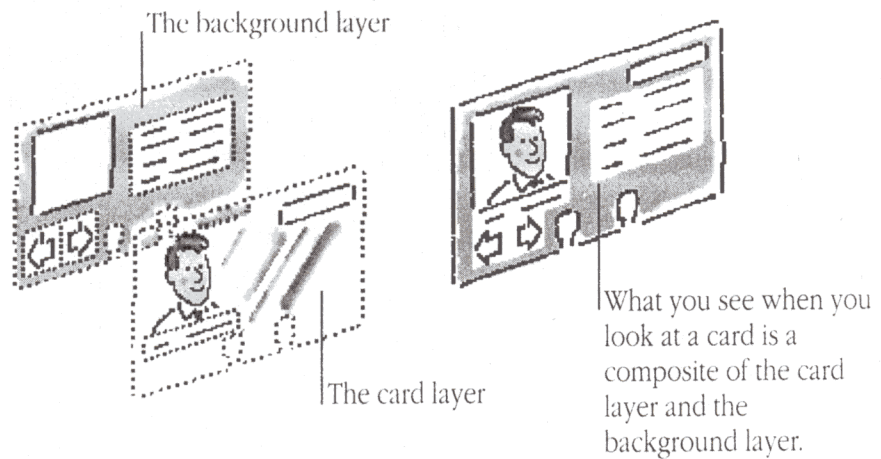
Figure 2-6   The background layer and the card layer

Any number of cards can share the same background. Each background serves as a template for the cards that share it. The elements in a background (that is, the buttons, text, and graphics) appear in the same location on all the cards associated with that background. If you want a button, field, or graphic to appear on a number of cards, you put it in the background layer. Together, the elements in a background give a similar appearance and function to the cards that share the background.

You can see just the elements that are in the current background by pressing ⌘-B to go to the background layer. (This is equivalent to choosing Background from the Edit menu.) Pressing ⌘-B repeatedly moves you back and forth between the card layer and the background layer.
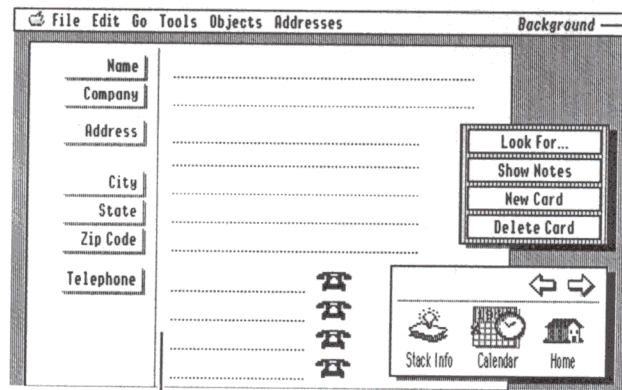
When you're in the background layer, the word *Background* appears in the menu bar.

When you're in the background layer, you see just the elements that are in the background—the elements in the card layer disappear temporarily.

Figure 2-7   The background layer

The elements in the card layer appear only on that card:

This text changes from card to card—it's part of the card layer.
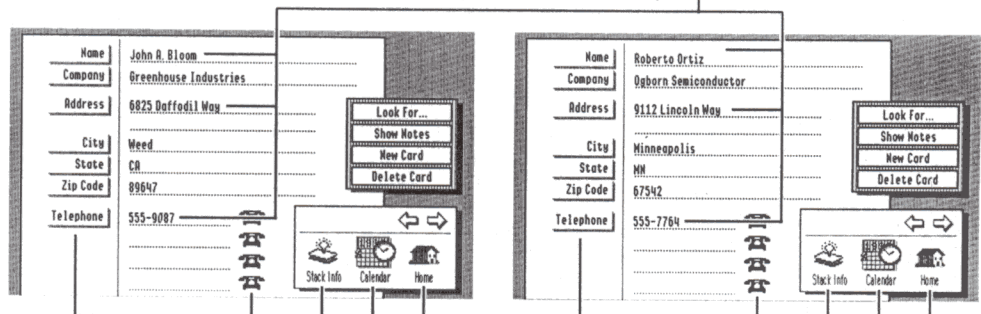
The other elements appear on all the cards—they're in the background layer.

Figure 2-8   Background elements versus card elements

What buttons, fields, and graphics can do for your stacks

The elements you add to the cards and backgrounds of a stack determine how people will use the stack.

- You can add buttons, which are rectangular "hot spots" you click to make things happen. Buttons often link related information. When you click a button that's linked to another card or stack, that card or stack immediately appears. The ability to link information with buttons creates all kinds of interesting possibilities, such as stacks that teach, stacks that let you play a game, and stacks that present a report or a story.

  In addition to linking information, buttons can also play songs, launch applications, perform calculations, control videodisc players, and much, much more.

- To put text on cards and backgrounds, you can add text fields. You can set the style of the text in a field by choosing from a variety of type styles. You edit the text in a field just as you would in any Apple IIGS word-processing program. You can also search for specific text in background fields.

- Graphics can enhance the visual appeal of a stack and help communicate its purpose. You can add pictures, charts, drawings, and other graphics to stacks. Draw them yourself, copy them from the stacks that come with HyperCard (or from graphics applications), or scan them in.

Graphics created with the Paint tools

Field text

Buttons for navigating
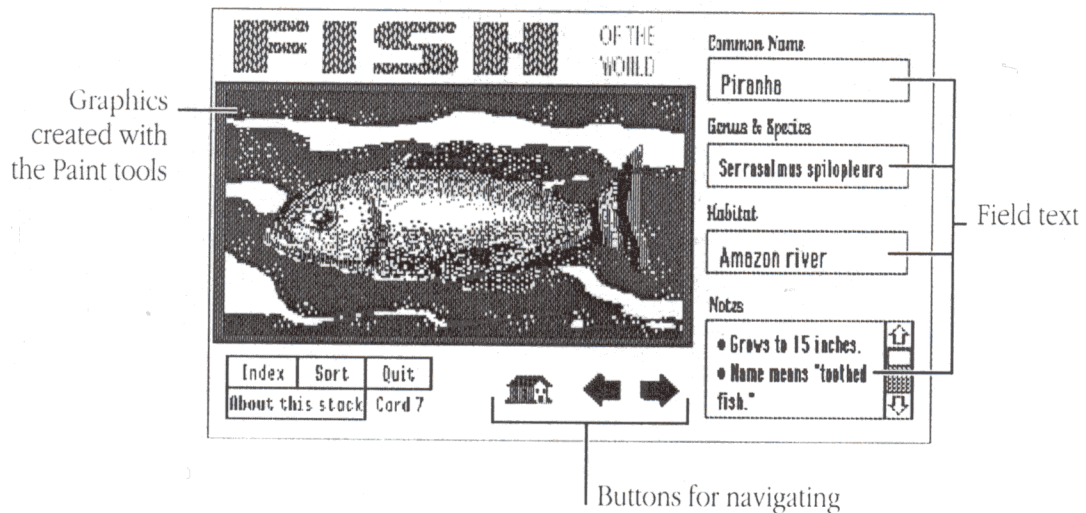
Figure 2-9 Examples of buttons, fields, and graphics in a stack

HyperCard comes with stacks that contain readymade buttons and graphics that you can copy and paste into your stacks. The readymade buttons contain pre-programmed scripts that can make your stacks more useful. You don't need to know HyperTalk to make these buttons work—you just need to understand what they do, so that you can use them appropriately in your stacks.

You can combine buttons, fields, and graphics in any number of ways to create a stack that looks and works the way you want it to. Chapters 4, 5, and 6 give detailed instructions for adding buttons, fields, and graphics.

Using HyperCard's tools

To create and work with buttons, text, and graphics in stacks, you use the tools in the Tools menu. You can have only one tool selected at a time, and one tool is always selected while you're using HyperCard.
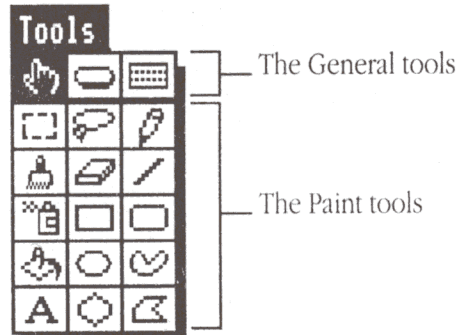
Figure 2-10   HyperCard's tools

The Tools menu appears when your user level is Painting, Authoring, or Scripting.

The Tools menu contains the General tools and the Paint tools, as shown in Figure 2-10. The *General tools* are for browsing, text editing, and working with buttons and fields. The *Paint tools* are for creating and editing pictures. If you've used an Apple IIGS paint program, you know more or less how the Paint tools work. In most cases, you choose the Paint tool, then drag to make it work. (The Paint Text tool is an exception. To make it work, you first choose it, then click and type.)

The Browse tool is for browsing through stacks and editing text.

The Button tool is for working with buttons.

The Field tool is for working with fields.

The Selection tool is for selecting graphics.

The Lasso is for selecting nonrectangular graphics.

The Pencil draws thin, free-form lines.

The Brush paints with the current pattern or color.

The Eraser erases the part of a graphic you drag it over.

The Line tool draws straight lines.

The Spray tool spritzes paint onto the screen in the current pattern or color.

The Rectangle tool draws rectangles and squares.

The Rounded Rectangle tool draws rectangles with rounded corners.

The Bucket fills enclosed areas or one-color areas with the current pattern or color.

The Oval tool draws ovals and circles.

The Curve tool draws free-form lines and shapes.

The Paint Text tool is for typing text that's part of a graphic.

The Regular Polygon tool creates polygons with regular sides.

The Polygon tool creates polygons with irregular sides.

Figure 2-11 What the tools are used for

You can "tear off" the Tools menu (as shown in the following figure) to create a movable *Tools palette.* To do this, drag down through the menu, past the bottom or beyond either side.

You can close the Tools palette by clicking here.

To move the palette, drag from here.
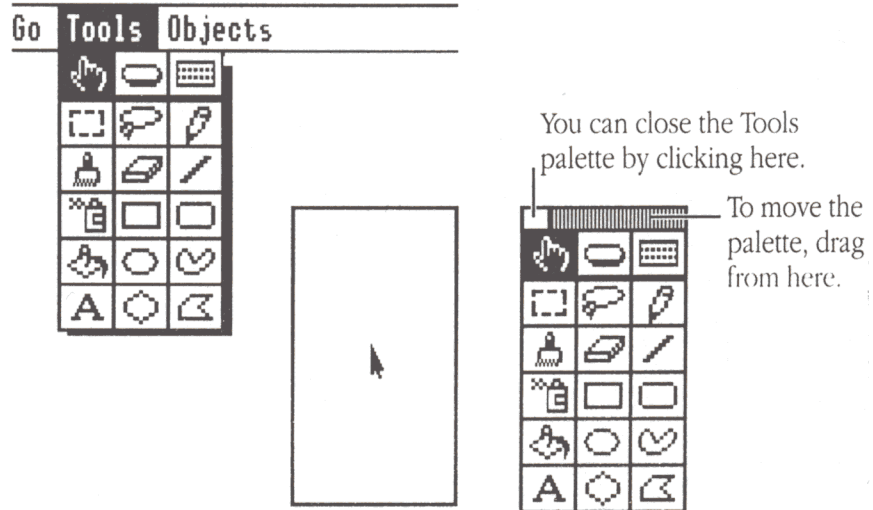
To tear off the Tools menu, drag beyond the bottom or side of the menu.

Click any tool to choose it.

Figure 2-12   Tearing off the Tools menu

❖ *A shortcut:* You can make a Tools palette appear or disappear quickly by pressing Option-Tab. ❖

To choose any tool in the Tools palette, just click it. (Depending on the tool you select, the shape of the pointer might change.) The Tools palette remains visible on your screen until you click its close box, or until you press Option-Tab to make the palette disappear.

Chapter 2: Creating and Modifying Stacks

Even if you have the Tools palette open, you can still choose a tool from the Tools menu (in the menu bar)—the palette reflects your menu choice. It's a good idea to leave the Tools palette open while you're working on a stack, so you can see which tool is selected.

When you choose one of the Paint tools, three new menus appear: Paint, Options, and Patterns. (These menus are described in Chapter 6.) The Objects menu disappears while you're using a Paint tool. It reappears (and the Paint, Options, and Patterns menus all go away again) when you choose any of the General tools.
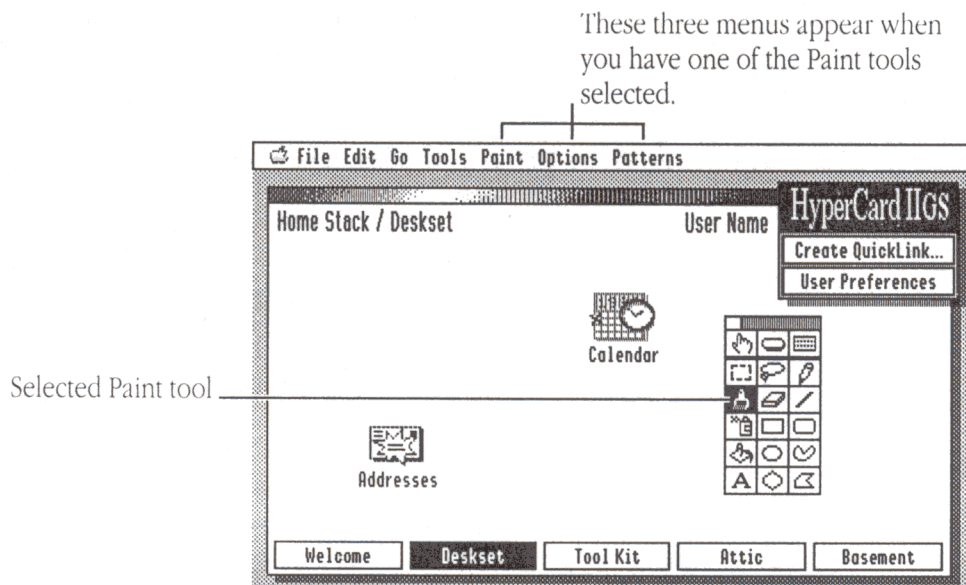
Figure 2-13 Menus that accompany the Paint tools

Chapters 4, 5, and 6 give specific instructions for using HyperCard's tools to create buttons, fields, and graphics, respectively.

Selecting buttons, fields, and graphics

To select and work with the different HyperCard elements—buttons, fields, and graphics—you need to use different tools. And you select and manipulate one element at a time. You can't select multiple elements.

To select a button, choose the Button tool (⌐) from the Tools menu and click the button:
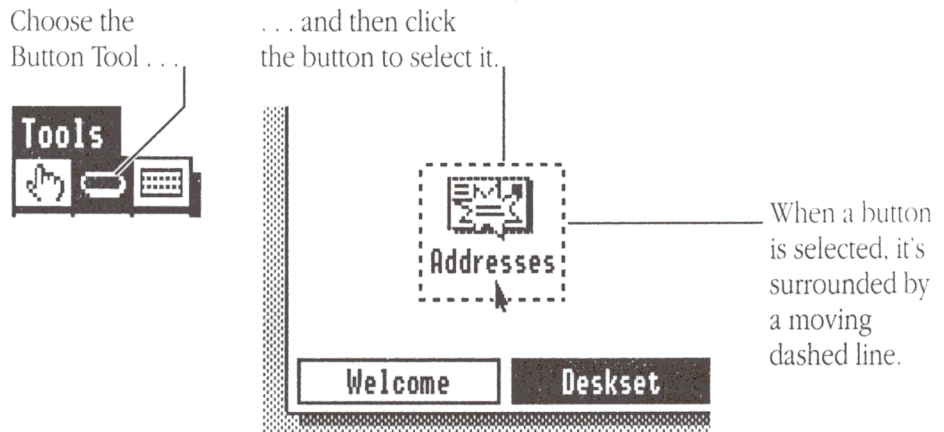
Figure 2-14 Selecting a button

Whether the button is in the background layer or the card layer, you can select it from the card layer. When the button is selected, it's surrounded by a moving dashed line.

To select a field, choose the Field tool (▦) from the Tools menu and click the field:

Choose the
Field tool . . .

. . . and then click
the field to select it.

Tools

| Zip Code ‖ | 89647 |

| Telephone ‖ | 555-9087 |

When a field is selected,
it's surrounded by a
moving dashed line.
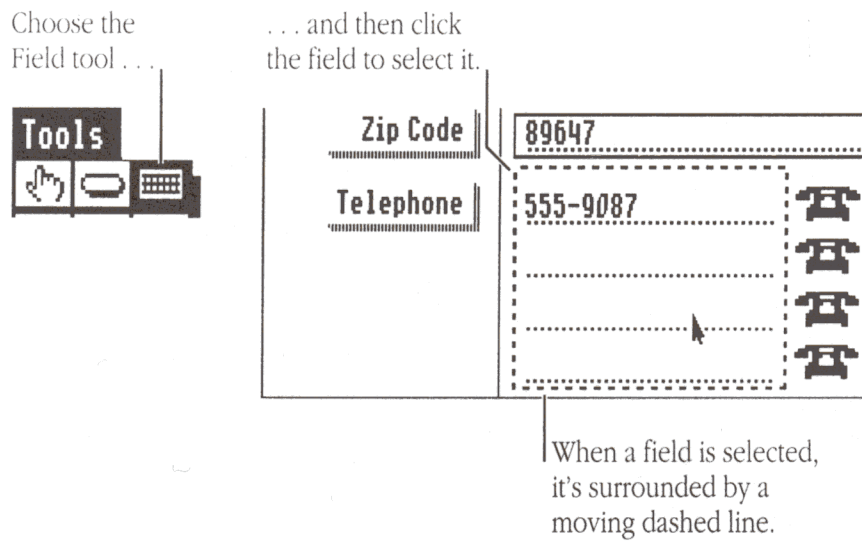
Figure 2-15   Selecting a field

Whether the field is in the background layer or the card layer, you can select it from the card layer. When the field is selected, it's surrounded by a moving dashed line.

There are many different ways to select a graphic. Generally, you choose either the Selection tool (⬚) or the Lasso (𝒫) from the Tools menu and drag to select the graphic:

and then drag
diagonally with the
Selection tool
from here . . .

Or drag around the
graphic with the Lasso.

Choose the
Selection tool
or the Lasso . . .

. . . to here.

Figure 2-16 Selecting a graphic

➤ *See also:*   • "Selecting a Graphic" in Chapter 6

Planning a stack

Before you begin building a stack, you should have a clear idea of who will use the stack and what you want the stack to do. Knowing your audience and the scope of your stack can help you make decisions about the design of your stack—both before you start and while you're building it.

If you expect your stack to be used by other people, make sure you know what they will use your stack for, and in what context. Find out what your users already know, how much experience they have with computers and HyperCard, and what their reading level and attention span might be.

An understanding of the stack's users can help you decide how to present the information in the stack, how much text and how many graphics to use, and how to structure the stack. For example, a stack for teaching children geography skills might require lots of pictures, a simple and consistent way to navigate through information, and frequent reinforcement. Depending on your stack's subject matter, you can choose from a variety of presentation methods—including a slide show, a tutorial, a game, or an interactive story.
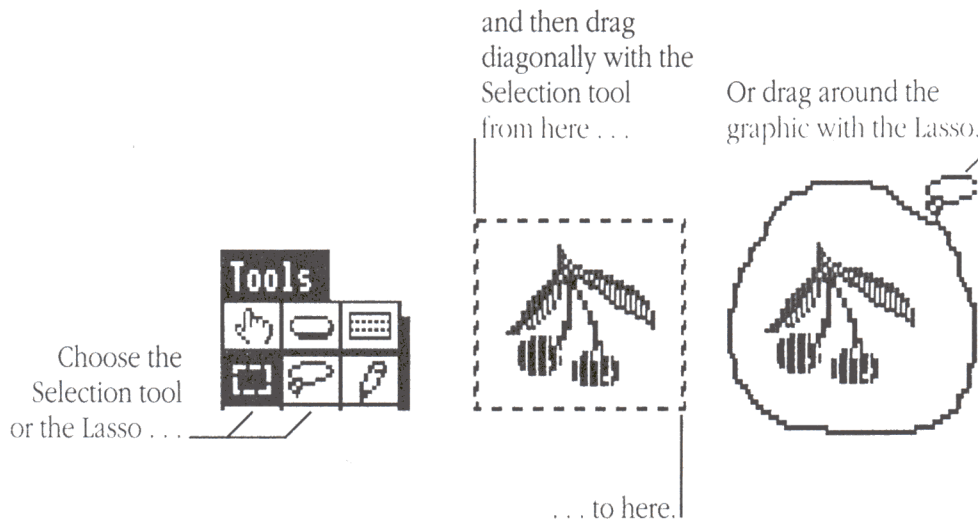
Before you begin building a stack, it's a good idea to draw a map showing the structure of the stack, which cards are linked together, and how users will move through the stack. If the map looks confusing, it's probably an indication that the resulting stack will be confusing and difficult to use, and you might want to consider simplifying the stack's structure.

❖ *Keep your stack simple:* Adding lots of buttons and links in your stack won't necessarily make information more accessible—users can get lost or confused easily in a stack that has too many links. ❖

The stack-building process

Building a stack involves deciding how to present and structure the information (as discussed in the previous section, "Planning a Stack") and carrying out your design decisions by creating cards, backgrounds, buttons, text fields, graphics, and links between related pieces of information. (Chapter 3 explains how to create cards and backgrounds; Chapters 4, 5, and 6 give details about creating buttons, text fields, and graphics, respectively.) Most of your stack-building time will be spent on the details of integrating text and graphics, and making the stack easy to navigate.

As you build a stack, it's important to evaluate it frequently, to make sure it still does what you've designed it to do. To evaluate a stack, try it out yourself. See if you can accomplish the tasks for which the stack is designed without getting lost or feeling confused.

If the stack will be used by others, show it to people who are similar to your users in background and level of computer experience. Give them specific tasks to perform, and watch and listen carefully—without interfering—while they try the stack.

As you evaluate the stack (and watch others use it), keep the following questions in mind:

- Is it clear what the stack is for and how to use it? The text, buttons, and visual images in the stack can communicate a lot about the stack's purpose. They should be understandable and consistent (in appearance and behavior) and should clarify the purpose of the stack. If the stack is confusing, think about ways in which the text, buttons, and visual images can be improved to create a clearer visual message. The stack should also give the user appropriate feedback (for example, most buttons should highlight when they're clicked).

- Is it easy to get around in the stack? Make sure that, as you use the stack, you can tell where you are, how you got there, how to get back to where you came from, where to go next, and how to leave. If it's easy to get lost or trapped in the stack, consider reducing the number of links, or simplifying or clarifying the navigation scheme (for example, by using a standard set of navigation buttons on each card).

- Do the features work correctly? Test the buttons to see if they take you where they're supposed to in all circumstances. Make sure each field is visible and unlocked if the user needs to see it and type in it, or locked if the user just needs to read or click text in the field. The stack should prevent the user from losing information and make it clear when an action will not be reversible.

- Does the stack require a particular user level? The features available to a user vary with the user level (as explained in "User Levels and Options" in Chapter 1). Try using the stack at every user level. If it has any features that require a certain user level, make sure the stack either sets the appropriate user level (through the stack script) or tells the user to set the appropriate user level. (The HyperTalk Help stack describes how to set the user level through a script.)

Obtaining periodic evaluation and feedback from typical users is an important part of building a stack. It's a good idea to begin evaluating a stack early in its development. HyperCard makes it easy to build a prototype of your stack that you can use for gathering preliminary feedback from users. Be prepared to make changes to the stack to fix problems and incorporate ideas that grow out of your evaluation and user testing.

When you've finished building a stack, put it through a final test, checking all of the points listed above.

For more detailed information on designing a stack, consult the *HyperCard Stack Design Guidelines* (available from Addison-Wesley).

Modifying an existing stack

Modifying stacks created by others is not only a great way to learn about HyperCard—it's also a good way to get stacks that are tailored to your needs. There are lots of ways to customize an existing stack. You can add text and pictures and create new links between pieces of information. You can make new cards and cards with new backgrounds or change any of the elements of a stack in any way you like. You can even delete any elements you don't want.

This chapter includes the basic information you need to create and modify stacks. Chapter 3 describes how to create and manipulate cards and backgrounds. Chapters 4, 5, and 6 give details about working with buttons, fields, and graphics, respectively.

If you want to modify stacks created by other people, you should be aware of the following considerations:

- Each object in a stack—that is, each button, field, card, and background, as well as the stack itself—can have a script attached to it. Scripts contain instructions that tell the different objects in a stack what to do. The scripts that belong to the different objects in a stack often interact with other objects and their scripts. When you delete any object that contains a script, or move it to another part of the stack, its script goes with it. If other scripts rely on that object or its script (or vice versa), you may find that your stack behaves unexpectedly after you've moved the object. For example, you might see messages that begin with "Never heard of . . ." or "Can't understand. . . ."

If you see such messages (or other strange behavior) in a stack you're modifying, the stack's scripts probably refer to objects that you've changed in some way. If you're familiar with HyperTalk, you might be able to fix or rewrite the scripts. Otherwise, consider modifying a different stack or creating a stack of your own. (If you want to learn HyperTalk, see the *HyperTalk Beginner's Guide*.)

- As you modify a stack, HyperCard saves your changes automatically—without asking. Therefore it's a good idea to make sure you have a backup copy of a stack before you begin changing it, so that you can get back to the original if you need to. It's also a good idea to save a copy of your modified stack periodically while you're working on it. That way, if you make a mistake that "breaks" the stack, you can go back to a recent version (rather than starting all over again).

- Some stacks are protected, which means you can't change them. A small padlock (▪) appears in the menu bar when you're in a protected stack. In some cases you can remove a stack's protection by using the Protect Stack command in the File menu. ("Protecting Your Stack," later in this chapter, tells you how.) However, in stacks that have a password, you can't change the stack's protection setting unless you know the password.

Examining a stack

Before you begin modifying a stack, you can find out what makes it work by examining its parts. The Objects menu contains some commands to help you do this—Button Info, Field Info, Card Info, Bkgnd Info, and Stack Info. Each of these commands presents a dialog box that shows the characteristics of the pertinent *object* (the selected button or field, or the current card, background, or stack)—including the object's name, number, and attribute settings. Through these dialog boxes, you can learn about the objects in a stack, look at their scripts, and change their attributes.

❖ *To look at scripts:* You must have your user level set to Scripting. "User Levels and Options" in Chapter 1 explains how to change your user level. ❖

To locate and learn about the buttons in a stack, follow these steps.

1. **Choose the Button tool (▱) from the Tools menu.**

   Rectangles appear around the buttons that don't already have an outline:

When you choose the Button tool . . .
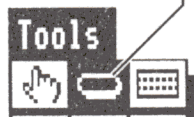
. . . rectangles appear around the buttons.

Figure 2-17 Choosing the Button tool

2. To get information about any button, click to select the button, then choose Button Info from the Objects menu.

Or simply double-click the button. The Button Info dialog box appears:
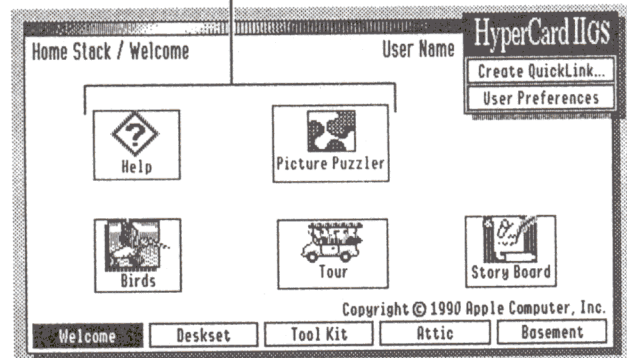
This option allows you to display the button's name on the button.

These options determine the button's highlighting behavior. (The Share Hilite option is active only for background buttons.)

This lets you assign an icon to the button.

This links the button to another card or stack.

Button Name: Previous	The button's name
Bkgnd button number: 1 Bkgnd button ID: 2	The button's number The button's ID
☐ Show Name Style: rectangle	
☐ Auto Hilite	The selected style
☒ Share Hilite Family: 0 (none)	of the button

Icon...

Link To...   Font...

Script...   Colors...   OK   Cancel

Click here to set the text format for the button.

Click here to close the dialog box without saving any changes.

Click here to see the button's script.

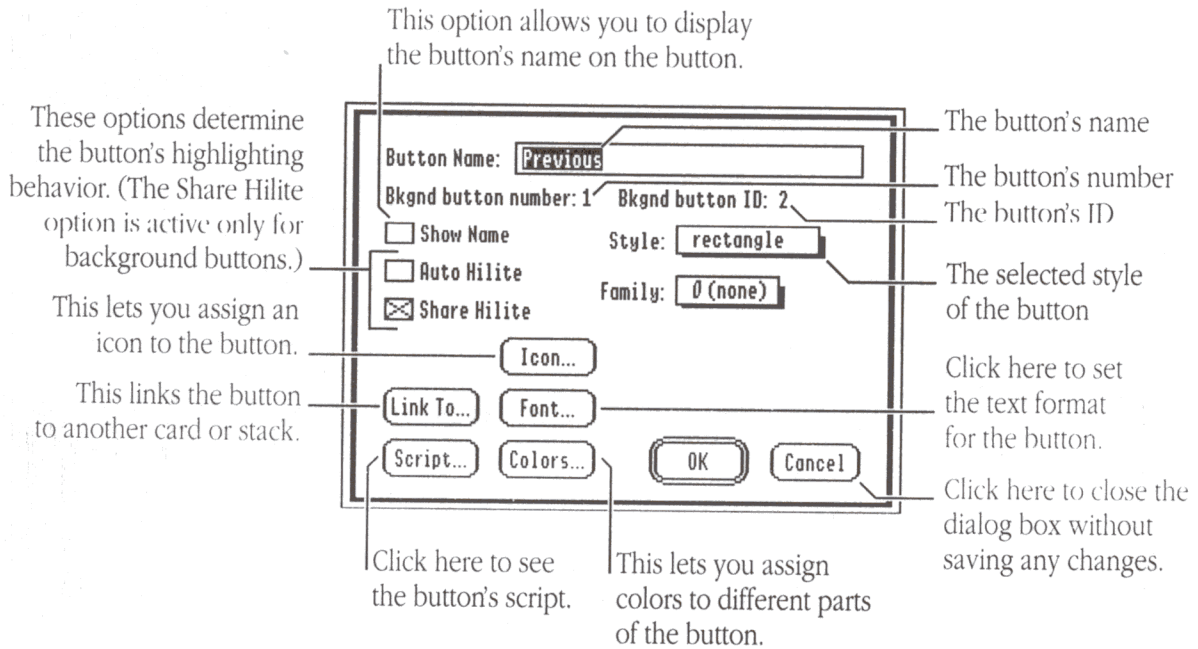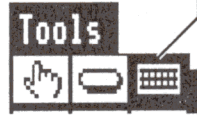This lets you assign colors to different parts of the button.

Figure 2-18   Getting information about a button

To locate and learn about the fields in a stack, follow these steps:

1. **Choose the Field tool (▭) from the Tools menu.**

   Lines appear in all the fields:

When you choose
the Field tool . . .
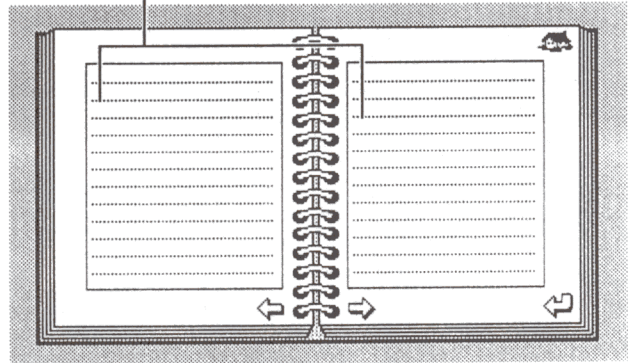
. . . lines appear
in the fields.

Figure 2-19 Choosing the Field tool

Chapter 2: Creating and Modifying Stacks

2. **To get information about any field, click the field to select it, then choose Field Info from the Objects menu.**

Or simply double-click the field. The Field Info dialog box appears:

These options allow you to lock the field, prevent searching in the field, and more.

Click here to set the text format for the field.

Click here to see the field's script.

| Field Name: | **Card Title** | |
| Bkgnd field number: 2 | Bkgnd field ID: 3 | |

☐ Lock Text
☐ Auto Tab
☐ Don't Search
☐ Shared Text

Style: transparent

☐ Show Lines
☐ Wide Margins

[Font...]

(Script...) (Colors...) (OK) (Cancel)

The field's name
The field's number
The field's ID
The selected style of the field

These options allow you to display lines in the field and add margins.

This lets you assign colors to different parts of the field.

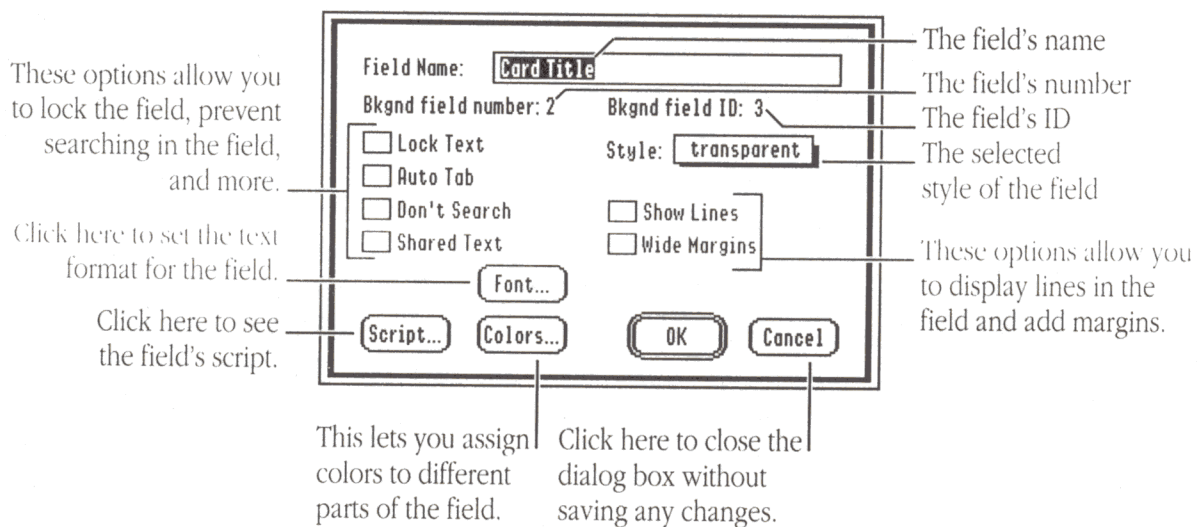Click here to close the dialog box without saving any changes.

Figure 2-20   Getting information about a field

To get information about the current card, choose Card Info from
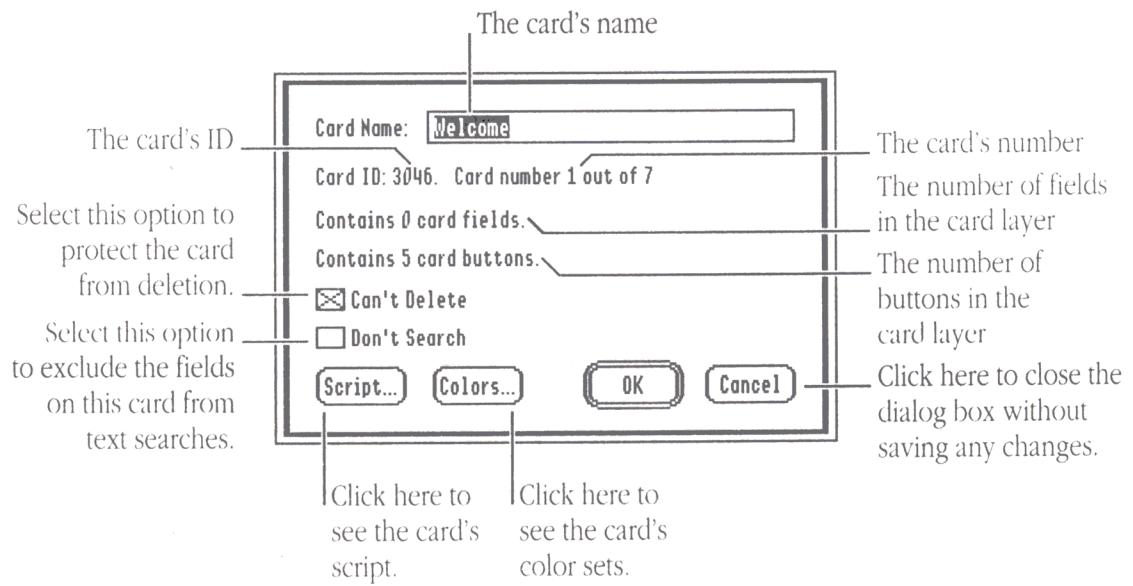the Objects menu. The Card Info dialog box appears:

The card's name

The card's ID

Select this option to
protect the card
from deletion.

Select this option
to exclude the fields
on this card from
text searches.

Card Name: Welcome

Card ID: 3046. Card number 1 out of 7

Contains 0 card fields.

Contains 5 card buttons.

☒ Can't Delete

☐ Don't Search

(Script...) (Colors...)   (OK) (Cancel)

The card's number

The number of fields
in the card layer

The number of
buttons in the
card layer

Click here to close the
dialog box without
saving any changes.

Click here to
see the card's
script.

Click here to
see the card's
color sets.

Figure 2-21   Getting information about a card

You can see what's in the background layer of the current card by choosing Background from the Edit menu, or pressing ⌘-B. To get information about the current background (whether or not you're in the background layer), choose Bkgnd Info from the Objects menu. The Bkgnd Info dialog box appears:
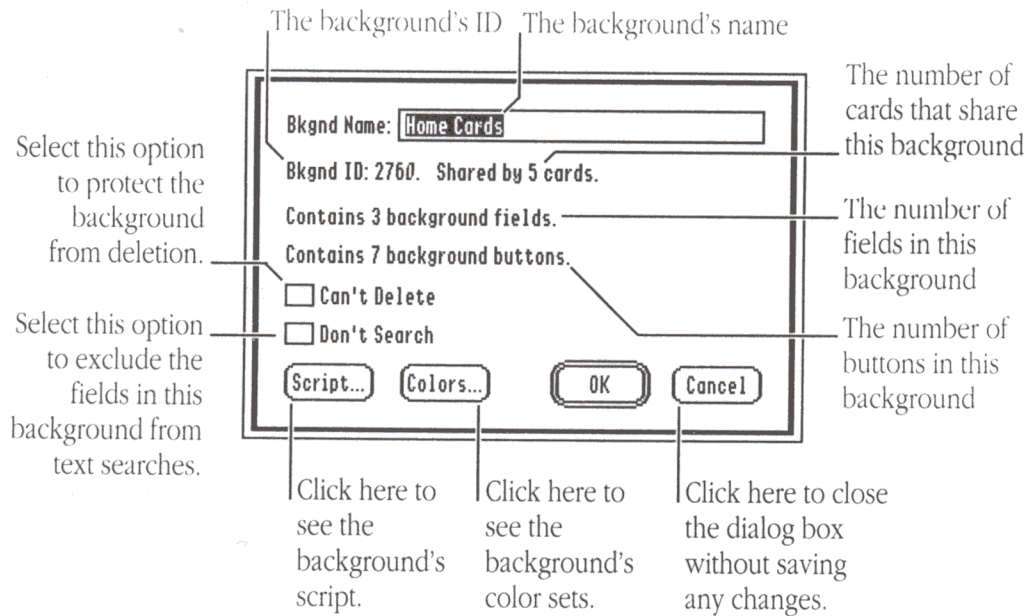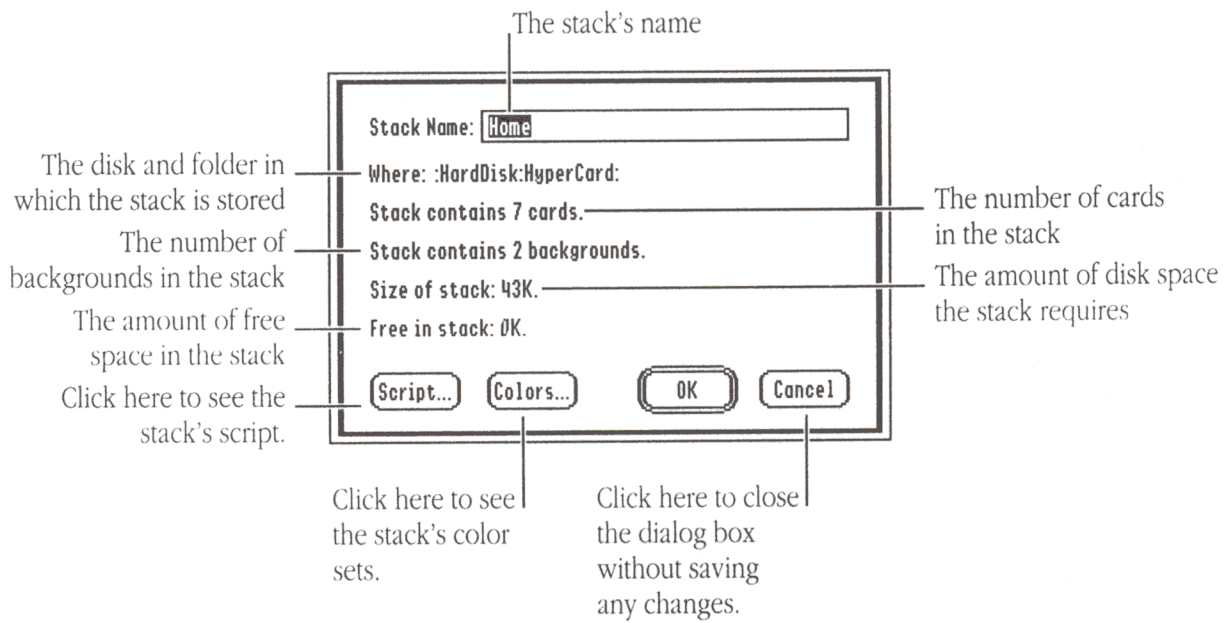
The background's ID   The background's name

Bkgnd Name: Home Cards

Bkgnd ID: 2760. Shared by 5 cards.

Contains 3 background fields.

Contains 7 background buttons.

☐ Can't Delete

☐ Don't Search

[Script...] [Colors...]   (OK) [Cancel]

Select this option to protect the background from deletion.

Select this option to exclude the fields in this background from text searches.

The number of cards that share this background

The number of fields in this background

The number of buttons in this background

Click here to see the background's script.

Click here to see the background's color sets.

Click here to close the dialog box without saving any changes.

Figure 2-22   Getting information about a background

To get information about the current stack, choose Stack Info from the Objects menu. The Stack Info dialog box appears:

The stack's name

The disk and folder in which the stack is stored

The number of backgrounds in the stack

The amount of free space in the stack

Click here to see the stack's script.

Stack Name: Home

Where: :HardDisk:HyperCard:

Stack contains 7 cards.

Stack contains 2 backgrounds.

Size of stack: 43K.

Free in stack: 0K.

Script...   Colors...   OK   Cancel

The number of cards in the stack

The amount of disk space the stack requires

Click here to see the stack's color sets.

Click here to close the dialog box without saving any changes.

Figure 2-23   Getting information about a stack

Chapter 2: Creating and Modifying Stacks

Undoing your mistakes

While you're working on a stack, you can usually undo your last stack-editing action by immediately choosing Undo from the Edit menu (or pressing ⌘-Z). Choose Undo when you make a mistake, or when you change your mind about your last action. (You must choose Undo before doing anything else.)

△ **Important:** You can't undo the deletion of a button or field. △

To undo typing mistakes while you're editing text in a field, do one of the following:

- Press Delete to delete characters to the left of the insertion point, one character at a time.

- Drag the I-beam over the incorrect text to select it, then retype or delete it.

While you're editing text in a field, choosing Undo undoes all the changes you've made since the last time you clicked in the field to edit. Therefore it's not a good idea to use Undo to fix typing mistakes, unless you want to retype everything you've typed since you last clicked in the field. To fix editing mistakes, it's better to use the Delete key, or select the incorrect text and retype or delete it. To save the changes in a field (so that Undo can't undo them), click anywhere outside the field.

When you're using one of the Paint tools, pressing the Tilde (~) or Escape key is the same as choosing Undo. (The Paint tools are described in Chapter 6.)

Modeling your stack after an existing one

You can model a new stack after a card or stack you like by copying its background. When you copy a background from an existing stack, you get the basic design of the original stack—that is, its template—but not any of its data. For specific instructions on creating a new stack that uses a background from an existing stack, see the next section, "Making a New Stack."

Before you decide whether to copy the background of an existing card or stack, you can look at the background by going to that card or stack and choosing Background from the Edit menu (or pressing ⌘-B). This takes you to the background layer and shows you just the buttons, fields, and graphics that are in the background. (Pressing ⌘-B repeatedly moves you back and forth between the card layer and the background layer.)

❖ *See the word* Background *in the menu bar?* To make sure you're looking at the background, check the menu bar. When you're in the background layer, the word *Background* appears in the menu bar. ❖
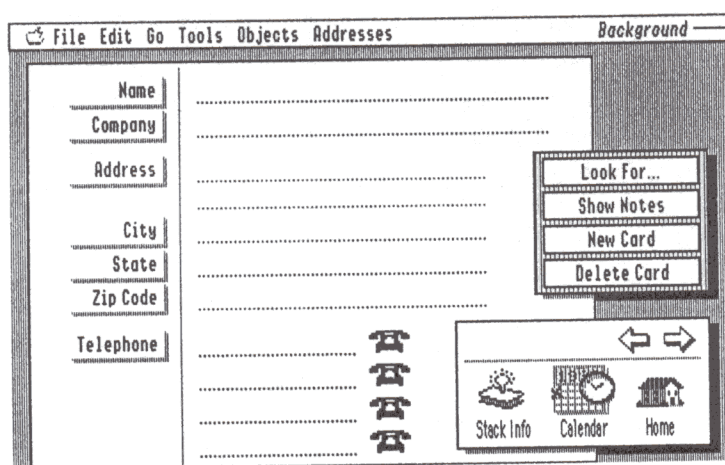
The word *Background* tells you that you're looking at the background.

Figure 2-24   Looking at the background

Making a new stack

When you're ready to create a new stack, begin by following these steps:

1. **If you want your new stack to have the same background as an existing card or stack, go to that card or stack.**

   The previous section, "Modeling Your Stack After an Existing One," discusses why you might want to copy a background from another stack.

2. **Choose New Stack from the File menu.**

   The New Stack dialog box appears.

3. **Set up the New Stack dialog box for your new stack:**

Your new stack will be stored in this folder unless you choose another folder.

Click here to view the volumes that are currently available to your computer.

Type a name for your new stack here.

```
:HardDisk:HyperCard:
1803 free of 20860 K.
  Help                    Volumes
  Home                    New Folder
  HyperCardIIGS
  Stacks                  Open
  Tour                    Close

New Stack Name:           Create
MyStack                   Cancel
 Copy Current Background
```

Click here if you want your new stack to have the same background as the current card.
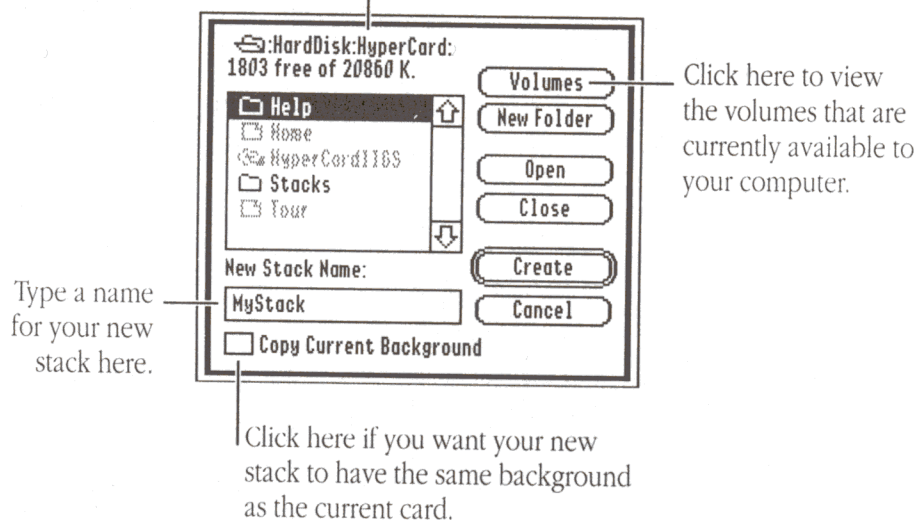
Figure 2-25   Creating a new stack

△ **Important:** If you want your new stack to have the same background as the current card, be sure you click the Copy Current Background check box to select it. △

4. **Type a name for your new stack.**

5. **Click Create.**

> If you've selected the option Copy Current Background, your new stack has all the same background elements as the card you were looking at when you chose New Stack. Otherwise, it's blank.

As you build your new stack, your changes are saved automatically.

For instructions on adding cards and backgrounds to your stack, see Chapter 3. For details about adding buttons, fields, and graphics, see Chapters 4, 5, and 6, respectively.

Copying parts from other stacks

Copying parts from other stacks can make stack building easier and save you a lot of time. If you see a button that does something you like, or an attractive background picture, there's no sense in reinventing it—copy it and paste it into your stack. Two of the stacks that come with HyperCard, Art Ideas and Button Ideas, contain readymade parts you can copy and paste into your stacks. The buttons in Button Ideas are designed to work independently in a variety of stacks—they don't depend on your stack's having any particular characteristics. You can also paste fields, cards, and backgrounds from any of the other stacks that comes with HyperCard. (Chapter 3 gives instructions for copying cards and backgrounds; Chapters 4, 5, and 6 explain how to copy buttons, fields, and graphics, respectively.)

When you copy a button, field, card, or background from another stack, its script comes with it (if it has a script). Scripts contain instructions that tell the parts of a stack what to do. In most cases, you want the script, because it makes the object work. (For more information about HyperCard objects, see "Examining a Stack," earlier in this chapter.)

However, the scripts that belong to the different objects in a stack often interact with other objects and scripts. An object you copy from another stack might have a script that relies on objects in its original stack. Copying such an object can cause your stack to act strangely. For example, you might see messages that begin with "Never heard of . . ." or "Can't understand. . . ."

If you're familiar with HyperTalk, you might be able to fix or rewrite the object's script. (The *HyperTalk Beginner's Guide* teaches HyperTalk at an introductory level.) Otherwise, consider deleting the script (as described next), copying a different object, or creating the object yourself. (For instructions on deleting and creating buttons and fields, consult Chapters 4 and 5, respectively.)

If you copy a card or background that causes trouble in your stack, and you can't fix the scripts, first try deleting the buttons and fields on the card or background, one at a time. If the problem persists, delete the script of the card or background by following these steps:

1. **Open the script.**

   To open the script of the current card, press ⌘-Option-C; to open the background script, press ⌘-Option-B.

2. **Select all the text in the script by pressing ⌘-A.**

3. **Press Delete to delete the script.**

4. **Press Enter.**

❖ *Note:* After you delete the buttons, fields, and scripts from a card or background, you're left with just the picture on that card or background. Any functions associated with the card or background are gone. ❖

Getting information about a stack

You can use the Stack Info command to get information about the current stack and change some of its characteristics.

Follow these steps to get information about the current stack:

1. Make sure you have one of the General tools selected.

The Browse tool (⊕), the Button tool (◯), or the Field tool (▱) will work.

2. Choose Stack Info from the Objects menu.

The following dialog box appears:

The stack's name

The disk and folder in which the stack is stored

The number of backgrounds in the stack

The amount of free space in the stack

Click here to see the stack's script.

Stack Name: Home
Where: :HardDisk:HyperCard:
Stack contains 7 cards.
Stack contains 2 backgrounds.
Size of stack: 43K.
Free in stack: OK.

[Script...] [Colors...]   (OK) [Cancel]

The number of cards in the stack

The amount of disk space the stack requires

Click here to close the dialog box without saving any changes.

Click here to see or change the color set specified for the stack.
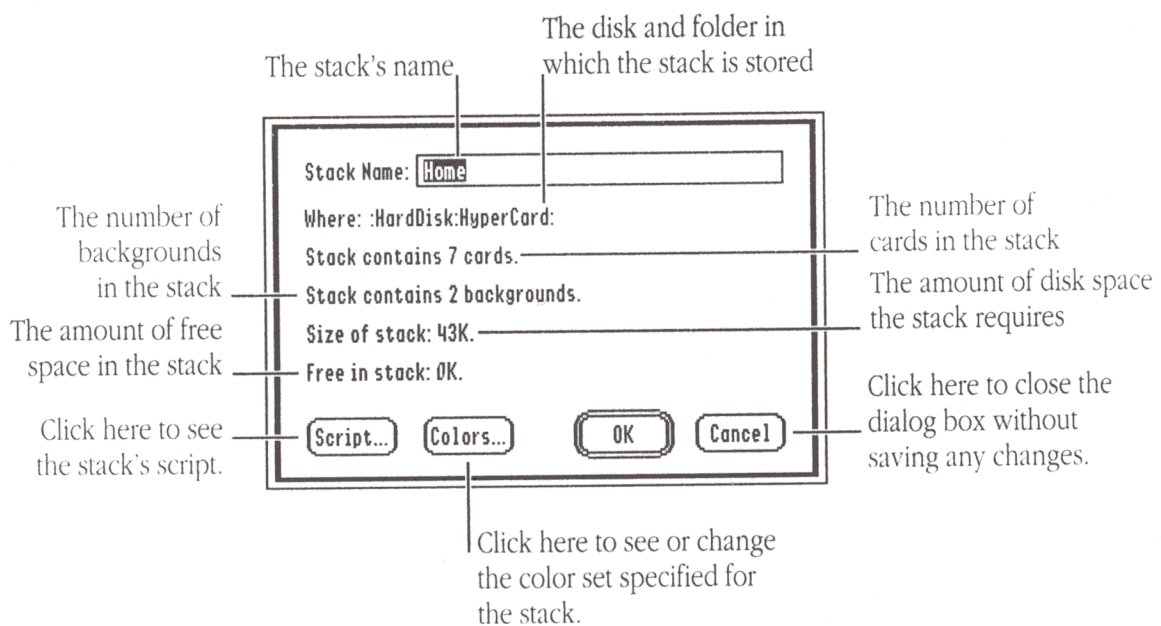
Figure 2-26   Getting information about a stack

3. When you're finished, click OK.

❖ *Another way to open the Stack Info dialog box:* If you are using the Home stack that comes with HyperCard, the following shortcut opens the Stack Info dialog box for any stack you're working in: While any General tool is selected, press ⌘-M to open the Message box, type s, and press Return. (This shortcut is built into the standard HyperCard Home stack.) ❖

Naming a stack   When you first create a stack, you type a name for it in the New Stack dialog box. This is the name that appears for the stack in the Stack Info dialog box and in the Finder.

HyperCard uses the stack name to identify the stack. You can use the stack name in the Message box to navigate to the stack. (And you use the stack name when you address the stack through scripts.)

You can change a stack's name at any time (as long as the stack isn't locked). Here's one way:

1. **Make sure you have one of the General tools selected.**
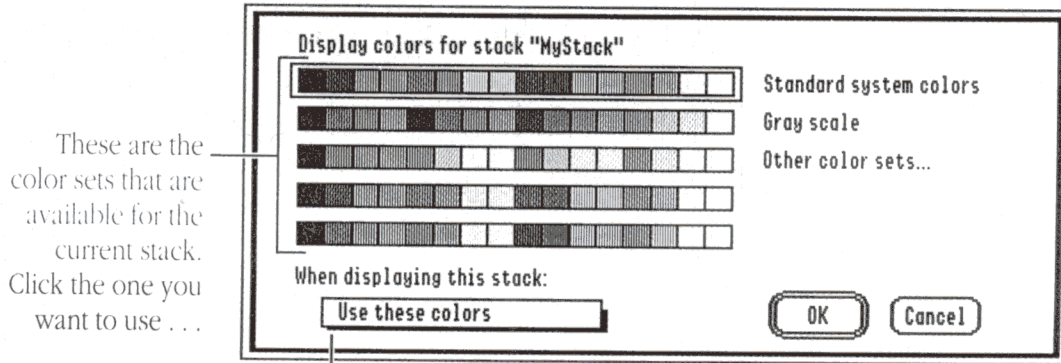
   The Browse tool (✋), the Button tool (○), or the Field tool (⌨) will work.

2. **Choose Stack Info from the Objects menu.**

3. **Type a new name for the stack.**
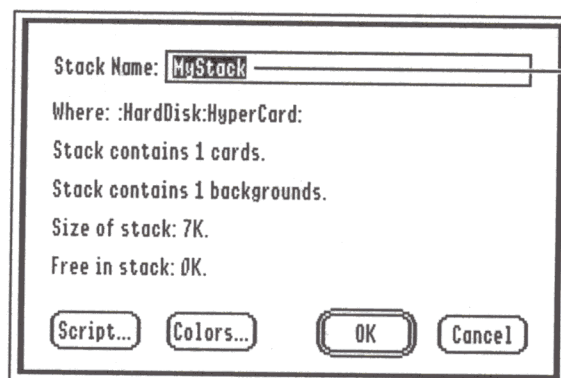
Stack Name: **MyStack** ——————————————— Type the stack name here. (This name also identifies the stack in the Finder.)

Where: :HardDisk:HyperCard:

Stack contains 1 cards.

Stack contains 1 backgrounds.

Size of stack: 7K.

Free in stack: 0K.

[Script...]   [Colors...]   (OK)   (Cancel)

Figure 2-27   Naming a stack

Follow the usual Apple IIGS naming rules for documents: Start with a letter; use no more than 15 characters; don't include spaces; and don't use characters other than letters, numbers, or periods. (If your Apple IIGS is part of an AppleShare network, you have more choices. For more information, see the documentation that came with your Apple IIGS.)

4. Click OK.

▲ **Warning:** Changing the name of a stack will break any links you've made between a card in another stack and a card in the renamed stack (it might even break links within the renamed stack itself). When you change the name of a stack, be sure to redo all the links to the stack. "Linking Information" in Chapter 4 gives instructions for creating links. ▲

You can also change a stack's name in the Finder:

1. **In the Finder, locate the stack's icon.**

   You might have to open folders or close windows to find the icon.

2. **Click the icon once to select it.**

3. **Type a new name for the stack.**

   Changing the stack name here also changes it in the Stack Info dialog box. Remember to follow the applicable naming rules.

4. **Press the Return key.**

Changing a stack's color set

The *color set* for a HyperCard stack determines the 16 colors currently available for use by the backgrounds, cards, buttons, and fields in the stack. You can choose from among five color sets for any given stack: the standard system color set, a gray scale color set, and three others.

When you change your stack's color set, the colors of some or all the graphics, buttons, and fields in the stack may change to reflect the new colors. For example, these three images all make use of the same graphic, but different color sets:

Standard system color set

Gray scale color set

A pastel color set

Figure 2-28 The effect of changing color sets

If you wish, you can select color sets for the cards and backgrounds in your stack that are different from the color set selected for the stack as a whole. If a card's color set has not been specified individually, the card makes use of the color set currently selected for its background. Similarly, if a background's color set has not been specified individually, the background makes use of the color set currently selected for the stack.

For example, the cards in the Birds stack make use of several different color sets so that the colors used in each drawing match the bird's true colors more closely. By carefully selecting the color sets for cards and backgrounds in a stack, you can control the colors in your stacks more precisely than would be possible with just one color set.

The instructions that follow describe how to change the color set for a stack. You can follow the same basic steps to change the color set for a card or a background from its Info dialog box (see "Changing a Card's Color Set" and "Changing a Background's Color Set" in Chapter 3 for more details).

To change the color set for the stack you're working in, follow these steps:

1. **Make sure you have one of the General tools selected.**

    The Browse tool (🖑), the Button tool (⭕), or the Field tool (▭) will work.

2. **Choose Stack Info from the Objects menu.**

3. **Click Colors.**

    The Colors dialog box for the stack appears.

4. Select the color set you want:

These are the color sets that are available for the current stack. Click the one you want to use . . .

Display colors for stack "MyStack"

Standard system colors
Gray scale
Other color sets...

When displaying this stack:

Use these colors

OK Cancel

. . . then press and hold the mouse button here and drag to choose "Use these colors" (if it's not already selected) from the pop-up menu. If you choose "Get standard system colors" instead, your stack will use the standard system colors no matter which color set is selected for the stack.

Figure 2-29   Changing a stack's color set

5. When you're finished, click OK.

The Colors dialog box disappears, and you see the Stack Info dialog box again.

6. In the Stack Info dialog box, click OK.

If none of the five color sets for a given stack includes the colors you want, you can add a sixth color set to a card or background in the stack from any document in the Apple Preferred File Format. "Importing a New Color Set for a Card or Background," in Chapter 6, describes how to do this.

You can also add a sixth color set to a card or background by using a desk accessory, an XCMD, or HyperTalk to specify the colors you want. If you use a desk accessory or an XCMD to do this, the color set you specify will be added automatically to the color sets for the current card or background and will be selected. For instructions on using HyperTalk to add a sixth color set to a card or background, see the discussion of the `colorSet` property in the HyperTalk Help stack.

➤ *See also:* • "Changing Color Sets" in Chapter 6

Saving a copy of a stack

It's a good idea to make a copy of a stack before you begin working with it, and save a copy of the stack periodically as you make changes to it. This is because HyperCard automatically saves the stack as you work. (Your work is saved, and so are your mistakes.) If you make a big mistake on your stack, you can recover from it more easily if you have a recent, working version of the stack—you won't have to start all over again.

Follow these steps to copy a stack from within HyperCard:

1. **While the stack is open and active, choose Save a Copy from the File menu.**

   The following dialog box appears:

You can type a name here for the copy of the stack—otherwise, HyperCard will save the copy under the name you see. ⟶

| ⬦:HardDisk:HyperCard:Stacks: |
| 2545 free of 20860 k. |

Your new stack will be stored in this folder unless you choose another folder.
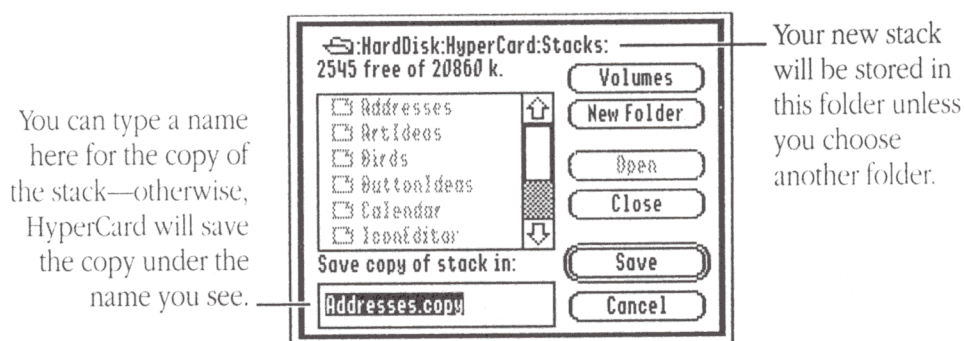
Figure 2-30   Saving a copy of a stack

2. **Type a name for the copy of the stack, if you want to give it a name that's different from the one shown.**

3. **Click Save.**

   HyperCard saves a copy of the stack, but it leaves you in the stack you're working on.

You can also copy a stack in the Finder. Follow these steps:

1. **In the Finder, locate the stack's icon.**

   You might have to close windows or open folders to find the icon.

2. **Click the stack's icon once to select it.**

3. **Choose Duplicate from the File menu, or press ⌘-D.**

   The Duplicate dialog box appears.

4. **Click OK.**

Reclaiming free space in a stack

Each time you delete a card, background, field, or button, free space gets introduced into a stack. As you work on a stack, it can accumulate a substantial amount of free space—and the more extra space a stack has, the slower it runs and the larger it is.

Free space on a disk is available storage space. You can use it to store information. But free space in a stack is like extra baggage in the stack: It's no longer useful, but it's stored with the stack and it takes up disk space that you could be using to store other data. The more free space you have in your stacks, the less disk storage you have for your other files.

To check the amount of free space in a stack, choose Stack Info from the Objects menu. To see the Objects menu, you must have one of the General tools selected.

The amount of disk space the stack is taking up (including free space)

Stack Name: MyStack

Where: :HardDisk:HyperCard:

Stack contains 1 cards.

Stack contains 1 backgrounds.

Size of stack: 7K.

Free in stack: 0K.

Script... Colors... OK Cancel

The amount of free space in the stack. If you compact the stack, this number will become 0 (zero), and the stack will get smaller and run faster.
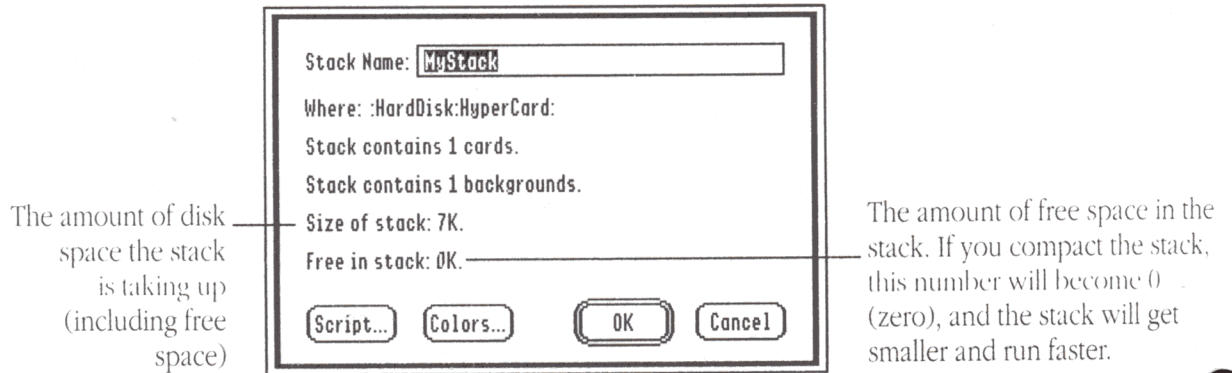
Figure 2-31   Checking free space in a stack

You can get rid of free space in a stack by choosing Compact Stack from the File menu. To use the Compact Stack command when your user level is Painting (3) or higher, you must have one of the General tools selected. (If your user level is set to Typing (2), hold down the ⌘ key while you pull down the File menu in order to see the Compact Stack command. If your user level is set to Typing (1), the Compact Stack command is not available.)

When you choose Stack Info after compacting the stack, the "Free in stack" number (in the Stack Info dialog box) will be 0K (zero K), and the size of the stack will likely be smaller than it was.

Protecting your stack

When your stack is finished—and perhaps while you're building it—you might want to protect the stack to keep others from using or changing it. There are several different kinds of protection you can set for a stack:

■ You can keep a personal stack private by preventing others from opening it.

■ You can limit access to a stack's protection settings (so that no one else can change them).

■ You can limit the way people use and change a stack.

Restricting access to a stack

To restrict access to a stack so that no one can open it without the password, follow these steps:

1. **Choose Protect Stack from the File menu.**

   The Protect Stack dialog box appears.

2. **Click the Private Access check box to select it.**

Click here . . .

. . . then click here, to restrict access to the stack.
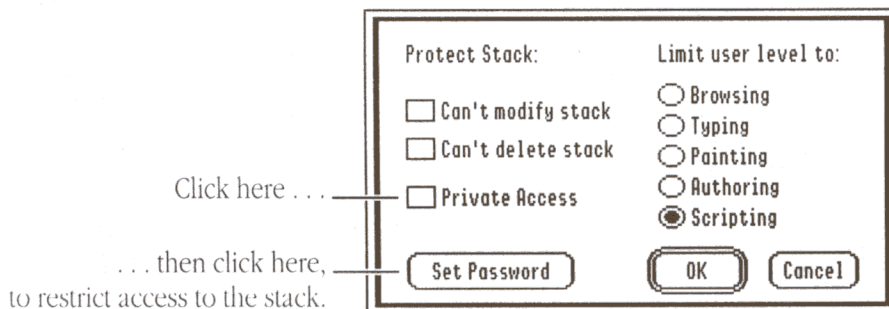
Figure 2-32   Setting protection for a stack

3. **Click Set Password, or click OK.**

   The dialog box for setting a password appears.

4. Enter a password.

Type the password once here . . .

. . . and again here, for verification.

Then click OK.

Clicking None or Cancel closes this dialog box without setting a password.
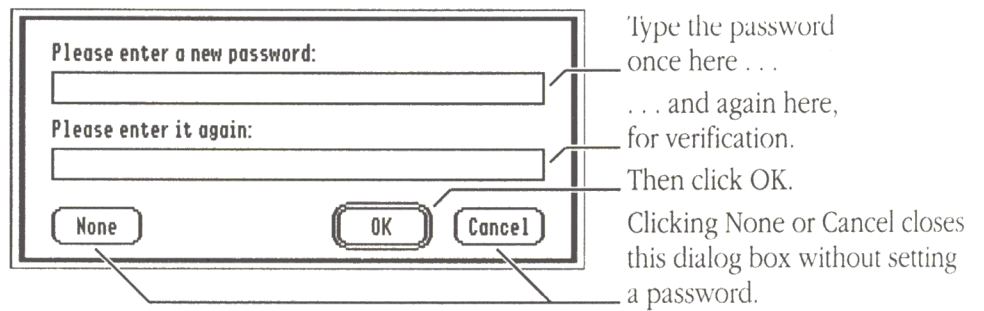
Figure 2-33 Setting a password for a stack

5. Click OK.

▲ **Warning:** Once you've restricted access to a stack and set a password, the stack can't be opened without the password. There's no way to find out a password once it's been set—so make a note of the password, or use a password you won't forget. ▲

When you type the password to open the stack, it must match character-for-character the one you set. (Uppercase and lowercase letters don't have to match.)

➤ *See also:*   • "Removing a Password" in this chapter

Chapter 2: Creating and Modifying Stacks

Protecting a stack from changes or deletion

To prevent others from changing or deleting the current stack, follow these steps:

1. **Choose Protect Stack from the File menu.**

   The Protect Stack dialog box appears.

2. **Click "Can't modify stack" or "Can't delete stack."**

Click here to prevent changes to the stack. Selecting just this option doesn't protect the stack from deletion.

Click here to protect the stack from deletion. Selecting just this option doesn't protect the stack from changes.

Figure 2-34 Protecting a stack from changes or deletion

As long as the "Can't modify stack" option is turned on, no one can make any changes to the stack. (Anyone can, however, copy anything from the stack, or copy the stack itself.)

As long as "Can't delete stack" is turned on, no one can delete the stack.

However, unless you set a password—as explained in the following two steps—anyone can open the Protect Stack dialog box and turn off these options.

3. **To prevent others from changing your protection settings, click Set Password.**

   (This step is optional.)

   The dialog box for setting a password appears.

4. **Enter a password.**

   (This step is optional.)
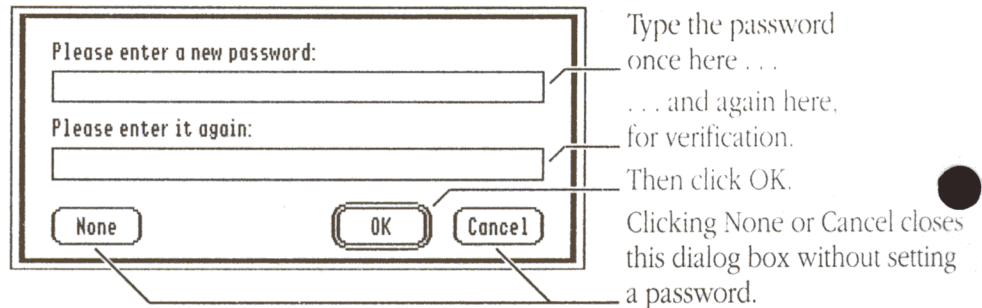
Figure 2-35   Setting a password

Setting a password for the stack prevents unauthorized users from opening the Protect Stack dialog box, whether or not Private Access is selected. If you've selected Private Access as well as setting a password, the same password will be required to open the stack itself.

5. **Click OK.**

After you've set a password, no one can change the settings in the Protect Stack dialog box without knowing the password, until you remove it (as explained in "Removing a Password," later in this chapter). There's no way to find out a password once it's been set—so make a note of the password, or use one you won't forget.

When you're using a locked stack (that is, a stack for which the "Can't modify stack" option is selected in the Protect Stack dialog box), a padlock (🔒) appears in the menu bar, indicating that you can't make any changes in the stack. If you try to make changes to a locked stack, you might see the following dialog box:

```
Can't modify this stack.

                                    [   OK   ]
```
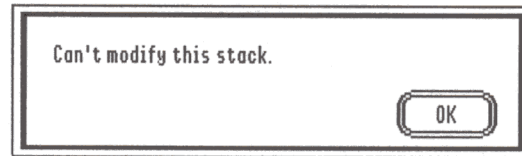
Figure 2-36   Trying to make changes to a protected stack

HyperCard automatically selects the "Can't modify stack" check box when the stack is on a locked medium (a locked disk, CD-ROM, or locked folder on a file server)—you can't deselect it. To make changes to such a stack, you first have to figure out why it's locked. If the "Can't modify stack" check box is selected or the Locked check box is selected in the stack's Icon Info dialog box (in the Finder), you have to deselect these options before you can make changes to the stack. In many cases, copying the stack to an unlocked disk makes the stack modifiable.

▲ **Warning:** Some stacks are designed so that, when the stack is locked, you can type into a field or paint a picture on a card or background; but the changes disappear as soon as you leave the current card. ▲

Limiting the user level

You can limit the way people use and change a stack by limiting the user level in the Protect Stack dialog box. Follow these steps:

1. **Choose Protect Stack from the File menu.**

   The Protect Stack dialog box appears.

2. **Click a user level.**
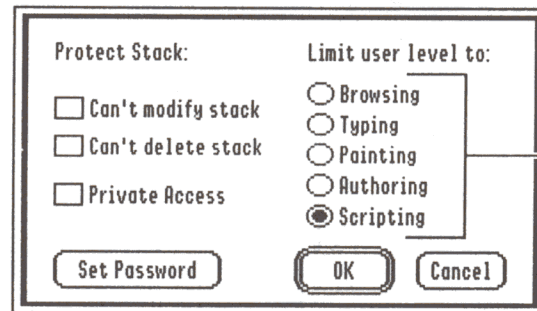
Click one of these to choose a user level. The user level determines the commands and tools people can use in the current stack. When this user level is different from the user level set in the Home stack, the lower of the two levels takes precedence. (Browsing is the lowest level.)

Figure 2-37   Limiting the user level

The options available at the different user levels are described in "User Levels and Options" in Chapter 1.

Unless you set a password—as explained in the following two steps—anyone can open the Protect Stack dialog box and change the user level you've set.

3. **To prevent others from changing the stack's user level setting, click Set Password.**

   (This step is optional.)

   The dialog box for setting a password appears.

4. Enter a password.

(This step is optional.)

Type the password once here . . .

. . . and again here, for verification.

Then click OK.

Clicking None or Cancel closes this dialog box without setting a password.
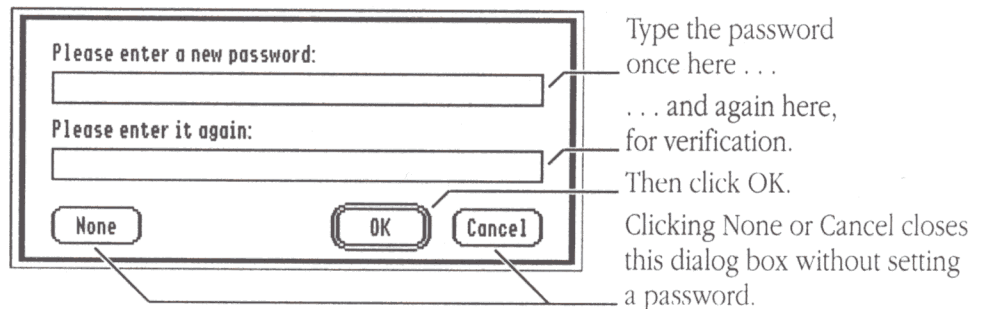
Figure 2-38   Setting a password

Setting a password for the stack prevents unauthorized users from opening the Protect Stack dialog box and changing the settings, whether or not Private Access is selected. If you've selected Private Access as well as setting a password, the same password will be required to open the stack itself.

5. Click OK.

The tools and commands a user has access to while using the stack are determined by both the user level you set in the stack's Protect Stack dialog box and the user level selected on the Preferences card of the user's Home stack. When these two settings are different, HyperCard uses the lower setting. (*Lower* means "closer to Browsing.")

After you've set a password, no one can change the user level setting in the Protect Stack dialog box without knowing the password, until you remove it (as explained in the next section, "Removing a Password"). There's no way to find out a password once it's been set—so make a note of the password, or use one you won't forget.

△ **Important**: When the user level is set to Browsing or Typing, (either in the Protect Stack dialog box or on the User Preferences card in the Home stack), the Protect Stack command doesn't appear in the File menu—which means you can't change any of the protection settings. To get the full File menu (so that you can choose the Protect Stack command) no matter what the user level is, press and hold the ⌘ key while you open the File menu. △

Removing a password

Any password you set in the Protect Stack dialog box remains in effect for the stack until you remove it by following these steps:

1. **Choose Protect Stack from the File menu.**

   You see a dialog box prompting you for the password.

2. **Enter the password and click OK:**

   This stack requires a password:

   [   ]

   (OK)   (Cancel)
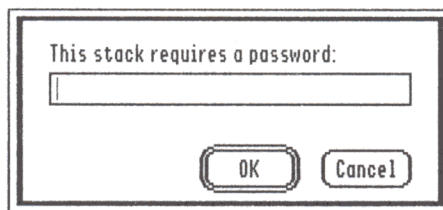
Figure 2-39   Entering a password to open the Protect Stack dialog box

   The Protect Stack dialog box appears.

3. **Click Set Password.**

   The dialog box for setting a password appears.

4. **Click None to remove the password:**

Please enter a new password:

Please enter it again:

Clicking here removes ——— [None]   [[OK]] [Cancel]
the password.
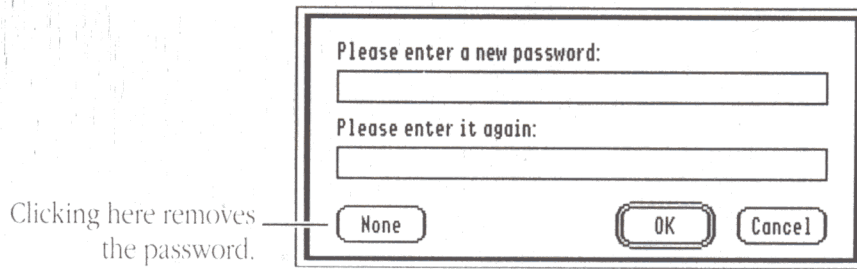
Figure 2-40   Removing a password

The Set Password dialog box disappears—the password
protection is removed.

Setting user access for a stack on a file server

If you want to make a stack available to users on an AppleShare file
server, you can protect it in various ways via the Protect Stack dialog
box, as described in the preceding sections. You should also be
aware of the following considerations:

■ As with any file on a file server, you can make the stack available
to anyone who has access to the network, or only to people
who are registered users of the file server. For information on
setting file protection on a file server, consult your network
administrator.

■ For a stack to be available to multiple users via a file server, the
stack must be either on a locked medium—a locked disk, a
CD-ROM, or a locked folder on the file server—or locked in
the Finder (that is, the Locked option is selected in its Icon Info
dialog box). When a stack is on a locked medium on a file server,
any number of network users can use the stack at the same time.
However, no one can make changes to the stack.

Selecting the "Can't modify stack" option in the Protect Stack dialog box isn't sufficient to make a stack available to more than one user on a file server.

■ When a stack is unlocked on a file server, only one person can use it at a time. The user can make changes to the stack while using it (unless changes are prohibited by the protection level set in the Protect Stack dialog box), but other people cannot open the stack while it's in use.

Deleting a stack

When you delete a stack, you remove all the stack's cards, backgrounds, and scripts. Delete a stack only when you have no further use for it.

To delete the current stack, choose Delete Stack from the File menu. (The Delete Stack command is normally visible only when one of the General tools is selected, and when your user level is Painting, Authoring, or Scripting. When your user level is Browsing, you can make the Delete command visible by holding down the ⌘ key while you pull down the File menu.) Unless the stack is protected from deletion, you see a dialog box like the following:

```
┌─────────────────────────────────────────┐
│                                          │
│   Delete all 6 cards from this stack?    │
│                                          │
│   :HardDisk:HyperCard:Stacks:Addresses   │
│                                          │
│                  ( Delete )  (( Cancel )) │
│                                          │
└─────────────────────────────────────────┘
```

Figure 2-41   Confirmation dialog box for deleting a stack

If the stack is protected from deletion, you see this dialog box
instead of the previous one:

```
┌─────────────────────────────────┐
│ ┌─────────────────────────────┐ │
│ │ Can't delete protected stack. │ │
│ │                             │ │
│ │              ┌─────────┐    │ │
│ │              │   OK    │    │ │
│ │              └─────────┘    │ │
│ └─────────────────────────────┘ │
└─────────────────────────────────┘
```
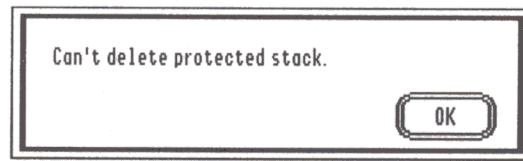
Figure 2-42   Trying to delete a protected stack

When you delete a stack with the Delete Stack command, it's
as though you dragged the stack to the Trash in the Finder—the
stack no longer exists on your hard disk. The stack disappears, and
HyperCard returns you to the Home stack.

Customizing your Home stack

You can customize your Home stack so that it's tailored to the way
you work and the tasks you perform. With a few modifications,
your Home stack can even serve as the control center for all your
work on the Apple IIGS—a launching pad for the applications,
utilities, documents, and stacks you use regularly.

You can organize your Home cards in any way you wish. For
example, you can put all the buttons you use on one card; or you
can put buttons that open applications on one card, and buttons
that open stacks on another. Or you can rename the cards according
to the categories you find most useful, and keep buttons on all five
cards. You can rearrange the order of the Home cards and change
the way each card looks, if you like.

This section explains all the ways you can customize the standard
Home stack that comes with HyperCard.

Adding buttons to your Home cards

The standard Home stack that comes with HyperCard includes five Home cards. The first three Home cards contain buttons that take you to the stacks that come with HyperCard:

- The buttons on the first Home card (called Welcome) open stacks that introduce you to HyperCard, including the HyperCard Help stack and the Tour stack.

- The buttons on the second Home card (Deskset) open the HyperCard equivalent of an address book and desk calendar.

- The buttons on the third Home card (Tool Kit) open stacks that you will find useful as you begin to create your own stacks.

As you become more comfortable with HyperCard, you can make these three Home cards even more useful by adding buttons that are linked to each of your favorite stacks, applications, and documents. You can also add buttons to the other two Home cards.

Before you add a button to one of the Home cards, you need to decide what you want the button to do and which Home card you want to put it on. Buttons can take you to stacks, and they can open other programs and documents, as described on the following pages.

Adding a button that opens a stack

To add a button that takes you to another stack, follow these steps:

1. **Go to the Home card on which you want to place the button.**

2. **Click the Create QuickLink button near the upper-left corner.**

A directory dialog box appears:

```
┌─────────────────────────────────────────────┐
│  ┌───────────────────────────────────────┐   │
│  │ Create a QuickLink to which stack?    │   │
│  │ ⬳:HardDisk:HyperCard:Stacks:          │   │
│  │ ┌─────────────────────┐┌─┐ ┌─────────┐│   │
│  │ │🗀 Addresses         ││⇧│ │ Volumes ││   │
│  │ │🗀 ArtIdeas          │└─┘ └─────────┘│   │
│  │ │🗀 Birds             │               │   │
│  │ │🗀 ButtonIdeas       │    ┌─────────┐│   │
│  │ │🗀 Calendar          │    │  Open   ││   │
│  │ │🗀 IconEditor        │    └─────────┘│   │
│  │ │🗀 PicturePuzzler    │    ┌─────────┐│   │
│  │ │🗀 ScriptersTools   ⇩│    │  Close  ││   │
│  │ └─────────────────────┘    └─────────┘│   │
│  │                            ┌─────────┐│   │
│  │                            │ Cancel  ││   │
│  │                            └─────────┘│   │
│  └───────────────────────────────────────┘   │
└─────────────────────────────────────────────┘
```
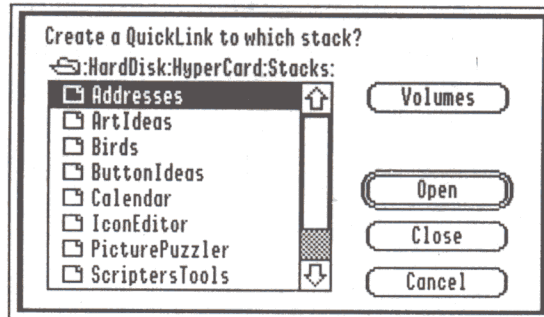
Figure 2-43 Selecting a stack for your button to open

❖ *Did you get a different dialog box?* If your user level is set to Painting (3) or lower, you will first see dialog box asking you to confirm that you want to create a new button. You will see the directory dialog box shown in Figure 2-43 after you click OK. ❖

3. **Using the directory dialog box, locate and double-click the name of the stack you want your button to open.**

A flashing button for the selected stack appears on the current card.

4. **Drag the flashing button to position it on the card.**

When you release the mouse button, your new button stops flashing.

If you want to test your new button, click it. It should open the stack you specified.

➤ *See also:* • "Changing the Appearance of a Button" in Chapter 4

Adding a button that opens an application

To add a button that opens an application (or a specific document
with an application), you must write a simple script. You can use
the technique described in this section to add such a button to any
stack, not just the Home stack. Make sure your user level is set to
Scripting (5), then follow these steps:

1. **Go to the Home card on which you want to place the button.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (🖑), the Button tool (⬭), or the Field tool (▦)
   will work.

3. **Choose New Button from the Objects menu.**

   This automatically selects the Button tool, creates a button
   named "New Button" in the center of the card window, and
   selects the button.

   ┌ ─ ─ ─ ─ ─ ─ ─ ─ ┐
   ¦ **New Button** ¦
   └ ─ ─ ─ ─ ─ ─ ─ ─ ┘

Figure 2-44   A button created with the New Button command

4. **While the button is still selected, choose Button Info from the
   Objects menu.**

   Or double-click the button. The Button Info dialog box
   appears.

5. Type a name for the button:

If this option is selected and the button has a name, the name will appear on the button.

Button Name: `New Button`
Card button number: 1   Card button ID: 17
☒ Show Name   Style: `rectangle`
☒ Auto Hilite   Family: `0 (none)`
☐ Share Hilite

[Icon...]
[Link To...] [Font...]
[Script...] [Colors...]   (OK)   (Cancel)

Type the name of the button (for example, the name of the document or application you want the button to open) here.
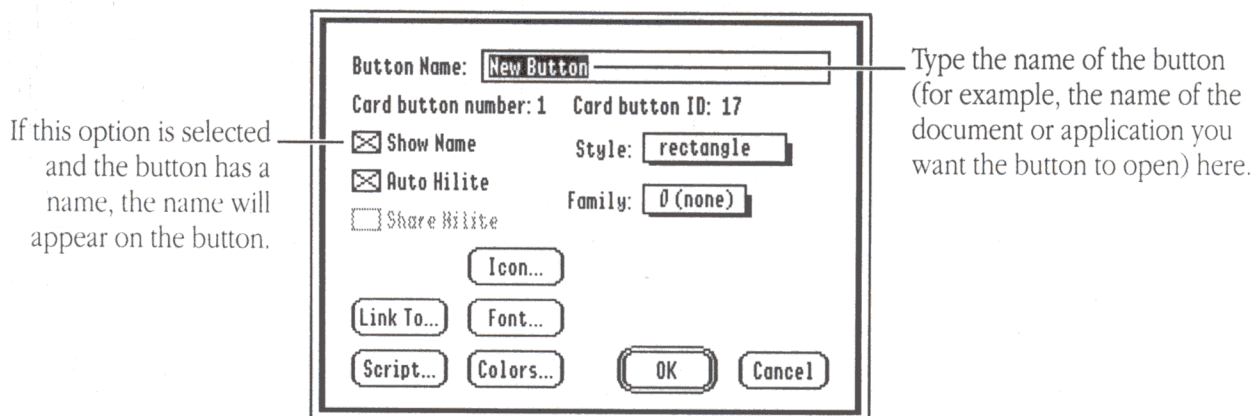
Figure 2-45   Typing the name for the button.

6. Make sure the Show Name check box is selected.

This option is automatically selected when you create a new button with the New Button command.

7. Click Script.

The button's script opens:

Script of Card button ID 17 = "New Button"

(Find)   (Print)   (OK)   (Cancel)
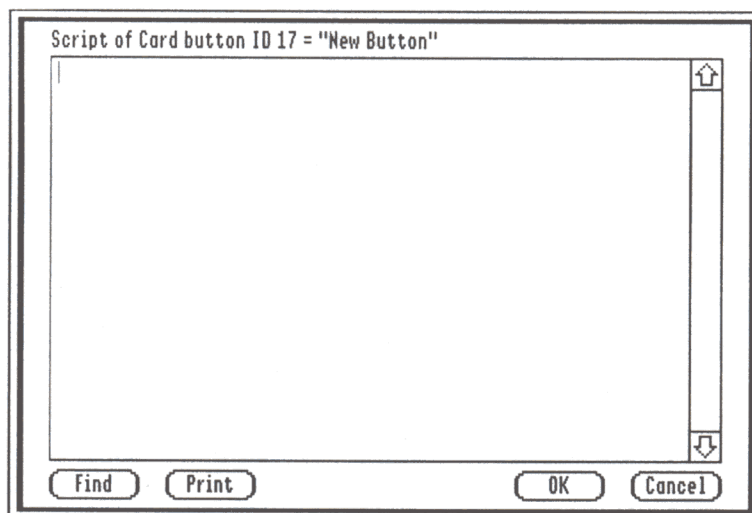
Figure 2-46   Opening a button's script

8. **Type one of the following, substituting the name of the document or the name of the document and application you want to open:**

```
Script of Card button ID 17 = "New Button"
on mouseUp
  open "application"
end mouseUp
```
This script launches the specified application.

```
Script of Card button ID 17 = "New Button"
on mouseUp
  open "document" with "application"
end mouseUp
```
This script launches the specified application and opens the specified document.
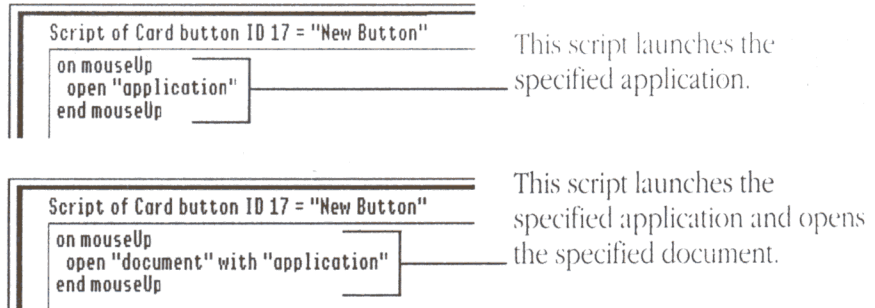
Figure 2-47   Scripting a link to an application

9. **When you're finished, press Enter.**

10. **Choose the Browse tool.**

If you want to test your new button, click it—it should open the document or application you specified. If something else happens, check the spelling of the document and application names and check the script for errors.

When you want to return to HyperCard, quit the application. You return to the card from which you launched the application.

You might encounter other stacks with buttons that launch applications. When you launch an application by clicking one of these buttons on a card, HyperCard takes you back to the same card after you quit the application.

➤   *See also:*   • "Changing the Appearance of a Button" in Chapter 4
        • "Linking Information" in Chapter 4
        • "Opening Applications" in Chapter 1

Renaming a Home card

The name of a Home card usually characterizes the stacks, applications, and documents that are represented on the card. For example, the buttons on the card named Tool Kit open stacks that contain tools and parts you can use to build new stacks.

You can rename any of the Home cards in the standard Home stack at any time. When you rename a Home card, you automatically change both the name that appears near the upper-left corner of the card and the name of the button (at the bottom of each Home card) that's used for navigating to that card.

The name of this Home card

The button for navigating to this card
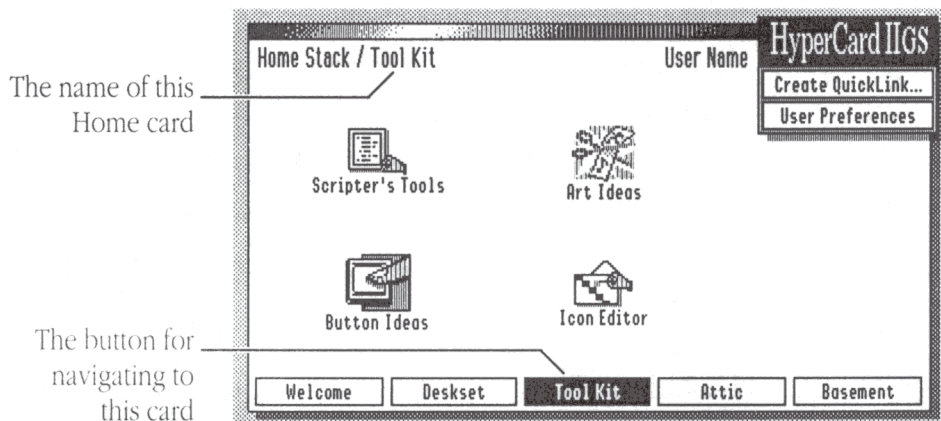
Figure 2-48 The name of a Home card appears near the upper-left corner of the card

Follow these steps to rename a Home card:

1. **Make sure the Browse tool (☜) is selected.**

2. **Click the name of the card (the name just to the right of the words "Home Stack").**

   The following dialog box appears:

   Rename this card as:

   Tool Kit

   OK   Cancel
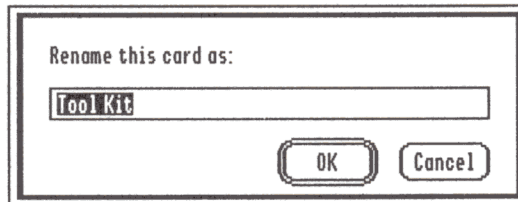
Figure 2-49   Renaming a Home card

3. **Type a new name for the card and click OK.**

Changing the appearance of the Home cards

In addition to adding buttons to your Home cards, you can also change the appearance of the Home cards by adding text and pictures to them.

When you add text or a picture to the background layer of a Home card, it appears on all the Home cards. When you add text or a picture to the card layer of a Home card, it appears only on that card.

For instructions on adding text to a card or background, see Chapter 5. For instructions on adding pictures, see Chapter 6.

Using the Home stack as your control center

Once you've added buttons to your Home stack for all the stacks, applications, and documents you use frequently, you might want to use your Home stack as your control center—a jumping-off point for all your work on the Apple IIGS.

To use the Home stack as your control center, you must tell your computer to launch HyperCard at startup time. You can arrange to do this only if your computer is connected to an AppleShare network, and you normally launch HyperCard over the network. Ask the AppleShare administrator for the network to follow these steps:

1. **Click the icon for the user (or group) who wants to use HyperCard as the startup application.**

2. **Choose Startup Info from the Apple II menu.**

   The Startup Info dialog box appears.

3. **Click Set Startup Application.**

4. **Select HyperCardIIGS.**

5. **Click OK.**

When you restart your computer, HyperCard launches automatically and your Home stack opens.

Working With Cards
and Backgrounds

When you build HyperCard stacks, you perform many tasks that involve creating and manipulating cards and backgrounds. For example, you might add cards to a stack, rearrange the cards in a stack, or copy a background from one stack to another.

This chapter gives specific instructions for working with cards and backgrounds. To do the tasks in this chapter, you must have your user level set at least to Authoring. When a task requires the Scripting level, the instructions say so. (For instructions on setting your user level, see "User Levels and Options" in Chapter 1).

Working with cards

A *card* is a rectangular area that can hold buttons, fields, and graphics. All cards in a stack are the same size. Each card is a composite of two layers—a foreground layer, called the *card layer*, and a *background layer*. You see the elements of both layers when you look at a card, as if the card layer were a transparent layer in front of the background. Each layer can contain its own buttons, fields, and graphics. ("The Card Layer Versus the Background Layer" in Chapter 2 gives more details about the differences between the two layers.)

Adding a new card to a stack

When you add a new card to a stack, HyperCard always puts the new card right after the current card. The new card automatically acquires the background of the current card. If you want to add a new card with a blank background, you add a new background. ("Creating a New Background," later in this chapter, gives instructions.)
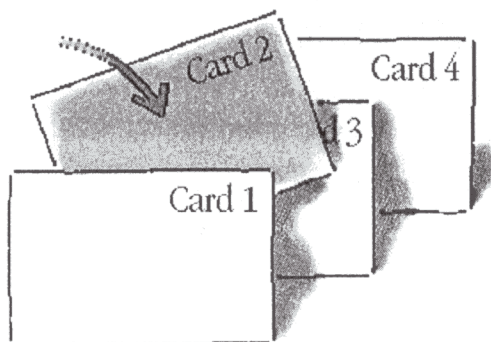
Figure 3-1   Adding a new card to a stack

To add a new card to the current stack, follow these steps:

1. **Go to the card you want the new card to follow.**

   If you want to add a new card at the end of the stack, go to the last card in the stack by choosing Last from the Go menu (or pressing ⌘-4 or ⌘–Right Arrow).

2. **Choose New Card from the Edit menu, or press ⌘-N.**

   The new card is inserted immediately after the card you were looking at when you chose New Card, and it has the same background as that card (which is now the previous card). The new card appears on your screen.
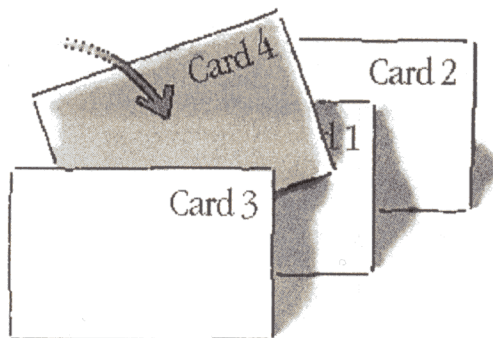
Figure 3-2   Adding a new card at the end of a stack

For information about adding buttons, fields, and graphics to your new card, see Chapters 4, 5, and 6, respectively.

If you want to create a new card as the first card in the stack, follow these steps:

1. Choose First from the Go menu, or press -1.
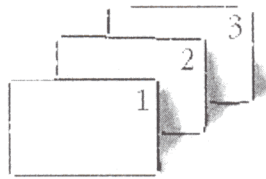
The first card in the stack appears on the screen

2. Choose New Card from the Edit menu, or press -N.
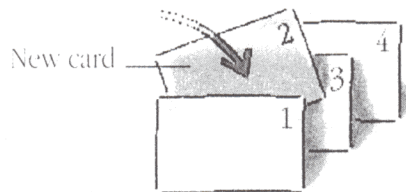
New card

The new card is added after the first card and has the same background as the first card.
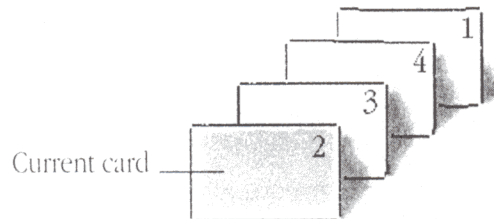
The new card appears on the screen.

Current card

3. Choose First from the Go menu, pr press -1, again.
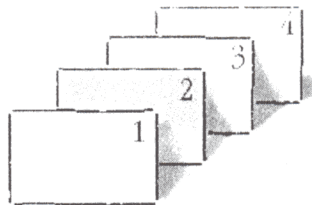
The first card in the stack appears on the screen again.

4. Choose Cut Card from the Edit menu.
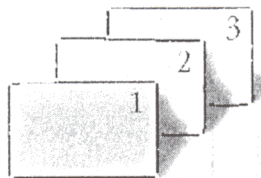
This removes the first card in the stack and puts a copy of it onto the Clipboard. (The card that was second in the stack is now first.)

If you want to put the former first card (the card you've cut) back into the stack, you need to do two more things:

1. Go to the card you want the cut card to follow.

Current card
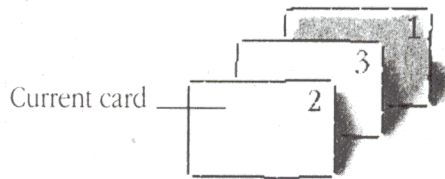
2. Choose Paste Card from the Edit menu, or press ⌘-V.
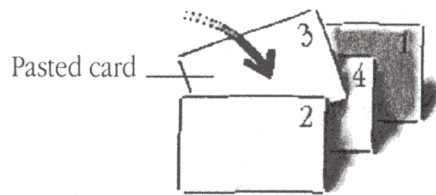
Pasted card

The pasted card is added immediately after the card you were looking at when you chose Paste Card.

Current card
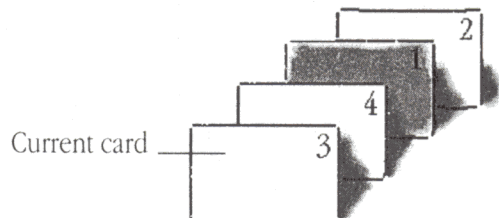
The pasted card appears on the screen.

Copying a card   You can copy a card into another stack, or to another location in the same stack. When you copy a card, you copy everything associated with it—its background, graphics, fields, text, buttons, and scripts.

Here's how to make a copy of a card:

1. **Go to the card you want to copy.**

2. **Choose Copy Card from the Edit menu.**

   This puts a copy of the current card onto the Clipboard.

3. **Go to the card you want the copied card to follow.**

   It can be in the current stack or in any other stack.

4. **Choose Paste Card from the Edit menu, or press ⌘-V.**

   The card is pasted immediately after the card you were looking at when you chose Paste Card. The copied card becomes the current card.

The copied card acquires the name of the original card (if the original card has a name). This means that, if the copy and the original are in the same stack, you have two cards in the stack with the same name. You might want to consider renaming one of them, so that each card in your stack has a unique name. ("Naming a Card," later in this chapter, gives instructions.)

△ **Important:** When you copy a card from one place to another, you copy the card's script, too (if it has one), and any scripts associated with the buttons, fields, and background that are part of the card. Since scripts sometimes rely on the characteristics of a particular stack, you might encounter problems (such as unfamiliar messages) after you copy a card. "Copying Parts From Other Stacks" in Chapter 2 discusses this problem. △

Moving a card　　　You can move a card to a different place within the same stack, or to a different stack. When you move a card, you also move everything associated with it—its background, graphics, fields, text, buttons, and scripts.

To move a card, follow these steps:

1. **Go to the card you want to move.**

2. **Choose Cut Card from the Edit menu.**

   This removes the current card and puts a copy of it onto the Clipboard.

3. **Go to the card you want the cut card to follow.**

   It can be in the current stack or in any other stack.

4. **Choose Paste Card from the Edit menu, or press ⌘-V.**

   The pasted card is placed immediately after the card you were looking at when you chose Paste Card. The pasted card appears on the screen.

If you have pasted the card into a different stack than the stack from which you cut it, pasting the card also adds the card's background to the stack (unless the stack already contains that background).

△ **Important:** When you move a card from one place to another, you move the card's script, too (if it has one), and any scripts associated with the buttons, fields, and background that are part of the card. Since scripts sometimes rely on the characteristics of a particular stack, you might encounter problems (such as unfamiliar messages) after you move a card. "Copying Parts From Other Stacks" in Chapter 2 discusses this problem. △

Making a card the first card in the stack

Moving a card to the first position in the stack requires several steps. First you have to make the card the second one in the stack, and then you have to move the first card out of the way.

To move a card so that it's first in the stack, follow these steps:

1. **Go to the card whose position you want to change.**

2. **Choose Cut Card from the Edit menu.**

   This removes the current card and puts a copy of it onto the Clipboard.

3. **Choose First from the Go menu, or press ⌘-1.**

   The first card in the stack appears.

4. **Choose Paste Card from the Edit menu, or press ⌘-V.**

   The pasted card appears on the screen—it's now the second card in the stack.

5. **Choose First from the Go menu again, or press ⌘-1.**

   The first card in the stack appears again.

6. **Choose Cut Card from the Edit menu.**

   This removes the first card from the stack and puts a copy of it onto the Clipboard. (The card that was second in the stack is now first.)

7. **Choose Paste Card from the Edit menu, or press ⌘-V.**

   The original first card is now the second card in the stack.

Getting information about a card

Using the Card Info command, you can get information about the current card and change some of its properties. Follow these steps to get information about a card:

1. **Make sure you have one of the General tools selected.**

   The Browse tool (🖑), the Button tool (⊙), or the Field tool (▭) will work.

2. **Choose Card Info from the Objects menu.**

   The following dialog box appears:

Select this option to protect the card from deletion.

Select this option to exclude the card and background fields on the current card from text searches.

The card's name

The card's number

The card's ID

The number of fields in the card layer

The number of buttons in the card layer

    Card Name: [Introduction]
    Card ID: 2928. Card number 1 out of 40
    Contains 2 card fields.
    Contains 3 card buttons.
    ☐ Can't Delete
    ☐ Don't Search
    (Script...) (Colors...) (OK) (Cancel)

If your user level is set to Scripting, you can click here to see the card's script.

Click here to see the card's color sets.

Click OK when you're through (or click Cancel to close the dialog box without saving any changes).

Figure 3-3 Getting information about a card

3. **When you're finished, click OK.**

❖ *Another way to open the Card Info dialog box:* If you are using the Home stack that comes with HyperCard, the following shortcut opens the Card Info dialog box for the current card in any stack: While any General tool is selected, press ⌘-M to open the Message box; then type c and press Return. (This shortcut is built into the standard HyperCard Home stack.) ❖

Naming a card   Generally, a card doesn't have a name unless you give it one (or someone else does). The card name is one way HyperCard identifies a card. You can use the card name in the Message box to bring the card into view. And you can use the card name to address the card through scripts.

To name a card or change its name, follow these steps:

1. **Make sure you have one of the General tools selected.**

   The Browse tool (☜), the Button tool (○), or the Field tool (▭) will work.

2. **Choose Card Info from the Objects menu.**

3. **Type or change the card's name:**

Card Name: [Introduction] ————————— The card's name

Card ID: 2928. Card number 1 out of 40

Contains 2 card fields.

Contains 3 card buttons.

☐ Can't Delete

☐ Don't Search

[Script...] [Colors...]   [OK]   [Cancel]
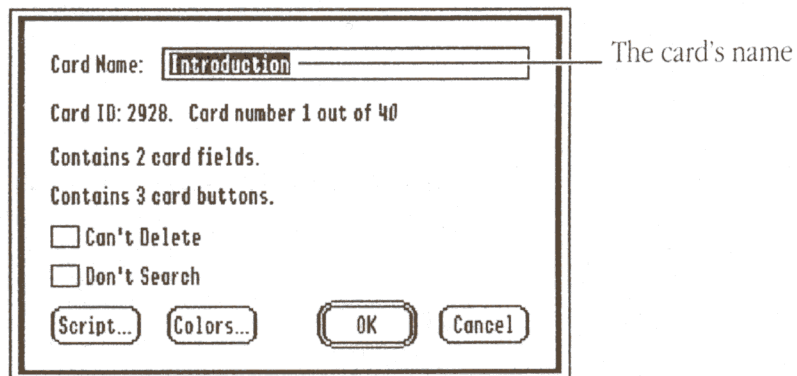
Figure 3-4   Naming a card

4. **When you're finished, click OK.**

△ **Important:** Don't use a number for the card name—otherwise HyperCard might, for example, look for card number 12 when you try to go to the card named "12." △

Excluding card and background fields from text searches

The Find command (in the Go menu) allows you to search for specific text in the fields of a stack. ("Looking for Specific Text" in Chapter 1 explains how to search for text.) When you're searching for specific text in a large stack, you can speed your search by excluding any fields that you know don't contain the text you're looking for.

To prevent HyperCard from searching in the card and background fields that appear on any particular card, follow these steps:

1. **Go to the card whose fields you want to exclude from text searches.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (✍), the Button tool (○), or the Field tool (▦) will work.

3. **Choose Card Info from the Objects menu.**

4. **Click the Don't Search check box to select it:**

Click here to exclude the card's fields from text searches. If you click again, you open the card's fields to text searches.

```
Card Name:  │Introduction│

Card ID: 2928.  Card number 1 out of 40

Contains 2 card fields.

Contains 3 card buttons.

☐ Can't Delete

☐ Don't Search

(Script...)  (Colors...)      ( OK )   (Cancel)
```
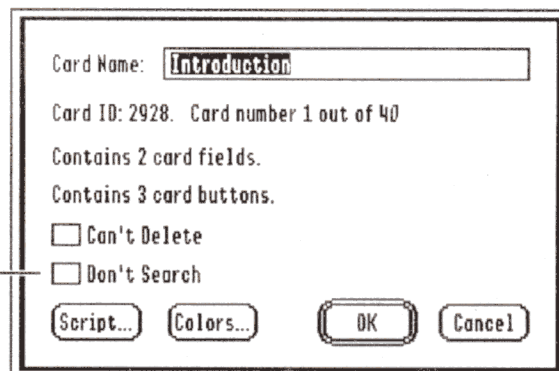
Figure 3-5   Excluding a card's fields from text searches

5. **Click OK.**

When you want to allow HyperCard to search in the card's fields again, click Don't Search to deselect it (as shown in Figure 3-5).

Protecting a card

You can protect a card from deletion, but you can't prevent changes
to a card unless you protect the entire stack from modification (as
explained in "Protecting Your Stack" in Chapter 2).

To protect a card from deletion, follow these steps:

1. **Go the card you want to protect.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (🖑), the Button tool (○), or the Field tool (▤)
   will work.

3. **Choose Card Info from the Objects menu.**

4. **Click the Can't Delete check box to select it:**

Click here to protect the
card from deletion. If you
click again, you remove
the card's protection.

```
┌──────────────────────────────────────────┐
│  Card Name:  │Introduction│               │
│                                            │
│  Card ID: 2928.   Card number 1 out of 40 │
│                                            │
│  Contains 2 card fields.                   │
│                                            │
│  Contains 3 card buttons.                  │
│  ☐ Can't Delete                            │
│  ☐ Don't Search                            │
│  (Script...) (Colors...)   ( OK ) (Cancel) │
└──────────────────────────────────────────┘
```
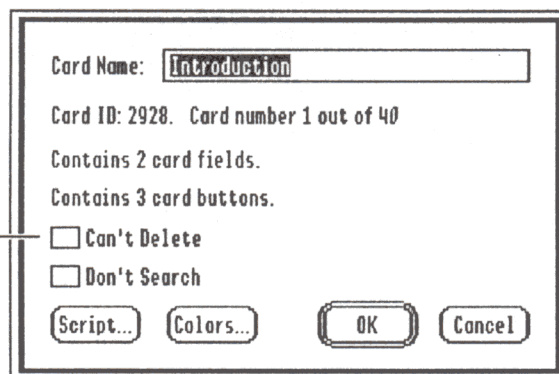
Figure 3-6   Protecting a card

5. **Click OK.**

You can't remove the card from the stack while the Can't Delete option is turned on. (You can, however, delete the entire stack, taking the protected card with it.)

When you want to delete the card, you can remove its protection by clicking Can't Delete again in the Card Info dialog box to deselect it (as shown in Figure 3-6).

Changing a card's color set

The color set for a card determines the 16 colors currently available for use by buttons, fields, and graphics on that card. You can choose from among at least five color sets for any given card: the standard system color set, a gray scale color set, and three others. You can also add a sixth color set to a card. And you can choose to have a card make use of whatever color set is currently selected for its background.

When you change a card's color set, the colors of some or all the graphics, buttons, and fields on the card may change to reflect the new colors. See "Changing Color Sets" in Chapter 6 for more information about the way the color sets for cards, backgrounds, and stacks affect the colors displayed on a card.

To change the color set for a card, follow these steps:

1. **Go to the card whose color set you want to change.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (✋), the Button tool (◯), or the Field tool (▥) will work.

3. **Choose Card Info from the Objects menu.**

4. **Click Colors.**

   The Colors dialog box for the card appears.

5. **Select the color set you want:**
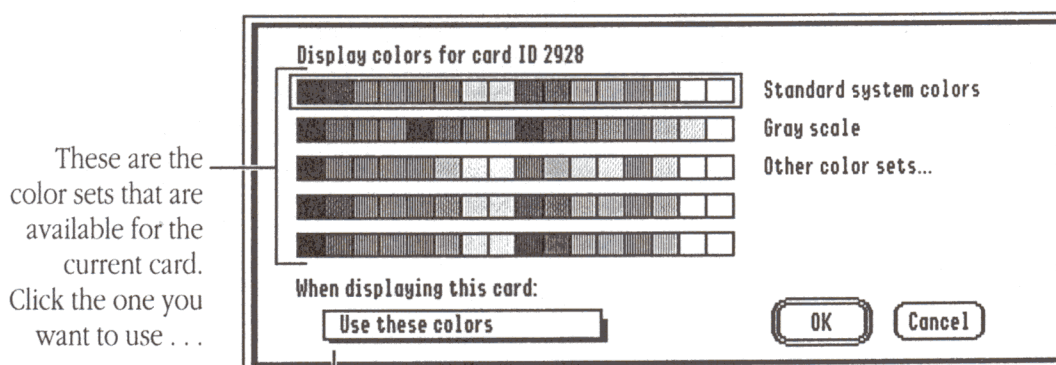
These are the
color sets that are
available for the
current card.
Click the one you
want to use . . .

. . . then press and hold the mouse button here and drag to
choose "Use these colors" (if it's not already selected) from the
pop-up menu. If you choose "Get colors from background"
instead, the card will use the colors currently specified for the
background no matter which color set is selected for the card.

Figure 3-7   Changing a card's color set

6. **When you're finished, click OK to confirm your selection.**

You see the Card Info dialog box again.

7. **In the Card Info dialog box, click OK.**

If none of the five color sets for a given card includes the colors you
want, you can add a sixth color set to that card from any document
in the Apple Preferred File Format. "Importing a New Color Set for
a Card or Background," in Chapter 6, describes how to do this.

You can also add a sixth color set to a card by using a desk accessory,
an XCMD, or HyperTalk to specify the colors you want. If you use
a desk accessory or an XCMD to do this, any color set you specify
while you're working in the card layer will be added automatically
to the color sets for the current card and will be selected. For
instructions on using HyperTalk to add a sixth color set to a card,
see the discussion of the `colorSet` property in the HyperTalk
Help stack.

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Deleting a card   To remove the current card from the stack, choose Delete Card from the Edit menu (or press ⌘-Delete). The current card disappears (unless it's protected), and you see the next card in the stack.

△ **Important:** If you delete a card by mistake, you can bring it back by immediately choosing Undo from the Edit menu, before you do anything else. △

If you try to delete a protected card, you see the following dialog box:

```
┌─────────────────────────────────────────────┐
│ ┌───────────────────────────────────────┐   │
│ │ Can't delete protected card.          │   │
│ │                                       │   │
│ │                          ┌─────────┐  │   │
│ │                          │   OK    │  │   │
│ │                          └─────────┘  │   │
│ └───────────────────────────────────────┘   │
└─────────────────────────────────────────────┘
```
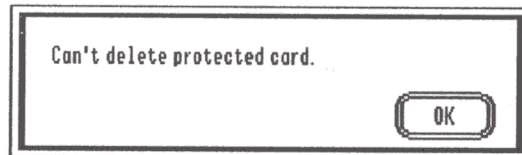
Figure 3-8   Trying to delete a protected card

"Protecting a Card," earlier in this chapter, describes how to set and remove card protection.

You can't delete the only card in a stack. If there's only one card in the stack and you want to delete it, choose Delete Stack from the File menu.

Working with backgrounds

A *background* serves as a template for a stack, or for some of the cards in a stack. Whatever's in a background is common to all cards associated with that background. You place buttons, fields, and graphics in the background when you want them to appear on all the cards that share the background.

There's no limit (beyond disk space) to the number of backgrounds a stack can have. In fact, every card in a stack could have its own background—but that would defeat the purpose of backgrounds. Together, the elements in a background help communicate the purpose of the stack by giving a similar appearance and function to the cards that share the background. This makes it much easier for other people to figure out what the stack is for and how to use it— and much easier for you to create and modify the stack. You can make changes to many cards at once just by changing elements in their common background.

"The Card Layer Versus the Background Layer" in Chapter 2 gives more information about the relationship between cards and backgrounds.

To see the background layer of the current card, choose Background from the Edit menu, or press ⌘-B. If you choose Background (or press ⌘-B) repeatedly, you move back and forth between the card layer and the background layer. When you're in the background layer, the word *Background* appears in the menu bar, and a check mark appears to the left of the Background command in the Edit menu:
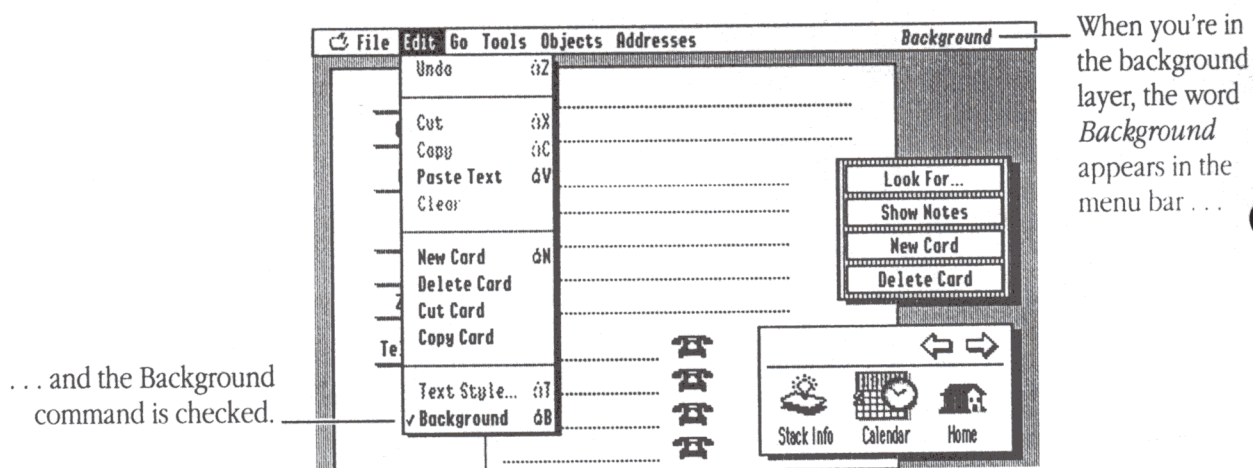
Figure 3-9 The word *Background* appears in the menu bar while you're working in a background

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While you're working in the background layer you can get back to the card layer by choosing Background from the Edit menu again, pressing ⌘-B, or choosing the Browse tool.

You can find out how many cards share the current background by choosing Bkgnd Info from the Objects menu (while any of the General tools is selected):

Bkgnd Name: [Home Cards]

Bkgnd ID: 2760. Shared by 5 cards.

Contains 3 background fields.

Contains 7 background buttons.

☐ Can't Delete

☐ Don't Search

[Script...] [Colors...] [OK] [Cancel]
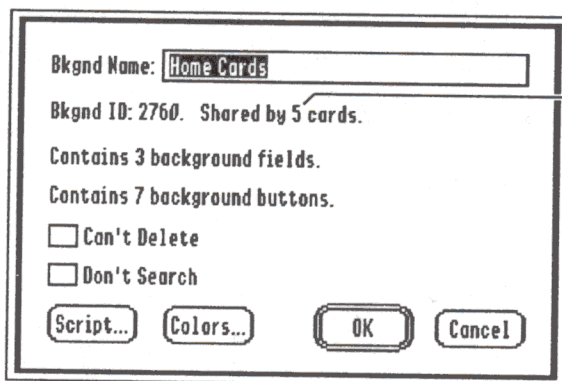
This number tells you how many cards in the stack share the current background.

Figure 3-10   Seeing how many cards share a background

To see how many backgrounds there are in the current stack, choose Stack Info from the Objects menu (while any of the General tools is selected):

Stack Name: [Home]

Where: :HardDisk:HyperCard:

Stack contains 7 cards.

Stack contains 2 backgrounds.

Size of stack: 43K.

Free in stack: 0K.

[Script...] [Colors...] [OK] [Cancel]
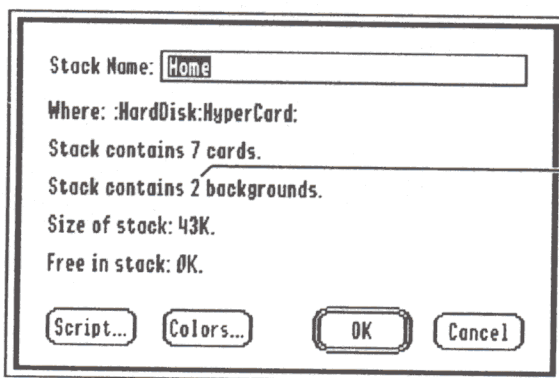
This number tells you how many backgrounds are in the current stack.

Figure 3-11   Checking the number of backgrounds in a stack

Creating a new background

When you want some (but not all) of the cards in a stack to have a similar appearance or contain the same elements, you can create a new background to be shared by just those cards.

To add a new background to a stack, choose New Background from the Objects menu. (You must have a General tool selected to see the Objects menu.) This adds to your stack a new, empty card with a blank background, and puts you in the background layer of that card. The new, empty card is added immediately after the card you're looking at when you choose New Background.

The New Background command
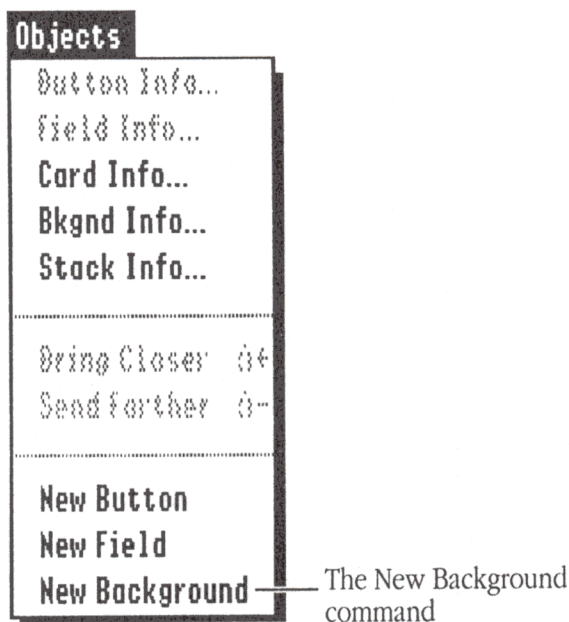
Figure 3-12   Creating a new background

For information about adding buttons, fields, and graphics to your new background, see Chapters 4, 5, and 6, respectively.

Moving between backgrounds

While you're working with a stack that has more than one background, it's useful to be able to move between the backgrounds quickly. This can help you keep an eye on the developing stack, and it makes stack building faster and easier.

When you're in a stack that has more than one background, you can move between the different backgrounds by following these steps:

1. **Open the Message box.**

2. **Type any of the following:**

go to next background ———— This takes you to the first card of the next background in the stack.

go to previous background ———— This takes you to the nearest card of the previous background in the stack.

go to background "Employees" ———— This takes you to the first card of the background named Employees, if there is such a background.
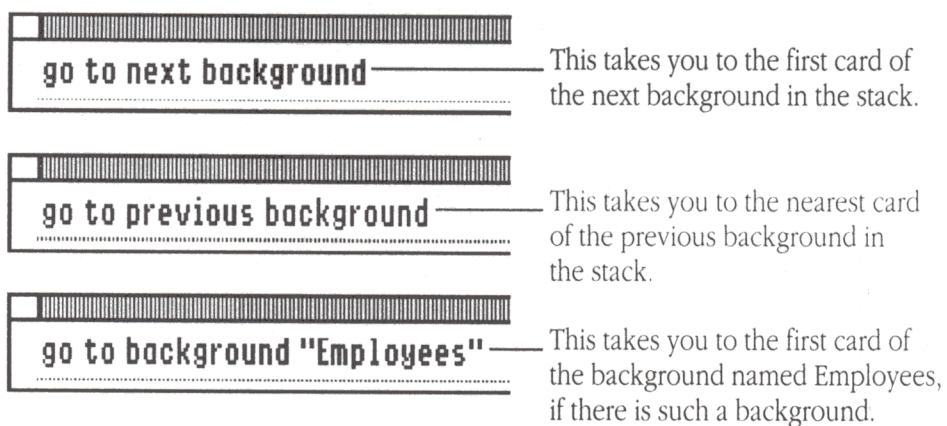
Figure 3-13   Moving between backgrounds

3. **Press Return or Enter.**

You go immediately to the first card with the specified background, if the stack has such a background.

If there's no such background in the current stack, you see the following dialog box:

```
┌─────────────────────────────────────────────┐
│ ┌─────────────────────────────────────────┐ │
│ │ No such card.                           │ │
│ │                                         │ │
│ │                          ╔════════════╗ │ │
│ │                          ║   Cancel   ║ │ │
│ │                          ╚════════════╝ │ │
│ └─────────────────────────────────────────┘ │
└─────────────────────────────────────────────┘
```
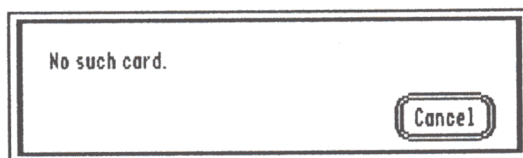
Figure 3-14   When HyperCard can't find a background

For information on naming a background, see "Naming a Background," later in this chapter.

Copying a background

You can copy a background from one stack to another, or from one place to another in the same stack. To copy an existing background, you copy a card that has that background. (When you copy a card, you copy everything associated with it, including its background.)

To copy a background, follow these steps:

1. **Go to a card that has the background you want to copy.**

   You can see the contents of the card's background by pressing ⌘-B to go to the background layer.

2. **Choose New Card from the Edit menu, or press ⌘-N.**

3. **Choose Cut Card from the Edit menu.**

4. **Move to the card you want the new background to follow.**

   It can be in the current stack or in another stack.

5. **Choose Paste Card from the Edit menu.**

The pasted card becomes the current card.

6. **To make another card with this background, choose New Card from the Edit menu.**

This creates a new card with the same background as the current card (the card you've just pasted). This new card contains only the background elements—the background buttons, fields, graphics, and script—of the copied card.

You can create as many cards with this background as you like by repeating this step.

If you try to copy a background into a stack that already has that background, HyperCard won't make the copy. However, when you're creating a large stack with different sections, you might want the different sections to have backgrounds with different names (and IDs) that are identical in every other respect. This way, you can move quickly between the sections of the stack by moving from one background to another, as explained in "Moving Between Backgrounds," earlier in this chapter.

You can get two identical backgrounds into a stack (with different names and IDs) by first making a temporary alteration to the background you want to copy. (For example, add a button to the background temporarily). Then follow the procedure described in this section to copy the background. After you've copied the background, undo the alteration you made to it.

△ **Important:** When you copy a background from one place to another, you copy the background's script, too (if it has one), and any scripts associated with the buttons and fields that are in the background. Since scripts sometimes rely on the characteristics of a particular stack, you might encounter problems (such as unfamiliar messages) after you copy a background. "Copying Parts From Other Stacks" in Chapter 2 discusses this problem. △

Getting information about a background

Using the Bkgnd Info command, you can get information about the current background and change some of its properties. Here's how:

1. **Make sure you have one of the General tools selected.**

   The Browse tool (✋), the Button tool (⬯), or the Field tool (▱) will work.

2. **Choose Bkgnd Info from the Objects menu.**

   The following dialog box appears:

The background's ID   The background's name

The number of cards that share this background

Bkgnd Name: [Home Cards]

Bkgnd ID: 2760. Shared by 5 cards.

Contains 3 background fields.

Contains 7 background buttons.

Select this option to protect the background from deletion.

☐ Can't Delete

Select this option to exclude the background's fields from text searches.

☐ Don't Search

(Script...) (Colors...)   (OK) (Cancel)

The number of fields in this background

The number of buttons in this background

If your user level is set to Scripting, you can click here to see the background's script.

Click here to see the background's color sets.

Click OK when you're through (or click Cancel to close the dialog box without saving any changes).

Figure 3-15   Getting information about a background

3. **When you're finished, click OK.**

❖ *Another way to open the Bkgnd Info dialog box:* If you are using the Home stack that comes with HyperCard, the following shortcut opens the Bkgnd Info dialog box for the current background in any stack: While any General tool is selected, press ⌘-M to open the Message box; then type b and press Return. (This shortcut is built into the standard HyperCard Home stack.) ❖

Naming a background

Generally, a background doesn't have a name unless you give it one (or someone else does). A background's name is one way HyperCard identifies the background. You can use the background name in the Message box to bring the first card with that background into view. And you can use a background's name to address the background through scripts.

To name a background or change its name, follow these steps:

1. **Make sure you have one of the General tools selected.**

    The Browse tool (🖑), the Button tool (⬭), or the Field tool (⌨) will work.

2. **Choose Bkgnd Info from the Objects menu.**

3. **Type or change the background's name.**

4. **Click OK.**

Excluding background fields from text searches

The Find command (in the Go menu) allows you to search for specific text in the fields of a stack. ("Looking for Specific Text" in Chapter 1 explains how to search for text.) When you're searching for specific text in a large stack, you can speed your search by excluding any fields that you know don't contain the text you're looking for.

To prevent HyperCard from searching in the fields that belong to any particular background, follow these steps:

1. **Go to a card with the background whose fields you want to exclude from text searches.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (☝), the Button tool (◯), or the Field tool (▦) will work.

3. **Choose Bkgnd Info from the Objects menu.**

4. **Click the Don't Search check box to select it:**

Click here to exclude the background's fields from text searches. If you click again, you open the background's fields to text searches.

```
┌─────────────────────────────────────────────────────┐
│  Bkgnd Name: │|                                    │ │
│                                                      │
│  Bkgnd ID: 2697.  Shared by 33 cards.                │
│                                                      │
│  Contains 3 background fields.                       │
│  Contains 2 background buttons.                      │
│  ☐ Can't Delete                                      │
│  ☐ Don't Search                                      │
│  (Script...) (Colors...)      ( OK )    (Cancel)     │
└─────────────────────────────────────────────────────┘
```
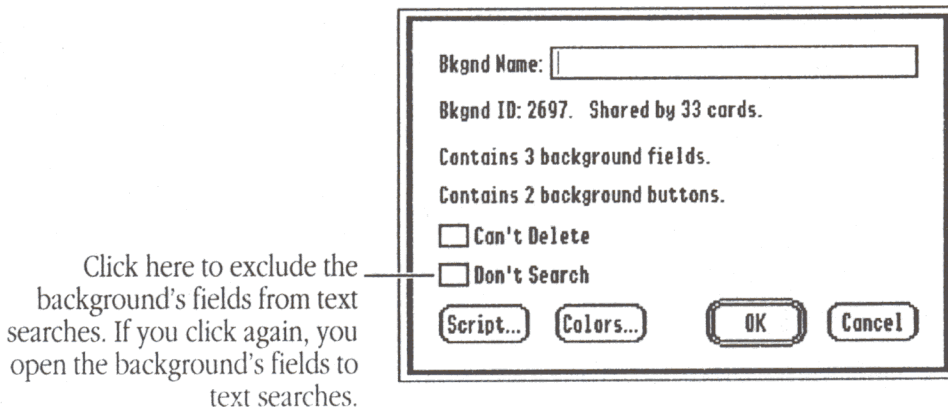
Figure 3-16 Excluding a background's fields from text searches

5. **Click OK.**

If you want to allow HyperCard to search in the background's fields, click Don't Search again to deselect it (as shown in Figure 3-16).

➤ *See also:* • "Excluding Card and Background Fields From Text Searches" in this chapter
• "Excluding a Field From Text Searches" in Chapter 5

Protecting a background

You can protect a background from deletion, but you can't prevent changes to a background unless you protect the entire stack from modification (as explained in "Protecting Your Stack" in Chapter 2).

When you protect a background from deletion, you tell HyperCard not to allow the removal of the last card that has the background.

To protect a background from deletion, follow these steps:

1. **Go to a card that has the background you want to protect.**

2. **Make sure you have one of the General tools selected.**

    The Browse tool (⍩), the Button tool (○), or the Field tool (▦) will work.

3. **Choose Bkgnd Info from the Objects menu.**

4. **Click the Can't Delete check box to select it:**

Click here to protect the background from deletion. If you click again, you remove the background's protection.

> Bkgnd Name: Home Cards
>
> Bkgnd ID: 2760.   Shared by 5 cards.
>
> Contains 3 background fields.
>
> Contains 7 background buttons.
>
> ☐ Can't Delete
> ☐ Don't Search
>
> (Script...) (Colors...)   (OK)   (Cancel)
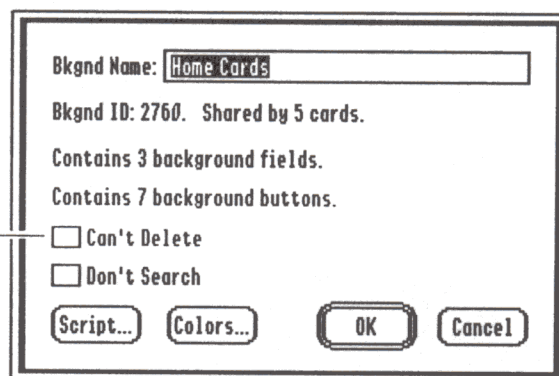
Figure 3-17   Protecting a background

5. **Click OK.**

    As long as the Can't Delete option is turned on, you can't remove the last card with that background from the stack. (You can, however, delete the stack, taking the protected background with it.)

To remove the background's protection, click Can't Delete in the Bkgnd Info dialog box to deselect it (as shown in Figure 3-17).

Changing a background's color set

The color set for a background determines the 16 colors currently available for use by the cards that share the background and by the background's buttons, fields, and graphics. You can choose from among at least five color sets for any given background: the standard system color set, a gray scale color set, and three others. You can also add a sixth color set to a background. And you can choose to have a background make use of whatever color set is currently selected for the stack.

If you wish, you can select a color set for a card that is different from the color set selected for the card's background. If a card's color set has not been selected individually, the card makes use of the color set currently selected for its background.

When you change a background's color set, the colors of some or all the graphics, buttons, and fields in the background may change to reflect the new colors. See "Changing Color Sets" in Chapter 6 for more information about the way the color sets for cards, backgrounds, and stacks affect the colors displayed on a card.

To change the color set for a background, follow these steps:

1. **Go to any card that has the background whose color set you want to change.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (🖐), the Button tool (○), or the Field tool (▭) will work.

3. **Choose Bkgnd Info from the Objects menu.**

4. Click Colors.

The Colors dialog box for the background appears.

5. Select the color set you want:

These are the color sets that are available for the current background. Click the one you want to use . . .

```
Display colors for background ID 2697
┌──────────────────────────────────────┐
│ [████▌ ▐██████] │ Standard system colors
│ [██████ ▐███████] │ Gray scale
│ [█████ ▐██████] │ Other color sets...
│ [██████ ▐██████] │
│ [██████ ▐██████] │
│                                      │
│ When displaying this bkgnd:          │
│ [ Use these colors ▼ ]     ( OK ) (Cancel) │
└──────────────────────────────────────┘
```

. . . then press and hold the mouse button here and drag to choose "Use these colors" (if it's not already selected) from the pop-up menu. If you choose "Get colors from stack" instead, your stack will use the colors currently specified for the stack no matter which color set is selected for the background.

Figure 3-18   Changing a background's color set

6. When you're finished, click OK to confirm your selection.

You see the Bkgnd Info dialog box again.

7. In the Bkgnd Info dialog box, click OK.

If you're working in the card layer of a card for which a color set is selected that's different from the background's color set, you must choose ⌘-B to see the effect of the color set you just selected.

If none of the five color sets for a given background includes the colors you want, you can add a sixth color set to that background from any document in the Apple Preferred File Format. "Importing a New Color Set for a Card or Background," in Chapter 6, describes how to do this.

You can also add a sixth color set to a background by using a desk accessory, an XCMD, or HyperTalk to specify the colors you want. If you use a desk accessory or an XCMD to do this, any color set you specify while you're working in the background layer will be added automatically to the color sets for the current background and will be selected. For instructions on using HyperTalk to add a sixth color set to a card, see the discussion of the `colorSet` property in the HyperTalk Help stack.

Deleting a background

You can't delete a background directly. To remove a background from a stack, you must delete every card that uses the background. Or, if the stack contains only one background, you can simply delete the whole stack, as described in "Deleting a Stack" in Chapter 2.

Follow these steps to remove a background from a stack without deleting the whole stack:

1. **Go to a card that has the background you want to delete.**

2. **Choose Delete Card from the Edit menu (or press ⌘-Delete).**

   The card disappears unless it's protected. If the card is protected, the following dialog box appears:

   ```
   ┌─────────────────────────────────────────┐
   │  Can't delete protected card.           │
   │                              ┌───────┐  │
   │                              │  OK   │  │
   │                              └───────┘  │
   └─────────────────────────────────────────┘
   ```
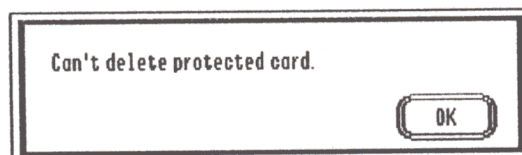
   Figure 3-19 Trying to delete a protected card

   See "Protecting a Card," earlier in this chapter, for instructions on removing card protection.

Chapter 3: Working With Cards and Backgrounds

△ **Important:** If you delete a card by mistake, you can bring it back by immediately choosing Undo from the Edit menu, before you do anything else. △

3. **Repeat steps 1 and 2 until you've removed from the stack every card that has the background you want to delete.**

When Can't Delete is selected in the Bkgnd Info dialog box for a background, you can't delete the last card with this background. (You can, however, delete the stack—including the protected background.)

"Protecting a Background," earlier in this chapter, gives information on setting and removing a background's protection.

Working With Buttons

Buttons are rectangular "hot spots" you can click to make things happen in stacks. For example, a button might take you to another card, show you a picture, launch an application, or run an animation sequence.

This chapter explains how to do the following:

- Create and modify buttons

- Use the readymade buttons that come with HyperCard

- Use buttons to link information

To do the tasks in this chapter, you must have your user level set at least to Authoring. For some of the tasks, your user level must be Scripting. When a task requires the Scripting level, the instructions say so. (The section "User Levels and Options" in Chapter 1 tells you how to set your user level.)

Adding a button to a card or background

Buttons allow you to link any piece of information—a card, an idea, a picture, an address—to any other piece of information. You can use buttons to link related information in any way you like.

But buttons have powers beyond linking—they can play sounds, dial a phone, produce interesting visual effects, or even show you a video sequence.

Behind every button is a *script* that tells HyperCard what to do when you click the button. You can create or change a script using HyperTalk, HyperCard's English-like programming language. However, you don't need to learn HyperTalk to create interesting and powerful buttons. You can create a link without writing the script that makes it work. You can also copy buttons (with pre-programmed scripts) from other stacks—including the Button Ideas stack that comes with HyperCard. When you copy a button, you also copy its script.

Whenever you add a button to a stack, you need to decide whether you want it in the card layer or the background layer. To decide where to put the button, consider where you want it to appear:

- If you want the button to appear on only one card, put it in the card layer.

- If you want the button to appear on every card in the stack, put it in the background layer.

- If you want the button to appear on some of the cards in the stack (but not all of them), consider creating a different background for those cards and putting the button in that background only. ("Creating a New Background" in Chapter 3 explains how to add a background to a stack.)

A background button appears in the same location on all the cards that share the background.

To add a button to a background, you must be in the background layer; to add a button to a card, you must be in the card layer. To go to the background layer, press ⌘-B. When you're in the background layer, the word *Background* appears in the menu bar. If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

➤ *See also:* • "The Card Layer Versus the Background Layer" in Chapter 2
        • "Creating a Button" in this chapter

The tools for working with buttons

To work with buttons, you need the Button tool, the Browse tool, and perhaps some of the Paint tools.

Use the Browse tool to click buttons.

Use the Button tool to create and modify buttons.

Use the Paint tools when you want to create a graphic to display through a button.
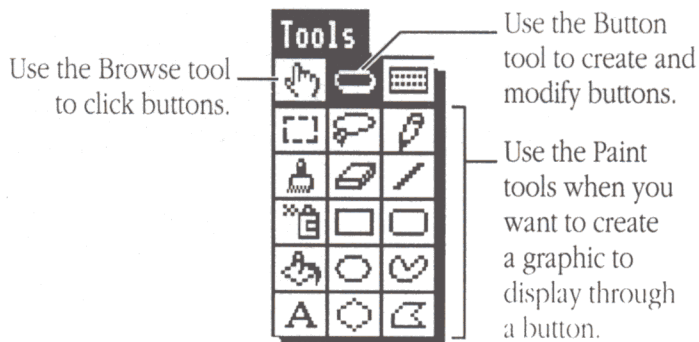
Figure 4-1   The tools for working with buttons

To make it easy to alternate between the tools, you can "tear off" the Tools menu to create a movable Tools palette. To do this, drag down through the menu and past the bottom or beyond either side. (For an illustration of this, see Figure 2-12.)

You can use the following ⌘-key shortcuts to choose the tools you need for working with buttons:

To choose this tool . . .	Press
The Browse tool	⌘-Tab
The Button tool	⌘-Tab-Tab

➤ *See also:* • "Using HyperCard's Tools" in Chapter 2

Copying readymade buttons

HyperCard comes with a stack called Button Ideas that contains buttons you can copy and paste into your stacks. Some of these buttons have pre-programmed scripts that can help you develop your own stacks. The Button Ideas stack includes buttons that launch applications, play sounds, make pictures disappear and reappear, and play animation sequences.

You don't need to know HyperTalk to make the buttons with pre-programmed scripts work—you just need to understand what they do, so that you can use them appropriately in your stacks. These buttons are designed to work in virtually any stack. They don't depend on your stack's structure in any way.

You can copy buttons that you like from other stacks as well as from the Button Ideas stack. However, unlike the buttons in Button Ideas, buttons from other stacks may not work the way you expect in your own stack. See the section "Copying Parts From Other Stacks" in Chapter 2 for information about the factors you need to consider.

Buttons for opening stacks that
come with HyperCard:

Buttons that hide and
show the card picture:

Addresses

Calendar

(Hide Picture)

(Show Picture)

A button that plays
a sound:

An animated
button:

A button that opens
an application:

AppleWorks

A button that
quickly shows you
all the cards in the
stack:

A button that lets
you search for text
in a stack:

A button that takes
you to the HyperCard
Help stack:

Figure 4-2   Some readymade buttons

Copying buttons from the Button Ideas stack can make stack
building easier and save you a lot of time. If you see a button you
like, copy it and paste it into your stack. Note that in the Button
Ideas stack, only buttons inside red borders include scripts. If you
copy a button that doesn't include a script, you must write a script
for it before it will do anything.

Follow these steps to copy one of the buttons in the Button Ideas
stack:

1. **Open the Button Ideas stack.**

2. **Go to the card that has the button you want to copy.**

3. **Choose the Button tool (○) from the Tools menu (or click it on the Tools palette).**

4. **Click the button you want to copy to select it.**

   A moving dashed line surrounds the selected button.

5. **Choose Copy Button from the Edit menu, or press ⌘-C.**

   This puts a copy of the selected button (including its script, if it has one) on the Clipboard. (This button replaces the last item you cut or copied; the Clipboard can only hold one item at a time.)

6. **Go to the card or background where you want to put the copied button.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Button tool is selected.

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

7. **Choose Paste Button from the Edit menu, or press ⌘-V.**

   This takes a copy of the button that's on the Clipboard, puts it on the current card or background, and selects it.

8. **While the button is still selected, drag it to where you want it on the card.**

△ **Important:** The most common mistake in copying a button is putting it in the card layer when you want it in the background layer. (To find out whether a button is in the background, press ⌘-B to see just the background elements.) If you put a button in the card layer by mistake, see "Moving a Button From the Card to the Background," later in this chapter. △

Buttons for opening stacks that
come with HyperCard:

Buttons that hide and
show the card picture:

Addresses

Calendar

(Hide Picture)

(Show Picture)

A button that plays
a sound:

An animated
button:

A button that opens
an application:

AppleWorks

A button that
quickly shows you
all the cards in the
stack:

A button that lets
you search for text
in a stack:

A button that takes
you to the HyperCard
Help stack:

Figure 4-2   Some readymade buttons

Copying buttons from the Button Ideas stack can make stack
building easier and save you a lot of time. If you see a button you
like, copy it and paste it into your stack. Note that in the Button
Ideas stack, only buttons inside red borders include scripts. If you
copy a button that doesn't include a script, you must write a script
for it before it will do anything.

Follow these steps to copy one of the buttons in the Button Ideas
stack:

1. **Open the Button Ideas stack.**

2. **Go to the card that has the button you want to copy.**

3. **Choose the Button tool (⬭) from the Tools menu (or click it on the Tools palette).**

4. **Click the button you want to copy to select it.**

   A moving dashed line surrounds the selected button.

5. **Choose Copy Button from the Edit menu, or press ⌘-C.**

   This puts a copy of the selected button (including its script, if it has one) on the Clipboard. (This button replaces the last item you cut or copied; the Clipboard can only hold one item at a time.)

6. **Go to the card or background where you want to put the copied button.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Button tool is selected.

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

7. **Choose Paste Button from the Edit menu, or press ⌘-V.**

   This takes a copy of the button that's on the Clipboard, puts it on the current card or background, and selects it.

8. **While the button is still selected, drag it to where you want it on the card.**

△ **Important:** The most common mistake in copying a button is putting it in the card layer when you want it in the background layer. (To find out whether a button is in the background, press ⌘-B to see just the background elements.) If you put a button in the card layer by mistake, see "Moving a Button From the Card to the Background," later in this chapter. △

If the button you copied includes a script, you can test it after you copy it—just choose the Browse tool and click the button.

You can see the HyperTalk commands that make the button work by opening the button's script, as explained in "Opening a Button's Script," later in this chapter. If the button doesn't have a script, you can learn how to write one for it by working through the exercises in the *HyperTalk Beginner's Guide*.

➤ *See also:* • "Changing the Appearance of a Button" in this chapter

Creating a button

Buttons come in many different styles and sizes. A button can be blank; it can have text, an icon, or both; or it be placed over a graphic, so that the graphic appears to be part of the button.

You can create a blank, transparent button on a card or background by following these steps:

1. **Go to the card or background where you want the button.**

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

2. **Choose the Button tool (⬭) from the Tools menu.**

   The pointer changes to an arrow (🢱).

3. **Hold down the ⌘ key and drag diagonally.**

   This creates a blank, transparent button and leaves the button selected:

Hold down the ⌘ key while
you drag from here . . . ⌐ - - - - - - - - - - - - ┐
                        │   │
                        │   │
                        └ - - - - - - - - - - - - ┘ . . . to here.

Figure 4-3   Creating a blank button

You can bring the button to life by linking it to another card or writing a script for it (if you're familiar with HyperTalk). "Linking Information," later in this chapter, gives instructions for linking. For information on scripting, see the *HyperTalk Beginner's Guide*.

The sections that follow explain how to create new buttons with text, icons, and graphics.

➤ *See also:*   • "Changing the Appearance of a Button" in this chapter

Creating a button with text

Displaying text on a button is one good way to indicate what the button does.

Creating a text button is also a useful way to add a short text label to a card or background—whether or not the button does anything dynamic. Button text is easy to move around on the card, because it moves when you move the button.

Follow these steps to create a new button with text:

1. **Go to the card or background where you want the button.**

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

2. **Make sure you have one of the General tools selected.**

   The Browse tool (☞), the Button tool (○), or the Field tool (▦) will work.

3. Choose New Button from the Objects menu.

This automatically selects the Button tool, creates a button named New Button in the center of the card window, and selects the button.

The moving dashed line indicates that the button is selected.
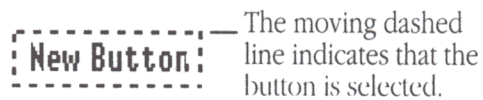
Figure 4-4   A button created with the New Button command

> ❖ *Another method:* You can create a blank, transparent button by choosing the Button tool, then pressing and holding the key while you drag diagonally (as shown in Figure 4-3). ❖

4. While the button is still selected, choose Button Info from the Objects menu.

Or double-click the button. The Button Info dialog box appears.

5. Type the text you want to display on the button:

The text you type here is displayed on the button . . .

. . . if Show Name is selected.
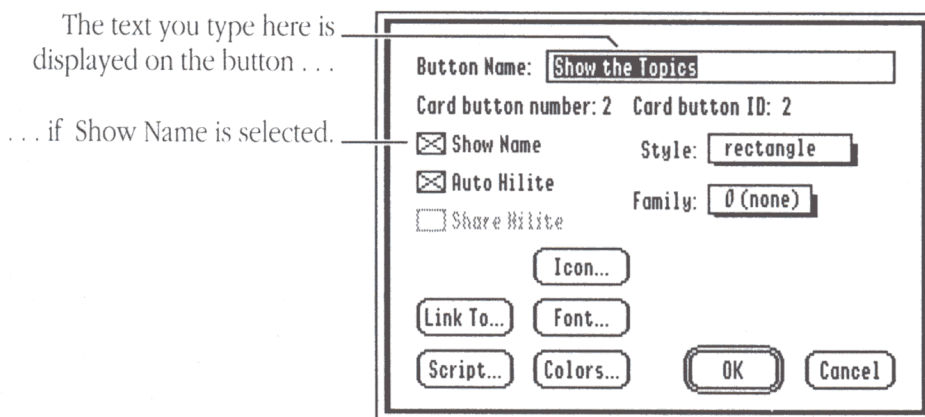
Figure 4-5   Typing the text you want to display on the button

6. **Click the Show Name check box to select it, if it isn't already selected.**

7. **Click OK.**

   The text you've typed appears on the button. (A button can display only one line of text.) To see all the text, you might have to enlarge the button:

   ```
   now the Topic __ To resize the button,
                      drag from any corner.
   ```
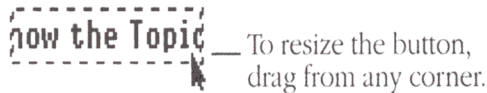
   Figure 4-6   Resizing a button

   If the button is no longer selected, you can select it by choosing the Button tool and then clicking the button.

8. **While the button is selected, drag it to where you want it on the card.**

△ **Important:** The most common mistake in creating a button is putting it in the card layer when you want it in the background layer. (To find out whether a button is in the background, press ⌘-B to view just the background elements.) If you put a button in the card layer by mistake, see "Moving a Button From the Card to the Background," later in this chapter. △

You can bring the button to life by linking it to another card or writing a script for it (if you're familiar with HyperTalk). "Linking Information," later in this chapter, gives instructions for linking. For information on scripting, see the *HyperTalk Beginner's Guide.*

❖ *Another kind of text button:* Another way to make a button with text is to create a transparent button and place it over some Paint text. The advantages and disadvantages of this method are described in "Creating a Button with a Graphic," later in this chapter. ❖

Creating a button with an icon

HyperCard comes with a collection of icons you can assign to buttons. Displaying an icon on a button is one good way to indicate graphically what the button does.

Creating a button with an icon is also a useful way to add a graphic element to a card or background, whether or not the button is dynamic. Since the icon is attached to the button, you can move it around easily—it moves when you move the button.

Follow these steps to create a new button with an icon:

1. **Go to the card or background where you want the button.**

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

2. **Make sure you have one of the General tools selected.**

   The Browse tool (☞), the Button tool (◦), or the Field tool (▭) will work.

3. **Choose New Button from the Objects menu.**

   This automatically selects the Button tool, creates a button named New Button in the center of the card window, and selects the button.

```
┌ ─ ─ ─ ─ ─ ─ ─ ┐   — The moving dashed
┆ New Button ┆      line indicates that the
└ ─ ─ ─ ─ ─ ─ ─ ┘   button is selected.
```
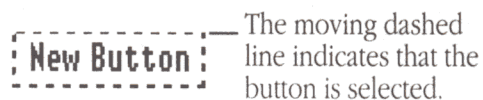
Figure 4-7   Making a new button

❖ *Another method:* You can create a blank, transparent button by choosing the Button tool, then pressing and holding the ⌘ key while you drag diagonally (as shown in Figure 4-3). ❖

4. While the button is selected, choose Button Info from the Objects menu.

Or double-click the button. The Button Info dialog box appears:

If this option is selected and the button has a name, the button name will appear on the button along with the icon you choose.

Click here to see a collection of icons you can choose from.
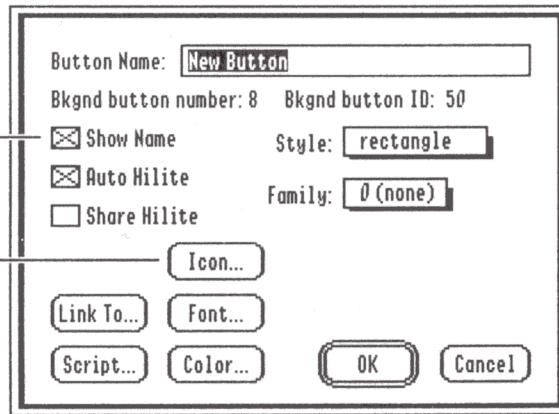
Figure 4-8 The Button Info dialog box

5. Click Icon.

The Icon dialog box appears:
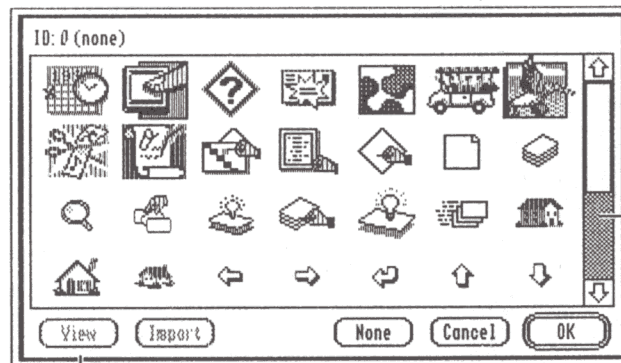
Scroll, if necessary, to find the icon you want to display on the button.

If the icon you select isn't entirely visible, press and hold the mouse button here to see what the whole icon looks like.

Figure 4-9 Choosing an icon

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6. Click the icon you want to display on your button.

7. Click OK.

   The Icon dialog box disappears and you see the Button Info dialog box again.

8. **In the Button Info dialog box, click OK.**

   The icon you've selected appears on the button. To see the whole icon, you might have to enlarge the button:

To resize the button, drag from any corner.

Figure 4-10   Resizing a button

9. **While it's still selected, drag the button to where you want it on the card.**

△ Important: The most common mistake in creating a button is putting it in the card layer when you want it in the background layer. (To find out whether a button is in the background, press ⌘-B to view just the background elements.) If you put a button in the card layer by mistake, see "Moving a Button From the Card to the Background," later in this chapter. △

If you don't want to use any of the icons shown in the Icon dialog box, you can copy a button with an icon you like from the Button Ideas stack or create your own icon using the Icon Editor stack.

If you want to change the colors of the icon displayed on your button, see "Changing a Button's Colors," later in this chapter.

You can bring the button to life by linking it to another card or writing a script for it (if you're familiar with HyperTalk). "Linking Information," later in this chapter, gives instructions for linking. For information on scripting, see the *HyperTalk Beginner's Guide.*

➤ *See also:*   • "Managing Icons" in this chapter
                  • "Changing the Appearance of a Button" in this chapter
                  • "When Elements Overlap" in this chapter

Combining text with an icon

You can add text to a button that already has an icon. Follow these steps:

1. **Choose the Button tool (�) from the Tools menu.**

2. **Double-click the button.**

   The Button Info dialog box appears.

3. **Type the text you want to add to the button.**

4. **Click the Show Name check box to select it.**

5. **Click OK.**

   The text appears along with the icon on your button. To see all the text, you might have to enlarge the button:

To resize the button, drag from any corner.

Figure 4-11   An icon with text

Creating a button with a graphic

You can make a button with a graphic by placing a transparent button over a graphic. Use this technique when you want to make a graphic dynamic—so that something happens when you click it. (Since a graphic can't have a script, overlaying a button is the only way to do this.)

△ **Important:** Buttons with graphics are difficult to move and copy, because buttons and graphics are different kinds of elements. They have to be manipulated separately, with different tools—you use the Paint tools to manipulate the graphic and the Button tool to manipulate the button—and they're in different layers (as explained in "When Elements Overlap," later in this chapter). It's better to use a button with an icon (if possible), because an icon is attached to the button and moves easily with the button. △

Follow these steps to create a button with a graphic:

1. **Go to the card or background where you want the graphic.**

   If you're not sure whether you want the graphic in the card layer or the background layer, see "Adding Graphics to a Card or Background" in Chapter 6.

2. **Create the graphic.**

   You can create it with the Paint tools, scan it in, bring it in from a document in the Apple Preferred File Format, or copy and paste it from another stack. The graphic can include some Paint text, or it can be entirely Paint text. Chapter 6 gives instructions for creating graphics.

3. **Choose the Button tool (○) from the Tools menu.**

4. Press and hold the ⌘ key while you drag diagonally to create a button around the graphic:

While holding down the ⌘ key, — drag from the upper-left corner of the graphic . . .
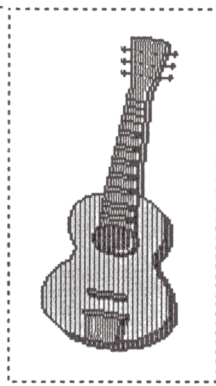
. . . to the lower-right corner.

Figure 4-12 Placing a transparent button over a graphic

You can bring the button to life by linking it to another card or writing a script for it (if you're familiar with HyperTalk). ("Linking Information," later in this chapter, gives instructions for linking. For information on writing scripts, see the *HyperTalk Beginner's Guide*.)

Managing icons

HyperCard comes with a collection of icons you can assign to buttons. Assigning an icon to a button is an easy way to add a graphic element to a card or background. You simply select the button and choose an icon from the Icon dialog box. ("Creating a Button With an Icon," earlier in this chapter, gives specific instructions.)

An icon you assign to a button is associated with that button until you specifically change it in the Icon dialog box. When you select the button and drag it around on a card, the icon moves with it. But the icon is not actually stored in the button.

Each icon that appears in the Icon dialog box is stored in a special part of the HyperCard program file (or a HyperCard stack) called a *resource fork*. Most Apple IIGS files—including the Home stack and any other HyperCard stack—have a resource fork, where resources like icons, sounds, and so on are stored. The icons that appear in the Icon dialog box include the standard icons that are stored in the HyperCard IIGS program file, any icons that are stored in your Home stack, and any additional icons stored in the current stack.

Using HyperCard's Icon Editor stack, you can modify an icon that's displayed on a button, create icons of your own, and add icons to your stacks. The Icon Editor stack tells you how. Once you have created or modified an icon, you need to consider where you want to store it so that it will be available to the stacks in which you want to use it.

For example, if you create an icon and install it in any stack other than Home, it will appear in the Icon dialog box for buttons in that stack, but it will not appear in the Icon dialog box for buttons in any other stacks. If you expect to use a particular icon in several different stacks, install it in your Home stack. That way it will always show up in the Icon dialog box no matter which stack you're working in.

If your Apple IIGS is part of a network, you may want to consider a different strategy. Each person using HyperCard over a network uses a different Home stack. This means that any custom icons you've installed in your own Home stack won't be available to other people on the network. If you're creating a stack that you want everyone on the network to be able to use, make sure that any custom icons assigned to buttons in that stack are stored in the stack itself as well as in your Home stack. That way your custom icons will be available to everyone who uses your stack, even if they don't have them installed in their own Home stacks.

The Icon Editor stack allows you to install icons you've created with the Icon Editor in any other stack. You can also install an icon by copying and pasting a button, or by using the Import button in the Icon dialog box. The sections that follow explain these two methods.

Installing an icon by pasting a button

To copy an icon from any stack other than the Home stack into another stack, follow these steps:

1. **Go to a stack that contains a button with the icon you want to install.**

2. **Choose the Button tool (⊂⊃) from the Tools menu.**

3. **Double-click the button.**

   The Button Info dialog box appears.

4. **Click Icon.**

   The Icon dialog box appears.

5. **Make sure the icon you want to copy is installed in the current stack:**

Click the icon to select it
(if it's not already selected) . . .

If the Import button is
dimmed, the icon is stored
in the current stack.

. . . and make sure the
name shown here is the
name of the current stack.
If it isn't, go to the stack
with the name shown and
begin again with step 1.

Scroll, if necessary, to locate
the icon you want to copy.
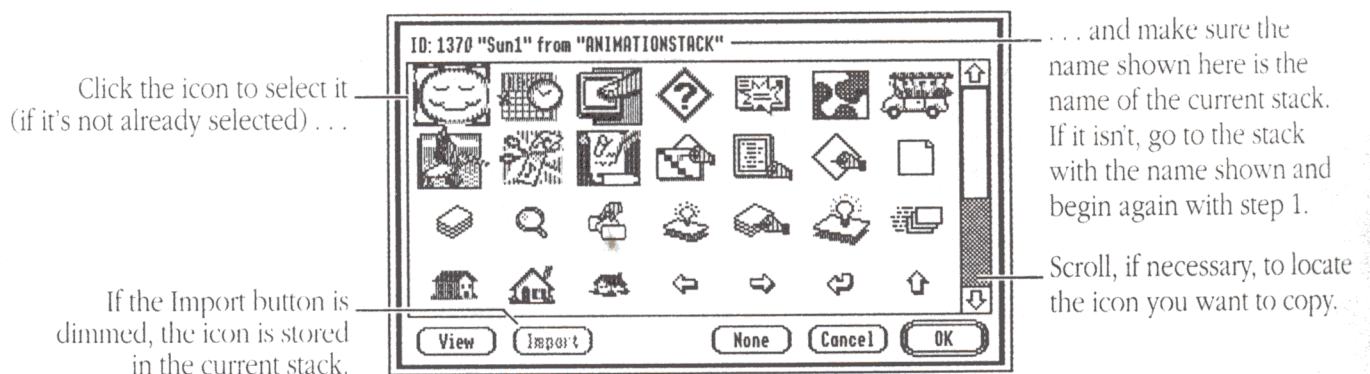
Figure 4-13   Finding out where an icon is stored

6. **Click Cancel.**

   The Icon dialog box disappears and you see the Button Info dialog box again.

7. **Click Cancel again.**

   The Button Info dialog box disappears. A moving dashed line surrounds the button you want to copy, indicating that it is selected. (If you deselect it by accident, just click it again to select it.)

8. **Choose Copy Button from the Edit menu, or press ⌘-C.**

   This makes a copy of the selected button (including its icon) and puts it on the Clipboard. (This button replaces the last item you cut or copied; the Clipboard can only hold one item at a time.)

9. **Go to the stack in which you want to install the icon.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Button tool is selected.

   If you just want to install the icon, you can go to any card or background in your stack. If you want to use the button (and its script) as well as the icon, go to the card or background where you want the button to appear. (If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.)

10. **Choose Paste Button from the Edit menu, or press ⌘-V.**

    This takes a copy of the button that's on the Clipboard, puts it on the current card or background, and selects it. At the same time, pasting the button installs the button's icon in the current stack's resource fork.

11. **If you want to keep the button, drag the button to where you want it.**

    If you don't need the button, press Delete to delete it. The icon remains in the stack and will appear in the Icon dialog box for any button in that stack.

The icon you've installed will now appear in every copy of the stack, even if the icon is not installed in the current Home stack.

Installing an icon with the Icon dialog box

To copy an icon from your Home stack into another stack, follow these steps:

1. **Go to the stack in which you want to install the icon.**

2. **Choose the Button tool (⊖) from the Tools menu.**

3. **Double-click the button on which you want to display the icon.**

   The Button Info dialog box appears.(You must follow this step and the steps that follow even if the button already displays the icon you want.)

4. **Click Icon.**

   The Icon dialog box appears.

5. **Install the icon as shown in this figure:**

Click the icon to select it (if it's not already selected) . . .

. . . then click here to import the icon into the current stack. (If the Import button is dimmed, the icon is already stored in the current stack and you don't need to import it.)

Figure 4-14   Installing an icon with the Icon dialog box

The icon is now installed in the current stack.

6. **Click OK.**

   The Icon dialog box disappears and you see the Button Info dialog box again.

7. **Click Cancel again.**

The Button Info dialog box disappears. A moving dashed line surrounds the button you want to copy, indicating that it is selected. (If you deselect it by accident, just click it again to select it.)

8. **Choose Copy Button from the Edit menu, or press ⌘-C.**

This makes a copy of the selected button (including its icon) and puts it on the Clipboard. (This button replaces the last item you cut or copied; the Clipboard can only hold one item at a time.)

9. **Go to the stack in which you want to install the icon.**

Use the arrow keys or commands in the Go menu to navigate between cards while the Button tool is selected.

If you just want to install the icon, you can go to any card or background in your stack. If you want to use the button (and its script) as well as the icon, go to the card or background where you want the button to appear. (If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.)

10. **Choose Paste Button from the Edit menu, or press ⌘-V.**

This takes a copy of the button that's on the Clipboard, puts it on the current card or background, and selects it. At the same time, pasting the button installs the button's icon in the current stack's resource fork.

11. **If you want to keep the button, drag the button to where you want it.**

If you don't need the button, press Delete to delete it. The icon remains in the stack and will appear in the Icon dialog box for any button in that stack.

The icon you've installed will now appear in every copy of the stack, even if the icon is not installed in the current Home stack.

Installing an icon with the Icon dialog box

To copy an icon from your Home stack into another stack, follow these steps:

1. **Go to the stack in which you want to install the icon.**

2. **Choose the Button tool (⊂⊃) from the Tools menu.**

3. **Double-click the button on which you want to display the icon.**

   The Button Info dialog box appears.(You must follow this step and the steps that follow even if the button already displays the icon you want.)

4. **Click Icon.**

   The Icon dialog box appears.

5. **Install the icon as shown in this figure:**

Click the icon to select it (if it's not already selected) . . .

. . . then click here to import the icon into the current stack. (If the Import button is dimmed, the icon is already stored in the current stack and you don't need to import it.)

Figure 4-14   Installing an icon with the Icon dialog box

The icon is now installed in the current stack.

6. **Click OK.**

   The Icon dialog box disappears and you see the Button Info dialog box again.

7. In the Button Info dialog box, click OK.

The icon you've installed will always appear in the Icon dialog box for your stack, even if the icon is not installed in the current Home stack.

Locating buttons

Many of the buttons in stacks are easy to locate right away. But some buttons are harder to find—particularly transparent ones.

You can locate the buttons on the current card and background using any of the following methods:

- While the Browse tool is selected, you can "peek" at the buttons by pressing and holding the ⌘ and Option keys. Gray or colored rectangles appear around the buttons:

Thin rectangles outline the buttons in the card layer.
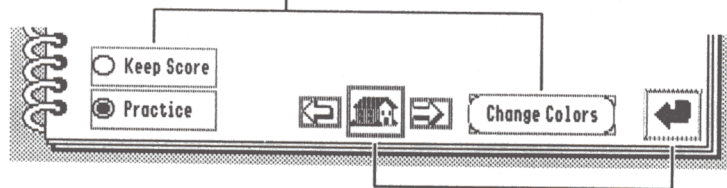
Thick rectangles outline the buttons in the background layer.

Figure 4-15   Peeking at buttons

- When you choose the Button tool from the Tools menu, rectangles appear around the buttons that don't already have an outline:

When you
choose the
Button Tool . . .

. . . rectangles appear
around the buttons.
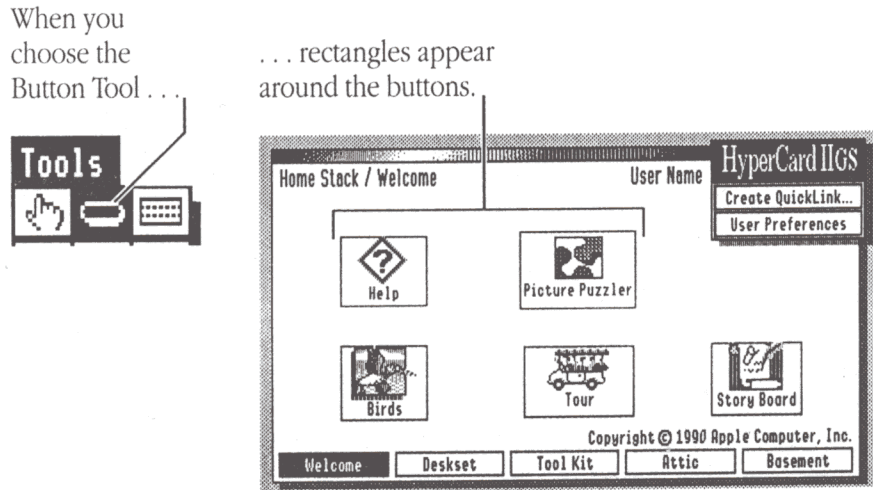
Figure 4-16 Locating buttons with the Button tool

- Some stacks have hidden buttons. To "peek" at all the buttons on the current card and background—including any hidden buttons—choose the Button tool from the Tools menu, then press and hold the ⌂ and Option keys. Gray rectangles appear around all the buttons:

When you choose the Button tool
and press ⌂-Option, rectangles
outline the visible buttons . . .

. . . and the
hidden buttons.
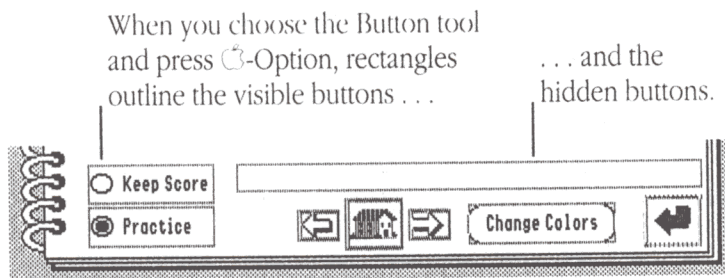
Figure 4-17 Peeking at all the buttons—both visible and hidden

Chapter 4: Working With Buttons

Changing the appearance of a button

Once you've created or copied a button, you can change its appearance by resizing it, changing its style, adding text or an icon to it, changing or removing its text or icon, or changing its color. This section explains how to make a button look the way you want it to.

❖ *Note:* You can change the appearance of both card buttons and background buttons while you're working in the card layer. You don't have to be in the background layer to modify background buttons. ❖

Changing the size of a button

To resize a button, follow these steps:

1. **Choose the Button tool (⊂⊃) from the Tools menu.**

2. **Click the button you want to resize to select it.**

   A moving dashed line surrounds the selected button.

3. **Drag from any corner of the button:**

Drag from any corner to resize the button.
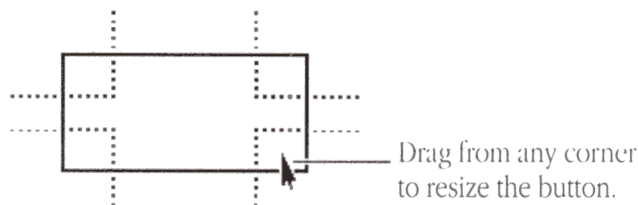
Figure 4-18   Changing a button's size

To resize the button in one dimension only—either horizontally or vertically—hold down the Shift key while you drag from a corner.

❖ *If you move the button instead of resizing it:* Choose Undo from the File menu to return the button to its original position and try again. Make sure you drag from a point close to a corner of the button. ❖

Choosing a button's style

A button can have any one of seven styles. Examples of the seven button styles are shown in the following figure, along with the names of the styles:
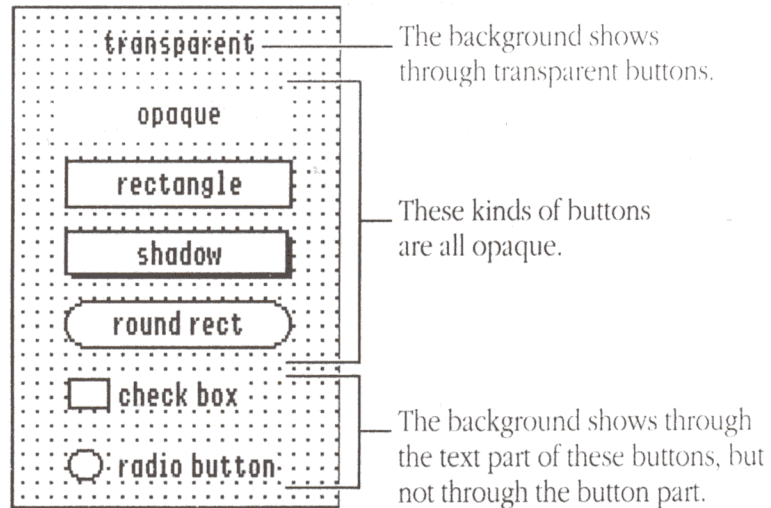
Figure 4-19 The button styles

To set the style for a button, follow these steps:

1. **Choose the Button tool (○) from the Tools menu.**

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

3. Choose Button Info from the Objects menu.

The Button Info dialog box appears:
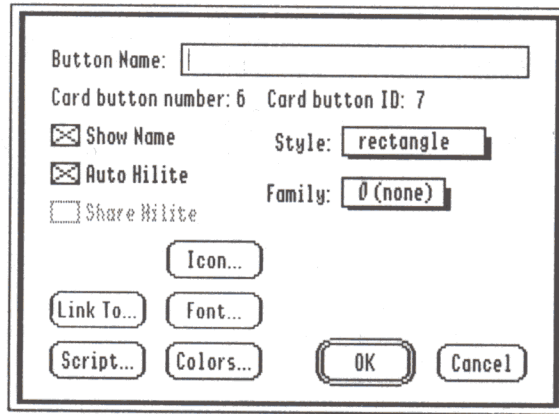
Figure 4-20   The Button Info dialog box

4. Press and hold the mouse button over the pop-up Style menu and drag to choose a style:

Makes the button an opaque (white) rectangle, with no visible border.

Makes the button an opaque (white) rectangle, with a shadow along the right side and bottom.

Makes a small square button with an opaque interior.

Makes the button transparent, with no visible border.

Makes the button an opaque (white) rectangle with a thick black border.

Makes an opaque (white) rounded rectangular button.

Makes a small round button with an opaque interior.

Figure 4-21   Choosing a button's style

For a button with an icon, don't choose either the check box or the radio button style—if you do, you won't see the icon.

5. **Click OK.**

Adding, changing, or removing button text

To add, change, or remove button text, follow these steps:

1. **Choose the Button tool (○) from the Tools menu.**

2. **Click the button you want to change to select it.**

   A moving dashed line surrounds the selected button.

3. **Choose Button Info from the Objects menu while the button is selected.**

   The Button Info dialog box appears.

4. **Type the text you want to display on the button; or press Delete, if you want to delete the text.**

   You can also remove the text from the button by clicking the Show Name check box to deselect it.

5. **Click OK.**

If you want to change the colors of the text displayed on your button, see "Changing a Button's Colors," later in this chapter.

Setting the format for button text

To change the font, style, size, or alignment of the text that's displayed on a button, follow these steps:

1. **Choose the Button tool (○) from the Tools menu.**

2. **Click the button you want to change to select it.**

   A moving dashed line surrounds the selected button.

3. **Choose Text Style from the Edit menu, or press ⌘-T.**

   The Text Style dialog box appears.

4. Choose from the options in the Text Style dialog box:

Click to select the font you want.

Click to select a font size (measured in points).

Click to select or deselect one or more text styles. (Select nothing for plain text.) The sample text at the bottom of the dialog box shows the effect of the selected styles.

Press and hold the mouse button here to see a pop-up menu for choosing the alignment of text on the button.

To use a font size not listed, type it here.

This number does not affect the way the text looks on a button. (Only one line of text can show on a button.)

This shows what the text on your button will look like.

Figure 4-22 The Text Style dialog box

5. Click OK.

The button's text is displayed in the format you've specified.

Assigning, changing, or removing an icon

To assign a new icon to a button, assign a different icon to a button, or remove a button's icon, follow these steps:

1. Choose the Button tool (�26) from the Tools menu.

2. Double-click the button you want to change.

The Button Info dialog box appears.

3. In the Button Info dialog box, click Icon.

The Icon dialog box appears.

4. Select an icon for the button, or remove the icon, as shown in the following figure:

To display an icon on the button (or assign the button a different icon), click to select the icon you want.
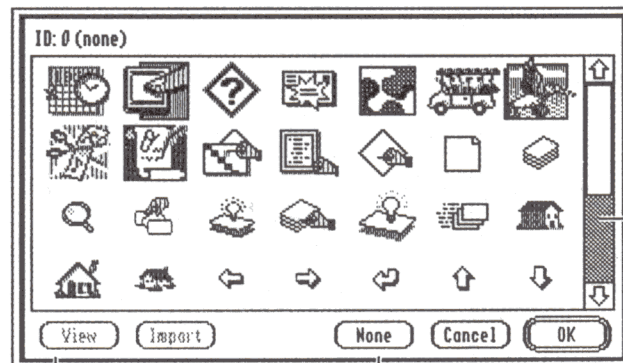
Scroll, if necessary, to find the icon you want to display on the button.

If the icon you select isn't entirely visible, press and hold the mouse button here to see what the whole icon looks like.

Click here if you want to remove the button's icon.

Figure 4-23 Setting and removing an icon

5. Click OK.

The Icon dialog box disappears and you see the Button Info dialog box again.

6. In the Button Info dialog box, click OK.

Your button displays the icon you've chosen.

If you don't want to use any of the icons shown in the Icon dialog box, you can either copy a button with an icon you like from the Button Ideas stack or create your own icon using the Icon Editor stack.

If you want to change the colors of the icon displayed on your button, see the next section, "Changing a Button's Colors."

➤ *See also:* • "Managing Icons" in this chapter

Changing a button's colors

You can choose the colors for four different parts of a button: the icon front, icon back, button frame, and button text. Each part is a different color in the button shown here:
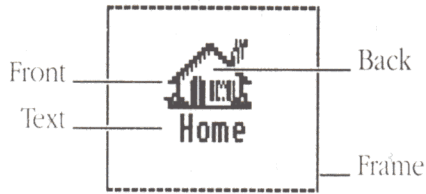
Figure 4-24 The four parts of a button

To change a button's colors, follow these steps:

1. **Choose the Button tool (⊂⊃) from the Tools menu.**

2. **Double-click the button you want to change.**

   The Button Info dialog box appears.

3. **In the Button Info dialog box, click Colors.**

   The Colors dialog box appears.

4. **Select the colors you want:**

Click the colors you want for each part of the icon.
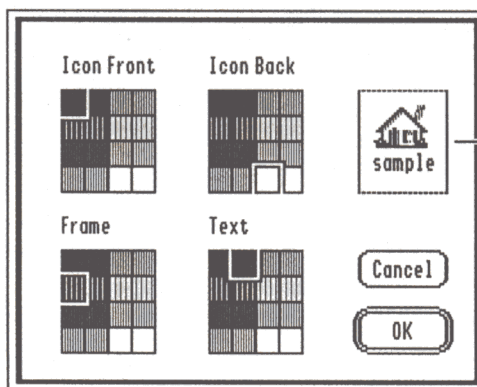
This shows how the colors you select affect the way the icon looks.

Figure 4-25 The Colors dialog box for the button shown in Figure 4-24

5. **Click OK.**

The Icon dialog box disappears and you see the Button Info dialog box again.

6. **In the Button Info dialog box, click OK.**

The button displays the colors you have chosen.

Linking information

To create a link between related pieces of information, you create a button and link it to another card or stack. When you click a button that's linked to another card, that card appears immediately. Links are one way. To move back and forth between two cards, you need two links—one in each direction:
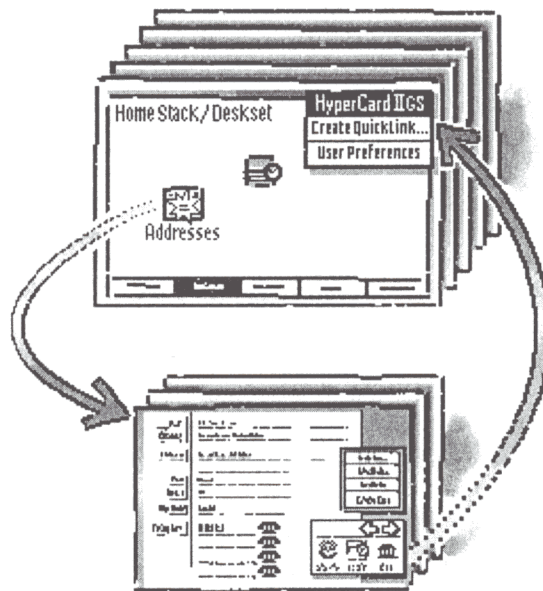
Figure 4-26 Two links that take you from one stack to another and back again

You can link a button to a card or stack using any of the following methods:

- Use the Link To box.

- Write a short script.

- Use the Create QuickLink button in the standard Home stack (as described in "Customizing Your Home Stack" in Chapter 2).

△ **Important**: If you use the Link To method to link a button that already has a link, the new link completely replaces the previous one. △

Using the Link To method

To use the Link To method for linking a button to any card or stack, follow these steps:

1. **Choose the Button tool (◯) from the Tools menu.**

2. **Double-click the button you want to link.**

   The Button Info dialog box appears.

3. **In the Button Info dialog box, click Link To.**

   The Link To box appears:

You can close the Link To box without creating a link by clicking the close box or the Cancel button.

```
Link to:
( This Card )  ( This Stack )  ( Cancel )
```

Figure 4-27 Using the Link To box to create a link

❖ *Note:* The Link To box works differently than a standard Apple IIGS dialog box. You don't respond right away when you see the Link To box. First you use HyperCard's navigation methods (such as the Go menu commands) to locate the card or stack to which you want your button linked. ❖

4. **Before you click a button in the Link To box, go to the card you want to link the button to.**

   The Link To box doesn't disappear—it stays on the screen while you move from card to card.

   If the Link To box gets in your way, you can move it:

   You can move the Link To box by dragging from here.
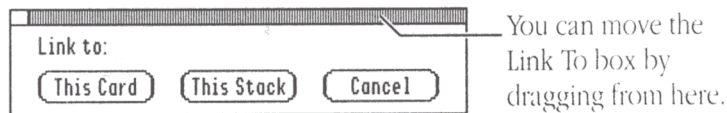
Figure 4-28   Moving the Link To box

5. **When you're looking at the card or stack you want to link the button to, click the option in the Link To box that reflects where you want the button to take you.**

   Click This Card if you want to link the button to the current card.

   Or click This Stack to link the button to the first card in the current stack (no matter which card you're looking at).

   After you click one of these options, HyperCard returns you to the card that contains the button you've just linked. The button is still selected.

If you want to test your new link, choose the Browse tool from the Tools menu and click the button. It should take you to the card or stack you've just linked it to. If it doesn't, repeat the Link To procedure or try the scripting procedure described in the next section, "Scripting a Link."

Scripting a link

As an alternative to using the Link To box, you can write a script that links a button to another card or stack. (To do this, you must have your user level set to Scripting, as explained in "User Levels and Options" in Chapter 1).

Once you know the steps involved in scripting a link, this method can be faster and more straightforward than using the Link To box to create a link.

Follow these steps to script a link:

1. **If you're linking the button to a specific card, find out the card's name, number, or ID.**

   To find the card's name, number, or ID, go to the card and choose Card Info from the Objects menu.

   The Card Info dialog box appears. Make a note of the card's name, number, and ID:
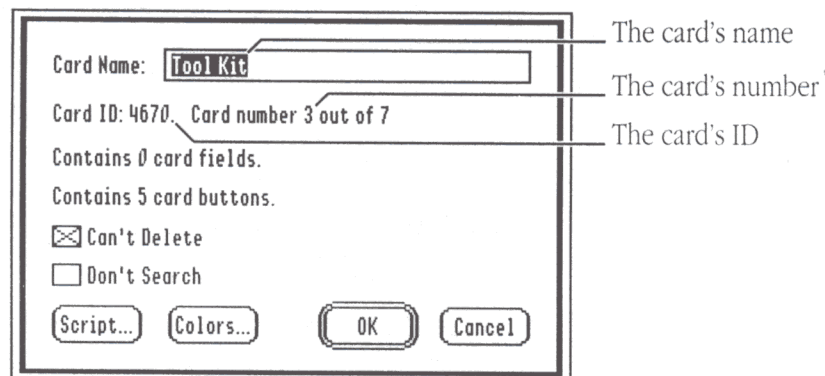
Figure 4-29   Finding out a card's name, number, and ID

2. **Go to the card that contains the button for which you're creating a link.**

3. **Press and hold the ⌘ and Option keys while you click the button once.**

   The button's script opens. It should look like this:

```
┌─────────────────────────────────────────────────┐
│ Script of Card button ID 1                       │
│  ┌───────────────────────────────────────────┬─┐ │
│  │ |                                         │⇧│ │
│  │                                           │ │ │
│  │                                           │ │ │
│  │                                           │ │ │
│  │                                           │ │ │
│  │                                           │ │ │
│  │                                           │ │ │
│  │                                           │⇩│ │
│  └───────────────────────────────────────────┴─┘ │
│  ( Find )  ( Print )            ( OK )  ( Cancel ) │
└─────────────────────────────────────────────────┘
```
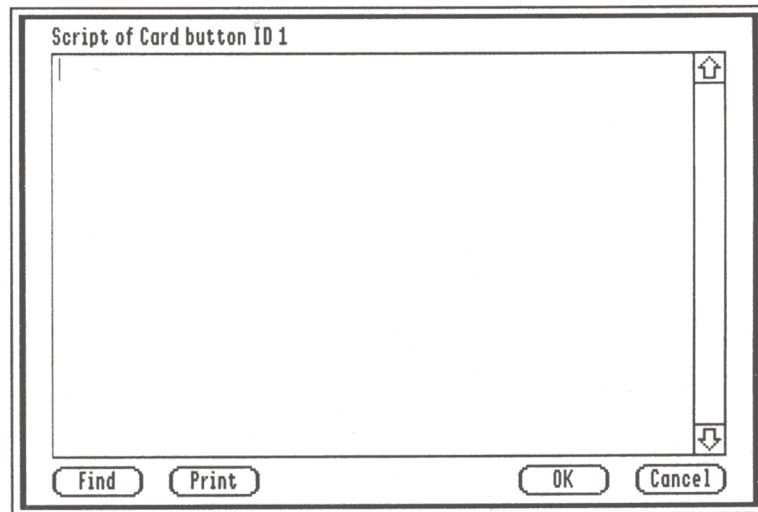
Figure 4-30   Opening a button's script

4. **If there's any text in the script, don't go any further.**

   The text indicates that the button is designed for another purpose. Unless you're familiar with HyperTalk, it's best to close the script by clicking Cancel, and create or find another button to link.

5. If the script is empty (like the one shown in Figure 4-30), type any of the following, substituting the card name, card number, card ID, or stack name for the card or stack you want to link the button to:

```
Script of Card button ID 1
on mouseUp
  go to card "card name" ————————— Takes you to the card with
end mouseUp                        the specified name.
```

```
Script of Card button ID 1
on mouseUp
  go to card 4 ————————————————— Takes you to the card with
end mouseUp                      the specified number.
```

```
Script of Card button ID 1
on mouseUp
  go to card ID 8 ——————————————— Takes you to the card with
end mouseUp                       the specified ID.
```

```
Script of Card button ID 1
on mouseUp
  go to stack "stack name" ———————— Takes you to the stack with
end mouseUp                         the specified name.
```

```
                                    Takes you to the card with
Script of Card button ID 1          the specified card name in
on mouseUp
  go to card "card name" in stack "stack name" —— the stack with the specified
end mouseUp                         stack name.
```

Figure 4-31   Scripting a link

6. When you're finished, press Enter.

If you want to test your new link, choose the Browse tool (☞) from the Tools menu (if it isn't already selected) and click the button. It should take you to the card you've just linked it to. If it doesn't, check your script for typos and make sure the card name, number, or ID matches the one you've typed in the script.

Making a button highlight when it's clicked

You can design a button so that it highlights momentarily when you click it. Such a button is helpful when you're using a stack, because it provides visual feedback that you've clicked the button.

Follow these steps to create a button that highlights when you click it:

1. **Choose the Button tool (⌐) from the Tools menu.**

2. **Double-click the button.**

   The Button Info dialog box appears.

3. **In the Button Info dialog box, click the Auto Hilite check box to select it.**

4. **Click OK.**

Auto Hilite works as just described for all buttons except check box and radio buttons and buttons that are part of a family. When Auto Hilite is selected for a check box or radio button, clicking the button once highlights it and leaves it highlighted. Clicking the button again removes the highlight. When Auto Hilite is selected for a button that is part of a family, clicking the button once highlights it and removes the highlights, if any, from other buttons that belong to the same family. (For more information about button families, see "Making a Group of Buttons Highlight As a Family," later in this chapter.)

With the Auto Hilite option turned off, you receive no visual feedback when you click a button.

The figure that follows shows how the different kinds of buttons highlight when Auto Hilite is turned on.

These highlight for only a moment when you click them.

transparent

opaque

rectangle

shadow

round rect

check box

radio button

These stay highlighted until you click them again.
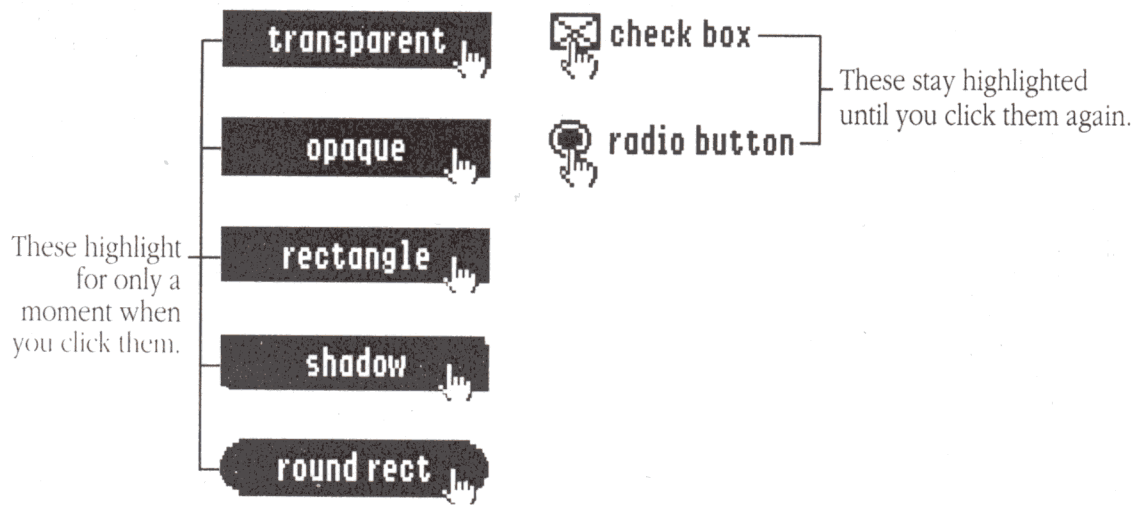
Figure 4-32   Highlighting buttons of different styles

Making a button appear highlighted on certain cards

Background buttons have an additional option available (in the Button Info dialog box) called Share Hilite. When you click a background button for which both Auto Hilite and Share Hilite are turned on, the button becomes highlighted on every card with that background. If the button is a radio button or check box, it stays highlighted; if it is any other kind of button, it highlights only momentarily. (To make a button that is not a radio button or a check box remain highlighted after it's clicked, rather than highlighting for only a moment, you must use HyperTalk to change the button's `hilite` property. See the HyperTalk Help stack for details.)

However, when Auto Hilite is turned on and Share Hilite is turned off, the highlight of the button can vary from card to card. This allows the button to appear highlighted on some cards, and not on others—which can be useful for signifying that something is true for some cards but not for others. (Check boxes and radio buttons are particularly useful for this purpose.)

To allow a background button's highlight to vary from card to card, follow these steps:

1. **Choose the Button tool (⌾) from the Tools menu.**

2. **Click the button whose highlighting you want to vary from card to card to select it.**

3. **Choose Button Info from the Objects menu.**

   The Button Info dialog box appears.

4. **Click the Share Hilite check box to deselect it, if it's selected.**

   When a background button is first created, this option is turned off. If it has been turned on, click it to turn it off again.

Click Auto Hilite to select it, if it isn't already selected.

Click Share Hilite to deselect it, if it's selected.
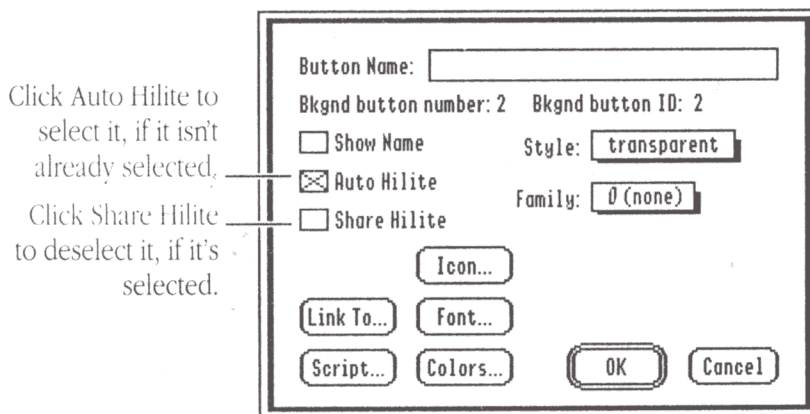
Figure 4-33   Varying a button's highlighting from card to card

5. **Click the Auto Hilite check box to select it, if it isn't already selected.**

Chapter 4: Working With Buttons

6. Click OK.

If you want the button to appear highlighted on any particular card, you have to go to that card and click the button.

Making a group of buttons highlight as a family

Normally, when you click a radio button or check box for which Auto Hilite is turned on (in the Button Info dialog box), the button highlights; and when you click it again, the button changes back to its original appearance.

Sometimes you may want a group of buttons to work together as a family, so that only one button in the group can highlight at one time. For example, you can use a group of radio buttons on one card to choose between several different options; the radio button that is highlighted indicates which of the options you have selected. You could do this by means of a script that automatically turns off the highlighting for the other radio buttons when one radio button is clicked. But there's an easier way.

The Button Info dialog box includes a pop-up Family menu that allows you to assign any button a family number from 0 to 9. A family number of 0 means the button does not belong to a family. If the family number is any number from 1 through 9, it will highlight as part of the family composed of all other buttons in the same layer with the same family number.

Only one button in a button family can be highlighted at any one time. When you click another button in the family, the button you clicked becomes highlighted, and the button that was originally highlighted changes back to its normal appearance:

When you click one button in a family . . . —○ Level 1   ○ Level 1
                                          ● Level 2   ● Level 2   . . . it becomes the
                                                                  only highlighted
                                          ○ Level 3   ○ Level 3 — button in that family.

Figure 4-34   The effect of clicking a button that is part of a family

To assign a family number to a button, follow these steps:

1. **Choose the Button tool (�⌐) from the Tools menu.**

2. **Click the button to which you want to assign a family number to select it.**

3. **Choose Button Info from the Objects menu.**

   The Button Info dialog box appears.

4. **Click the Auto Hilite check box to select it, if it's not already selected.**

5. **Choose the family number you want:**
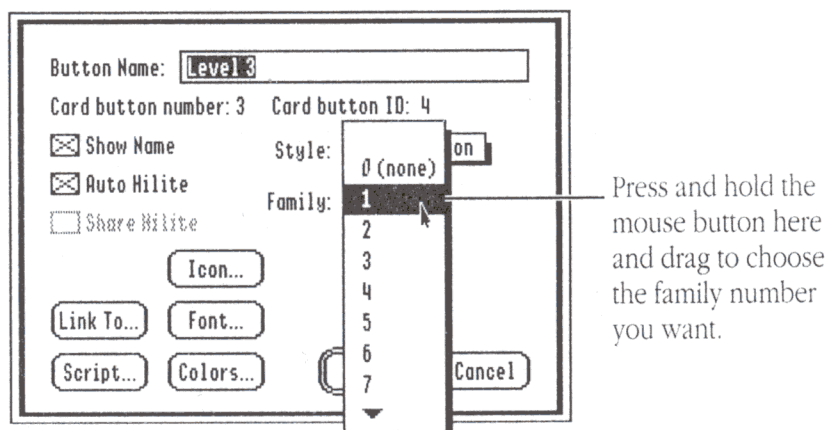
Figure 4-35   Assigning a family number to a button

6. **Click OK.**

You must repeat this procedure to assign the same family number to each button you want to highlight as part of the same family. All buttons in the same family must be in the same layer.

> ➤ *See also:*   • "The Card Layer Versus the Background Layer" in
>   Chapter 2

Naming a button

You can give a button a name when you want to display text on it, or if you want to be able to address the button by name through scripts or the Message box.

Follow these steps to name a button:

1. **Choose the Button tool (⊝) from the Tools menu.**

2. **Click the button you want to name to select it.**

3. **Choose Button Info from the Objects menu.**

   Or double-click the button. The Button Info dialog box appears.

4. **Type a name for the button:**

Type the button name here.

To display the name on the button, click here to select Show Name.

Button Name: [Show the Topics]
Bkgnd button number: 1   Bkgnd button ID: 1
☐ Show Name   Style: [transparent]
☐ Auto Hilite
☐ Share Hilite   Family: [0 (none)]

[Icon...]
[Link To...] [Font...]
[Script...] [Colors...]   [OK] [Cancel]
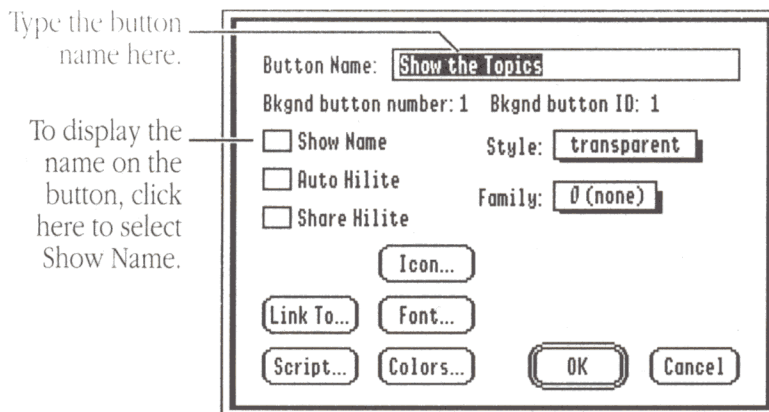
Figure 4-36   Naming a button

It's best to give the button a name that communicates its purpose.

5. **If you want the button's name to appear on the button, click the Show Name check box to select it.**

6. **Click OK.**

❖ *Script writers take note:* If you change the name of a button, be sure to change its name everywhere you refer to it in a script, too. For example, if you rename a button "Today" and you use the old name "Yesterday" in a script, the script won't work properly—it won't be able to find the button it needs. ❖

Moving a button around on a card or background

You can place a button wherever you like on the card or background. To reposition a button on the card or background, follow these steps:

1. **Choose the Button tool (○) from the Tools menu.**

2. **Click the button you want to move to select it.**

   Whether the button is in the card layer or the background layer, you can select it from the card layer.

   A moving dashed line surrounds the selected button.

3. **Drag from the middle of the button, or from one of its edges (not a corner):**

— Drag from the middle to move the button.
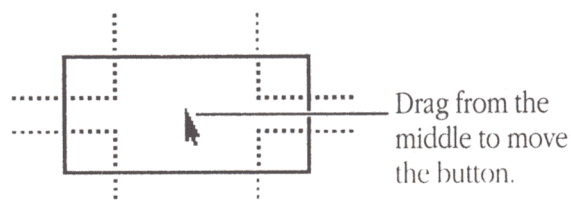
Figure 4-37   Repositioning a button on the card

To constrain the button's movement to horizontal or vertical directions only, hold down the Shift key while you drag from the middle of the button.

You can select and move only one button at a time.

△ **Important**: After you reposition a background button, it's a good idea to look through the cards on which the button appears, to see how the cards look. △

When elements overlap

HyperCard puts different kinds of elements in different layers, as shown in the following figure. Together, all these layers make up the card you see.

Background picture

Background buttons and fields

Card picture

Card buttons and fields

What you see when you look at the card

The background picture is fixed in a layer by itself—it's always behind the background buttons and fields and all the card elements.

The card picture is also fixed in a layer by itself—it's always behind the card buttons and fields, and in front of the background buttons and fields.
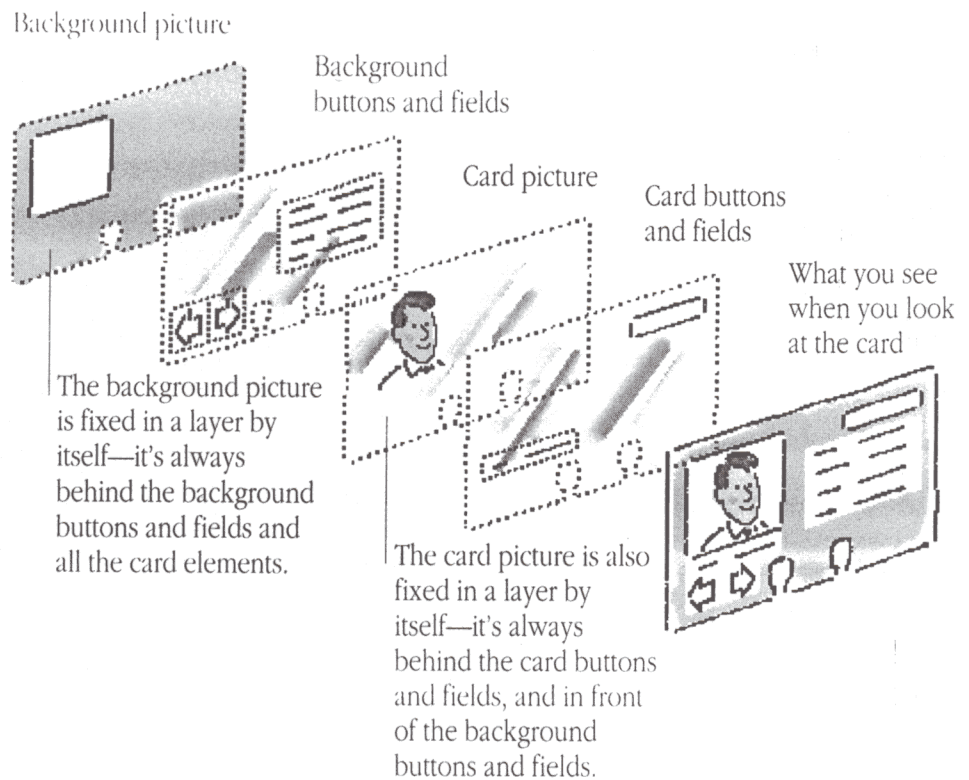
Figure 4-38   HyperCard's layers

As shown in Figure 4-38, background buttons and fields go in a different layer than card buttons and fields. Within each of these layers, HyperCard places each new button or field you add (whether you've created it or copied it) in front of the element added before it. *(In front of* means "closer to you.")

HyperCard also assigns numbers to the buttons and fields as you add them. The first field you add is field number 1, the second is field number 2, and so on. Likewise, the first button you add is button number 1, the second is button number 2, and so on. The numbers reflect how far away the elements are from you—the farther away an element is, the lower its number. (These numbers appear in the Button Info and Field Info dialog boxes.)

Although HyperCard numbers the buttons and fields separately, it places each new element immediately in front of the previous element (within the same layer), whether it's a button or a field.
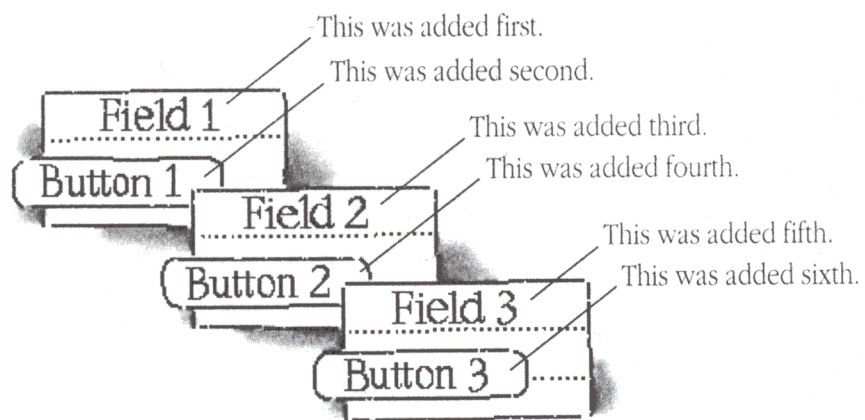
Figure 4-39   Background button and field layers and numbers

HyperCard numbers the card buttons and fields separately from the background buttons and fields. The card elements are always in front of all the background elements (as shown in Figure 4-38).

This layering of buttons and fields becomes evident when the elements overlap. Elements that are closer to you can obscure elements that are farther away. If this happens, you can either move the elements apart so they don't overlap, or you can try either of the following:

- Reorder the buttons and fields. (You can move any button or field closer or farther, within its layer).

- Make some of the elements transparent, so you can see other elements through them. (Buttons, fields, and graphics can all be made transparent or opaque.)

The following sections describe these solutions.

Reordering buttons

Overlapping buttons and fields can cause visual and functional problems in your stack. For example, a button that's completely covered by a field (or another button) won't respond when you try to click it. To solve the problem of overlapping buttons and fields, you can reorder them to bring the ones you need to see and use into full view.

△ **Important:** The buttons and fields in the card layer are always in front of the background buttons and fields. Although you can reorder the background buttons and fields relative to one another, you can never move them closer to you than any of the card elements. (You can, however, make card elements transparent so you can see through them to the background elements, as explained in the next section.) △

To move a button closer or farther (relative to the other buttons and fields in the same layer), follow these steps:

1. **Choose the Button tool (○) from the Tools menu.**

2. **Click the button you want to move closer or farther to select it.**

   A moving dashed line surrounds the selected button.

3. **Choose Bring Closer from the Objects menu to move the button forward one position, or choose Send Farther to move it back one position.**

    Each time you move a button back one position relative to another button in the same layer, its number (in the Button Info dialog box) decreases by 1. Each time you move a button forward one position relative to another button in the same layer, its number increases by 1.

    Note that a button's number may not change every time you use the Bring Closer or Send Farther commands to change its position. For example, if a field lies between button 3 and button 4, you'd have to move button 4 back two positions (with the Send Farther command) before it would become button 3.

    You can also move the selected button all the way to the front or all the way back using these ⌘-key shortcuts:

To do this . . .	Press
Send the button to the back	⌘-Shift- – (minus)
Bring the button to the front	⌘-Shift-+ (plus)

4. **Repeat step 3 until the button is where you want it.**

5. **Choose the Browse tool (𝆹) to deselect the button.**

As you reorder buttons, the numbers of all the affected buttons change to reflect their new positions. Each button's number (shown in the Button Info dialog box) reflects its front-to-back position, relative to the other buttons in the same layer. (The button that's farthest away is button number 1. The closer a button is to the front relative to other buttons in the same layer, the higher its number.)

The commands Bring Closer and Send Farther work the same way on a selected field, as described in "Reordering Fields" in Chapter 5.

Making a button opaque or transparent

When you want to be able to see background or card elements through a button that covers them, you can make the button transparent. Conversely, when you want to give a button more prominence, you can make it opaque.

Follow these steps to make a button opaque or transparent:

1. **Choose the Button tool (▭) from the Tools menu.**

2. **Click the button you want to change to select it.**

3. **Choose Button Info from the Objects menu.**

   Or double-click the button. The Button Info dialog box appears.

4. **Choose an appropriate button style to make the button opaque or transparent:**

Choosing this style makes the button transparent.

Choosing one of these styles makes the button opaque.
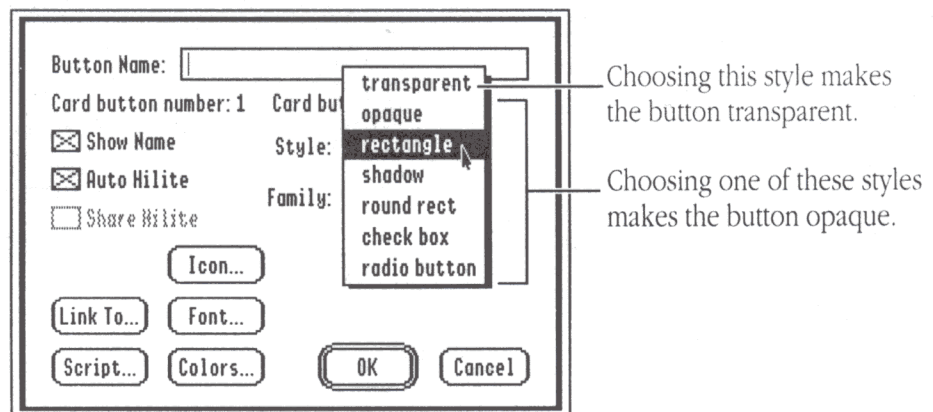
Figure 4-40   Making a button opaque or transparent

5. **Click OK.**

Copying a button

You can duplicate a button on the same card, or copy a button to another card, background, or stack. When you copy a button, you also copy its attributes—it's style, name, icon, script, and so on.

△ **Important**: To copy a button and a graphic that shows through it, you have to copy the picture and the button separately. (This is not the case for a button with an icon.) Follow the instructions given here to copy the button. See Chapter 6 for instructions on copying a graphic. △

Copying a button on the same card

To duplicate a button on the same card or background, follow these steps:

1. **Choose the Button tool (○) from the Tools menu.**

2. **Click the button you want to copy to select it.**

   You can select the button from the card layer, whether it's a card button or a background button.

   A moving dashed line surrounds the selected button.

3. **Press and hold the Option key while you drag the button.**

   As you drag, you create an exact duplicate of the button. If the original is a background button, the duplicate is a background button. If the original is a card button, the duplicate is a card button.

   To constrain the new button's movement to horizontal or vertical directions only, hold down the Shift key while you drag from the middle of the button.

Copying a button to another card or background

To copy a button to another card or background, follow these steps:

1. **Choose the Button tool (⊂⊃) from the Tools menu.**

2. **Click the button you want to copy to select it.**

3. **Choose Copy Button from the Edit menu, or press ⌘-C.**

   This makes a copy of the selected button (including its script) and puts it on the Clipboard. (This button replaces the last item you cut or copied; the Clipboard can only hold one item at a time.)

4. **Go to the card or background where you want the button to appear.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Button tool is selected.

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

5. **Choose Paste Button from the Edit menu, or press ⌘-V.**

   This takes a copy of the button that's on the Clipboard, puts it on the current card or background, and selects it.

   If you've copied a background button to the card layer of the same card, the copy is pasted directly over the original. To see the original, you have to drag the copy to move it.

6. **While it's still selected, drag the button to where you want it.**

△ **Important:** The most common mistake in copying a button is putting it in the card layer when you want it in the background layer. (To find out whether the button is in the background layer, press ⌘-B to see just the background elements.) If you put a button in the card layer by mistake, see the next section, "Moving a Button From the Card to the Background." △

After you copy a button from another card or stack, it's a good idea to test the button to make sure it works properly. To test the button, choose the Browse tool and click the button. If clicking the button produces an unfamiliar message (for example, a message that begins with "Can't Understand . . ." or "Never heard of . . ."), see "Copying Parts From Other Stacks" in Chapter 2 for advice on how to proceed.

Moving a button from the card to the background

It's easy to put a button in the card layer by mistake when you intend to put it in the background. If this happens, you can move the button from the card layer to the background layer (of the same card) by following these steps:

1. **Choose the Button tool (⊂⊃) from the Tools menu.**

2. **Click the button you want to move to select it.**

   A moving dashed line surrounds the selected button.

3. **Choose Cut Button from the Edit menu, or press ⌘-X.**

   This removes the button from the card and puts it on the Clipboard.

4. **Go to the background layer.**

   Choose Background from the Edit menu, or press ⌘-B.

5. **Choose Paste Button from the Edit menu, or press ⌘-V.**

   This takes a copy of the button that's on the Clipboard, puts it in the current background, and selects it. The pasted button appears in the same position from which it was cut.

6. **While it's still selected, drag the button to where you want it.**

   Since you can't see the elements in the card layer while you're working in the background, you might not be able to tell whether you're putting the button in the right place. If this happens, you can press ⌘-B again to go back to the card layer, and then select and drag the button from the card layer.

Moving a button from the background to the card

Follow these steps to move a button from the background layer to the card layer of the same card:

1. **Choose the Button tool (▭) from the Tools menu.**

2. **Click the button you want to move to select it.**

   A moving dashed line surrounds the selected button.

3. **Choose Cut Button from the Edit menu, or press ⌘-X.**

   This removes the button from the background and puts it on the Clipboard.

4. **If you're in the background layer, go to the card layer by pressing ⌘-B.**

   If you're already in the card layer, skip this step.

5. **Choose Paste Button from the Edit menu, or press ⌘-V.**

   This takes a copy of the button that's on the Clipboard, puts it on the current card, and selects it. The pasted button appears in the same position from which it was cut.

6. **While it's still selected, drag the button to where you want it.**

Moving a button to another card or background

You can move a button to another card in the same stack, or to a card in another stack. When you move a button, its attributes—it's style, name, icon, scripts, and so on—move with it.

△ **Important:** To move a button and a graphic that shows through it, you have to move the picture and the button separately. (This is not the case for a button with an icon.) Follow the instructions given here to move the button. See Chapter 6 for instructions on moving graphics. △

Follow these steps to move a button to another card or background:

1. **Choose the Button tool (▭) from the Tools menu.**

2. **Click the button you want to move to select it.**

   A moving dashed line surrounds the selected button.

3. **Choose Cut Button from the Edit menu, or press ⌘-X.**

   This removes the selected button from the current card and puts it on the Clipboard.

4. **Go to the card or background where you want to put the button.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Button tool is selected.

   If you're not sure whether to put the button in the card layer or the background layer, see "Adding a Button to a Card or Background" at the beginning of this chapter.

5. **Choose Paste Button or from the Edit menu, or press ⌘-V.**

   This takes a copy of the button on the Clipboard, puts it on the current card or background, and selects it.

6. **While the button is still selected, drag it to where you want it on the card.**

△ **Important:** The most common mistake in moving a button is putting it in the card layer when you want it in the background layer. (To find out whether a button is in the background, press ⌘—B to see just the background elements.) If you put a button in the card layer by mistake, see "Moving a Button From the Card to the Background," earlier in this chapter. △

After you move a button from another card or stack, it's a good idea to test the button to make sure it works properly. To test the button, choose the Browse tool and click the button. If clicking the button produces an unfamiliar message (for example, a message that begins with "Can't understand . . ." or "Never heard of . . ."), see "Copying Parts From Other Stacks" in Chapter 2 for advice on how to proceed.

Opening a button's script

Looking at the script of a button (if it has a script) is a good way to learn about how the button works. (To look at a button's script, you must have your user level set to Scripting.)

Here are four ways to open a button's script:

- With the Browse tool or Button tool selected, press and hold the ⌘ key and the Option key while you click the button.

- With the Button tool selected, press and hold the Shift key while you double-click the button.

- Choose the Button tool from the Tools menu, click the button to select it, and hold down the Shift key while you choose Button Info from the Objects menu.

- Choose the Button tool from the Tools menu, double-click the button to open the Button Info dialog box, then click Script.

To close a script without saving any changes, click Cancel.

To learn about HyperCard scripts, read the *HyperTalk Beginner's Guide.*

Deleting a button

You can remove a button from a stack by following these steps:

1. Choose the Button tool (▭) from the Tools menu.

2. Click the button you want to delete to select it.

3. Choose Clear Button from the Edit menu, or press Delete.

▲ **Warning:** Once you've deleted a button with the Clear Button command (or with the Delete key), the button's gone for good—you can't undo the deletion. ▲

Working With Text and Fields

Text is an important component of HyperCard stacks. In most stacks, text is used to communicate the function of the stack, either alone or in combination with graphics. Text is also the primary content of many stacks—particularly stacks designed for managing large amounts of information.

Most of the text in stacks is contained in *fields,* which are rectangular areas on a card where you can type and edit text easily. This chapter gives instructions for working with fields. To do the tasks in this chapter, you must have your user level set at least to Authoring. (The section "User Levels and Options" in Chapter 1 tells you how to set your user level.)

Adding text

When you want to add a text element to a stack, you can choose from three different kinds of text:

- Text that's stored in a field

- Text that's attached to a button

- Paint text

For most purposes, it's best to use fields to add text to a stack. Field text is easy to edit—you can select any part of the text in a field and change it, move it, copy it, or delete it. You can move field text around on a card by selecting and dragging the field. And you can search for specific text in fields.

The Shared Text option allows you to create a background field that displays the same text on every card, which means you can create text labels made up of editable (field) text. If you are familiar with HyperTalk, you can write a script for a field, so that clicking text in the field can make something happen—much like clicking a button.

Sometimes buttons can be useful for adding text labels to a card or background. A button can't hold much text, and you can't edit button text from the card. (To change the text on a button, you have to rename the button.) But button text is easy to move around on the card, because it moves when you move the button. Chapter 4 tells you how to create a button with text.

Paint text can't be edited. Once you finish typing Paint text, it "dries." To change it, you have to erase it and retype it. Paint text is useful for adding a permanent label to a graphic. And you can create special effects with Paint text using commands in the Paint menu (such as Invert and Trace Edges), which appears whenever a Paint tool is selected. Chapter 6 describes Paint text.

Chapter 5: Working With Text and Fields

Paint text in the background layer

Common Name

Piranha

Genus & Species

Serrasalmus spilopleura — Field text that changes from card to card

Habitat

Amazon river

Notes

• Grows to 15 inches.
• Name means "toothed fish."

Index | Sort | Quit
About this stack | Card 7

Background buttons that display text
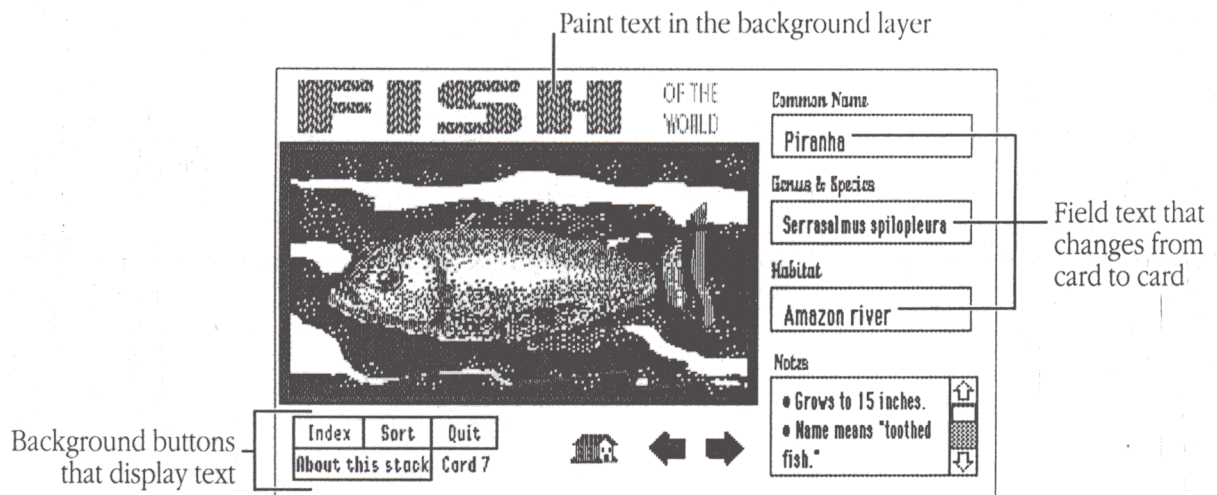
Figure 5-1   Different kinds of text

Adding a field to a card or background

To create a place for text, you can add a field to a card or background. Whenever you add a field, you need to decide whether you want to put it in the card layer or the background layer. To decide where to put the field, consider where you want the field to appear, and where you want its text to appear:

■ If you want the field and its text to appear only on one card, put the field in the card layer.

■ If you want the field to appear on every card in the stack, but you want to be able to type different text into the field on each card, put the field in the background layer.

■ If you want the field to appear on every card in the stack, and you want it to display the same text on each card, put the field in the background layer and turn on the Shared Text option in the Field Info dialog box.

■ If you want a field to appear on some of the cards in the stack, but not all of them, consider creating a different background for those cards and putting the field in that background only. ("Creating a New Background" in Chapter 3 explains how to add a background to a stack.)

A background field appears in the same location on all the cards that share the background.

To add a field to a background, you must be in the background layer; to add a field to a card, you must be in the card layer. To go to the background layer, press ⌘-B. When you're in the background layer, the word *Background* appears in the menu bar. If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

You can enter or edit text in a field only while you're in the card layer. If you're in the background layer, you won't see the I-beam pointer when you move the Browse tool over a field.

➤ *See also:* • "The Card Layer Versus the Background Layer" in Chapter 2
• "Creating a Field" in this chapter

The tools for working with fields

To work with fields and field text, you need both the Field tool and the Browse tool.

Use the Field tool for creating and manipulating fields.

Use the Browse tool for entering and editing text (in addition to browsing).
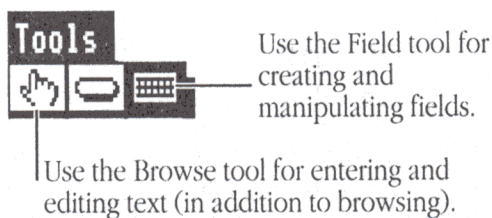
Figure 5-2 The tools for working with fields

Chapter 5: Working With Text and Fields

To make it easy to alternate between the tools, you can "tear off" the Tools menu to create a movable Tools palette. To do this, drag down through the menu and past the bottom or beyond either side. (For an illustration of this, see Figure 2-12.)

You can use the following ⌘-key shortcuts to choose the tools you need for working with fields:

To choose this tool . . .	Press
The Browse tool	⌘-Tab
The Field tool	⌘-Tab-Tab-Tab

➤ *See also:* • "Using HyperCard's Tools" in Chapter 2

Creating a field

To create a new field, follow these steps:

1. **Make sure you have one of the General tools selected.**

    The Browse tool (🖑), the Button tool (⌀), or the Field tool (▭) will work.

2. **Go to the card or background where you want to put the field.**

    If you're not sure whether to put the field in the card layer or the background layer, see "Adding a Field to a Card or Background" near the beginning of this chapter.

3. **Choose New Field from the Objects menu.**

    This automatically selects the Field tool and creates a new, transparent field. The field appears in the center of the card window and is selected, so you can move it or resize it easily.
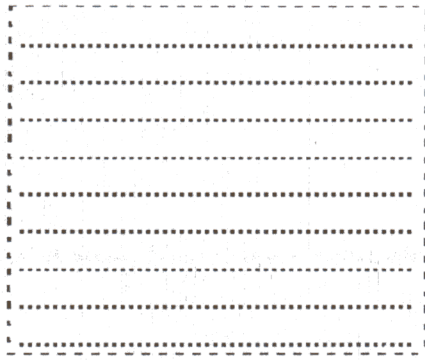
Figure 5-3 A field created with the New Field command

❖ *Another method:* You can also create a new, transparent field by choosing the Field tool, then pressing and holding the ⌘ key while you drag diagonally. ❖

Choose the Field tool,
hold down the ⌘ key,
and drag from here . . .   . . . to here.
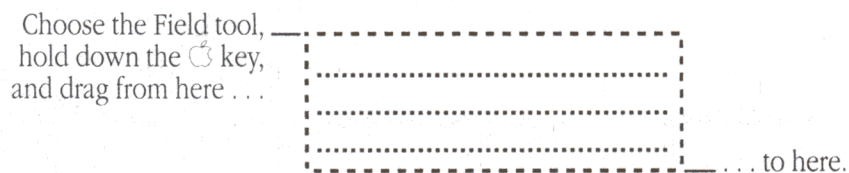
Figure 5-4 Dragging to create a new field

You can have as many fields on a card or background as will fit. Fields can overlap to any depth.

△ **Important:** The most common mistake in creating a field is putting it in the card layer when you want it in the background layer. (To find out whether a field is in the background, press ⌘-B to view just the background elements.) If you put a field in the card layer by mistake, see "Moving a Field From the Card to the Background," later in this chapter. △

➤ *See also:* • "Changing the Appearance of a Field" in this chapter

Chapter 5: Working With Text and Fields

Entering and editing text in a field

Entering and editing text in a HyperCard field is just like working with any other Apple IIGS text. You can click anywhere in the field and begin typing, delete text with the Delete key, and drag to select text for copying, cutting, or clearing. You can also copy text to and from a field via the Clipboard. This allows you to move text between fields and to and from other applications.

❖ *Where's the field?* A transparent, empty field is invisible when the Field tool isn't selected. This makes it difficult to locate the field when you're ready to enter text into it. One way to locate the field is to move the Browse tool around—the pointer turns into an I-beam when it's over an editable field. Another way to locate a transparent field is to press Tab repeatedly. This highlights the editable fields (or, if a field is empty, places an insertion point at the upper-left corner) on the current card and background, one at a time. ❖

To enter and edit field text, follow these steps:

1. **Choose the Browse tool (✍) from the Tools menu.**

2. **Move the Browse tool over the field you want to edit.**

   The Browse tool pointer turns into an I-beam (⌶) when it's over an editable field. If you don't see the I-beam pointer, read the next section, "Where's the I-Beam Pointer?"

3. **Click inside the field to position the insertion point where you want to enter or edit text.**

   Or, if you want to replace existing text in the field, select the text you want to replace.

   If you click in an empty field, the insertion point appears at the upper-left corner of the field.

4. **Start typing.**

If you type more text than will fit in a non-scrolling field, the remaining text goes off the bottom of the field. But this text isn't lost, it's just hidden from view. To see the hidden text, make the field bigger:

If you type more text
than will fit in a
field, you can't see
it until you enlarge

To see text you've
typed beyond the
borders of a field . . .

If you type more text than
will fit in a field, you
can't see it until you
enlarge the field.

. . . enlarge the field by choosing the
Field tool from the Tools menu and
then dragging from any corner.
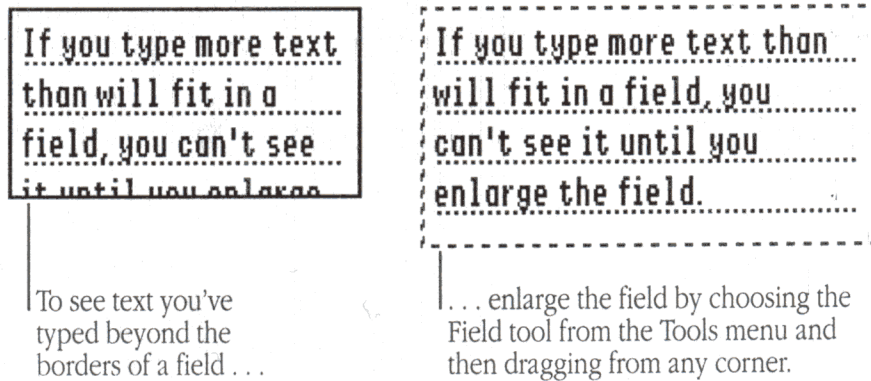
Figure 5-5   Revealing hidden text

Where's the I-beam pointer?

If the Browse tool doesn't turn into an I-beam (I) when you move it over a field, the reason could be any of the following:

- The field is locked. To unlock the field, follow the instructions in "Locking and Unlocking a Field," later in this chapter.

- You're working in the background layer rather than the card layer. Press ⌘-B to return to the card layer.

- Your user level is set to Browsing. For instructions on changing the user level, see "User Levels and Options" in Chapter 1.

- The text you're trying to edit is either Paint text or button text—not field text. To see whether it's field text, choose the Field tool from the Tools menu and click the text. If the area becomes selected (surrounded by a moving dashed line), it's field text—otherwise, it's not. See Chapter 4 for information about changing the text on a button, or Chapter 6 for information on changing Paint text.

Using the arrow keys to move through text

Normally, the arrow keys move you through cards. However, when the Text Arrows option is selected (on the User Preferences card in your Home stack), you can use the arrow keys to move the insertion point through text while you're typing in fields. This makes text editing easier.

Moves the insertion point right through text

Moves the insertion point down through lines in a field, or to the end of the line in the Message box

Moves the insertion point left through text

Moves the insertion point up through lines in a field, or to the beginning of the line in the Message box
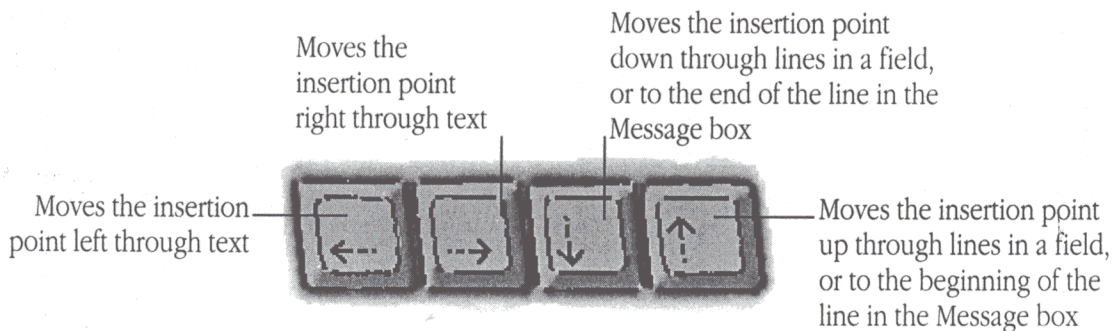
Figure 5-6   Moving through text when Text Arrows is turned on

When Text Arrows is turned on, you use the Option key with the arrow keys to move through cards in a stack.

➤   *See also:*   • "The Text Arrows Option" in Chapter 1

Moving from one field to another

While you're entering text into fields, you can move from one editable field to the next by pressing Tab. When you press Tab, HyperCard takes you to the field with the next higher field number. (Field numbers are assigned to fields in the order you add them. The first field you add is field 1, the second is field 2, and so on.) If the insertion point is in field 3 and you press Tab, the insertion point moves to field number 4; if there are only three fields, the insertion point moves from field 3 to field 1:
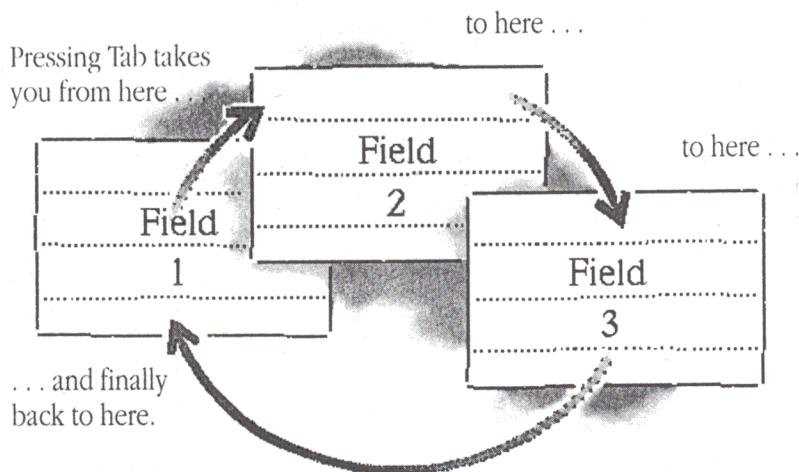
Figure 5-7   Tabbing order

Pressing Shift-Tab moves you backward through the fields. Locked fields are excluded—you can't Tab to a locked field.

▲ **Warning:** When you tab to a field that already contains text, all the text is selected. Typing at this point will erase all the old text in the field and replace it with what you type. To preserve the old text and add new text to it, click in the field where you want to type. ▲

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A field's number (which determines the field's position in the tabbing order) appears in the Field Info dialog box. Choose the Field tool from the Tools menu and double-click the field to see the Field Info dialog box:
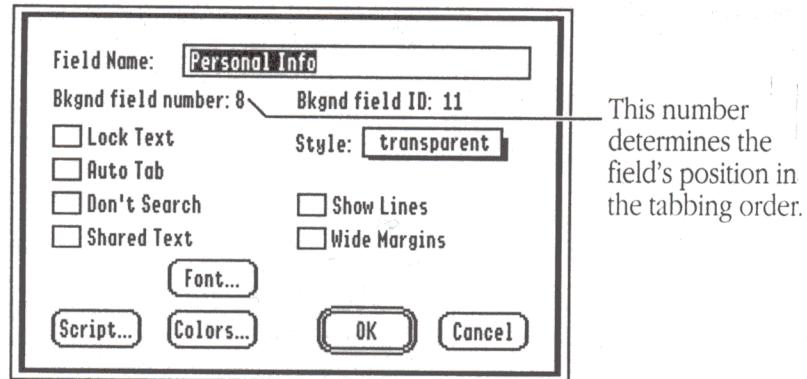
Figure 5-8   Checking a field's number

If you have both card fields and background fields on the card, pressing Tab takes you from one field to the next, according to the following sequence:
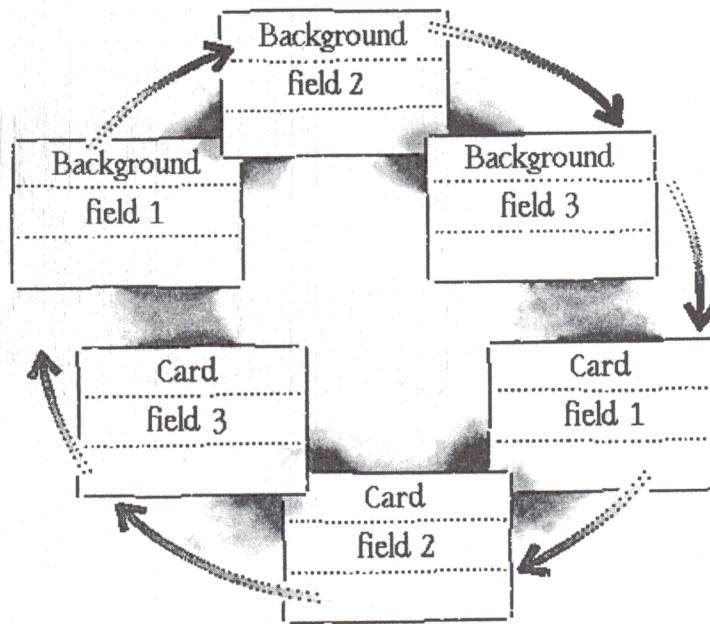
Figure 5-9 Tabbing through background fields and card fields

For an explanation of how fields get numbered, or if you want to change the order in which the Tab key moves the cursor from field to field, see "Reordering Fields," later in this chapter.

If the Auto Tab option is selected in the Field Info dialog box, you can press Return (instead of Tab) when the insertion point is in the last line of the field to go the next field.

To select the Auto Tab option for a field, follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Double-click the field.**

3. **Click Auto Tab to select it.**

4. **Click OK.**

❖ *Note:* Auto Tab doesn't work for a scrolling field. ❖

Undoing your typing

To undo typing mistakes while you're editing field text, you can do any of the following:

- Erase text to the left of the insertion point, one character at a time, by pressing Delete.

- Drag (or double-click one word) to select the incorrect text and retype it, or press Delete to erase it.

While you're editing text in a field, choosing Undo undoes all the changes you've made since the last time you clicked in the field to edit. Therefore, it's not a good idea to use Undo to fix typing mistakes, unless you want to retype everything you've typed since you last clicked in the field. To fix editing mistakes, it's better to use the Delete key or to select the incorrect text and retype or delete it. To save the changes in a field (so that Undo can't undo them), click anywhere outside the field.

Setting the text format for a field

You can set the text format—including the font, size, style, alignment, and line spacing—for a field by following the instructions in this section. If you want to change the color of the text in a field, see "Changing a Field's Colors," later in this chapter.

To choose the text format for a field, follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Select the field by clicking it.**

3. **Choose Field Info from the Objects menu.**

   Or double-click the field. The Field Info dialog box appears.

4. **Click Font.**

   The Text Style dialog box appears.

❖ *Another method:* Alternatively, you can open the Text Style dialog box by clicking to select the field (with either the Field tool or the Browse tool), then choosing Text Style from the Edit menu (or pressing ⌘-T). ❖

5. **Choose from the options in the Text Style dialog box to set the default text format for the field:**

Click to select the
font you want.

Click to select a font size
(measured in points).

Click to select or deselect one or
more text styles. (Select nothing for
plain text.) The sample text at the
bottom of the dialog box shows
the effect of the selected styles.

To use a font size not
listed, type it here. Then, if
you want to adjust the line
height to the new type size,
press Enter. (If you don't
press Enter, the line height
will remain the same).

Press and hold the mouse
button here to see a pop-up
menu for choosing the
alignment for text in the field.

This shows what your
text will look like.

This number determines the space
between lines. HyperCard sets this number
automatically when you click one of the
standard font sizes, but you can change it.

Figure 5-10   Setting the text format for a field

6. **When you're finished, click OK.**

   The Text Style dialog box disappears and you see the Button
   Info dialog box again.

7. **In the Button Info dialog box, click OK.**

   The text in the field appears in the new format, and any new text
   you type in the field acquires the same format.

Making field text appear on every card

You can create a background field that displays the same text on every card by using the Shared Text option in the Field Info dialog box. (This option is available only in the Field Info dialog box for background fields.) This allows you to create an editable text label that appears on every card in the background. Because it can be edited so easily, a field text label is easier to manage than a Paint text label.

To get the same field text to appear on every card, follow these steps:

1. **Create a background field.**

   See "Creating a Field," earlier in this chapter, for instructions.

2. **Choose the Field tool (▦) from the Tools menu.**

3. **Double-click the field.**

   The Field Info dialog box appears.

4. **Click the Shared Text check box to select it.**

5. **Click OK.**

6. **Choose the Browse tool (🖑) from the Tools menu.**

   You return to the card layer (if you're not already there). The word *Background* should *not* appear in the menu bar. If it does, press ⌘-B.

7. **Click in the field and type the text you want to display on every card.**

If you turn off Shared Text, the text you've entered in the background field disappears from view.

You can think of background fields as having (potentially) two different layers of text, which appear and disappear as you change the Shared Text setting:

- When you turn on Shared Text, any text you've entered in the field while the option was turned on appears, and text you've entered while the option was turned off disappears.

- When you turn off Shared Text, any text you've entered in the field while the option was turned on disappears, and text you've entered while the option was turned off appears.

❖ *Note:* If the Shared Text option is turned on for a field, the Don't Search option is turned on automatically. This means that HyperCard won't search in the field when you ask it to look for specific text. ❖

Locating fields

Many of the fields in stacks are easy to locate right away—but some are harder to find. You can use either of the following methods to locate all the fields on the current card and background:

- Choose the Field tool from the Tools menu. Lines appear in all the fields:

When you choose the Field tool . . .

. . . lines appear in the fields.
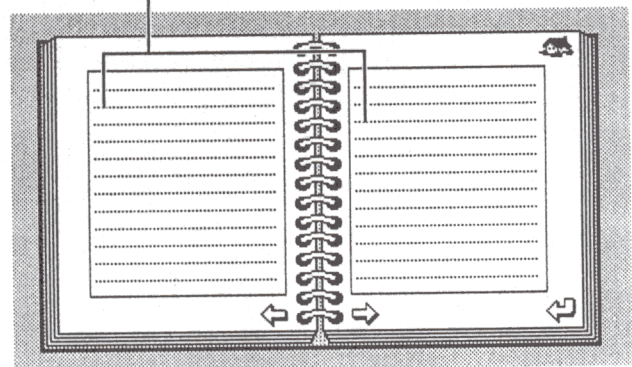
Figure 5-11   Locating fields with the Field tool

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■ While the Browse tool is selected, you can "peek" at both buttons and fields by pressing and holding the ⌘, Shift, and Option keys. (Gray or colored rectangles appear around the buttons and fields.) Then, while you're still holding down the ⌘ and Option keys, release the Shift key—the rectangles around the fields disappear. Pressing and releasing the Shift key repeatedly (while holding down the ⌘ and Option keys) makes the field rectangles appear and disappear.

Thin rectangles outline the fields in the card layer.

Thick rectangles outline the fields in the background layer.
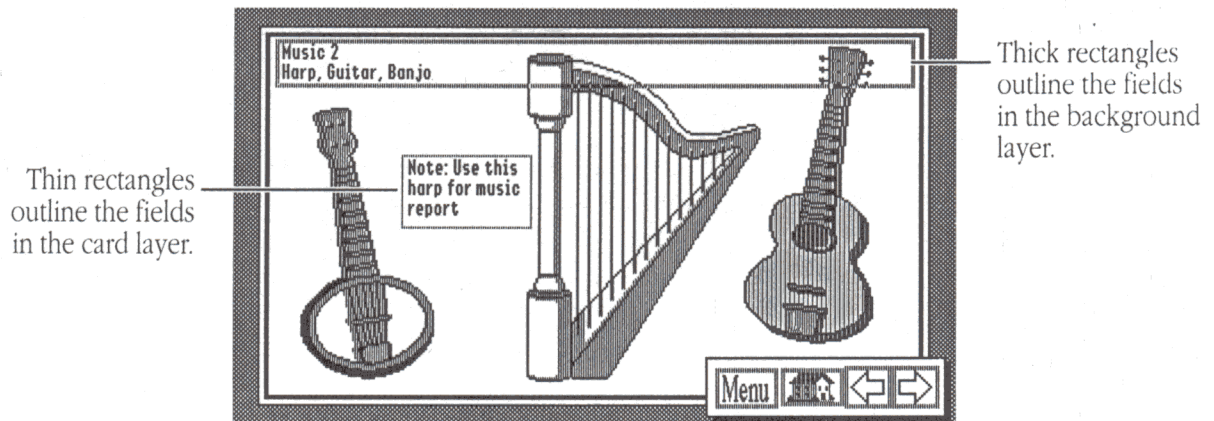
Figure 5-12   Peeking at fields

Changing the appearance of a field

Once you've created or copied a field, you can change its appearance by resizing it, changing its style, adding margins, displaying lines in it, or changing its colors. This section explains how to make a field look the way you want it to.

❖ *Note:* You can change the appearance of both card fields and background fields while you're in the card layer. You don't have to be in the background layer to modify background fields. ❖

➤ *See also:*   • "Setting the Text Format for a Field" in this chapter

Changing the size of a field

You can change the size of a field whether or not it has text in it. When you change a field's size, any text in it wraps appropriately to conform to the new size.

To resize a field, follow these steps:

1. **Choose the Field tool (▢) from the Tools menu.**

2. **Click the field you want to resize to select it.**

   A moving dashed line surrounds the selected field.

3. **Drag from any corner of the field:**

Drag from any corner region to resize the field.
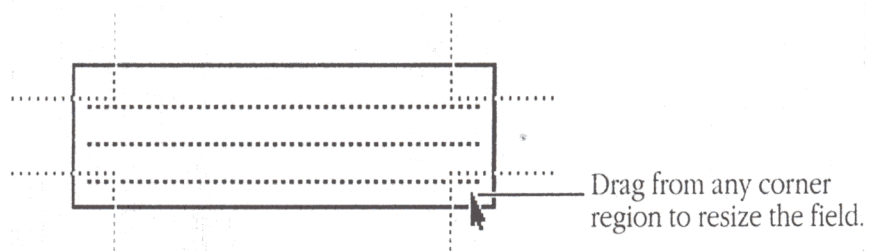
Figure 5-13 Changing a field's size

To resize the field in one dimension only—either horizontally or vertically—hold down the Shift key while you drag from a corner.

❖ *If you move the field instead of resizing it:* Choose Undo from the File menu to return the field to its original position, and try again. Make sure you drag from a point close to a corner of the field. ❖

If you shrink a non-scrolling field so that there's not enough room for all the text, the text at the bottom of the field disappears from view. However, the text is still there—if you enlarge the field, the text becomes visible again.

△ **Important**: After you've resized a background field, you should look through any cards affected by the field change to see how the text looks. △

Choosing a field's style

A field can have any one of five styles: transparent, opaque, rectangle, shadow, or scrolling. (The style of a field has no bearing on the style of its text.) Examples of the five field styles are shown in the following figure, along with the names of the styles:
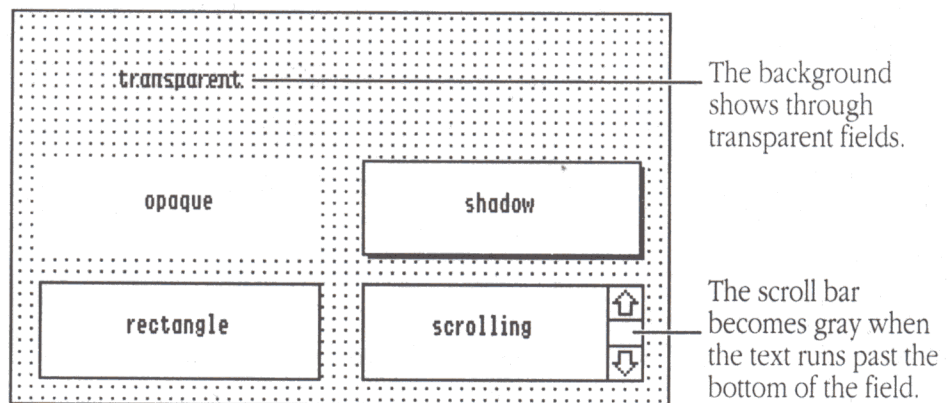
Figure 5-14   The field styles

To set the style for a field, follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

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

3. **Choose Field Info from the Objects menu.**

   Or just double-click the field. The Field Info dialog box appears.

4. **Move the pointer over the pop-up Style menu, press and hold the mouse button, and drag to select a field style:**

Makes the field transparent,
with no visible border.

Makes the field opaque (white),
without a visible border.

Makes the field opaque
(white), with a thin border.

Makes the field opaque
(white), with a shadow along
the right side and bottom.

Makes the field opaque, with a
border and a scroll bar along the
right side.
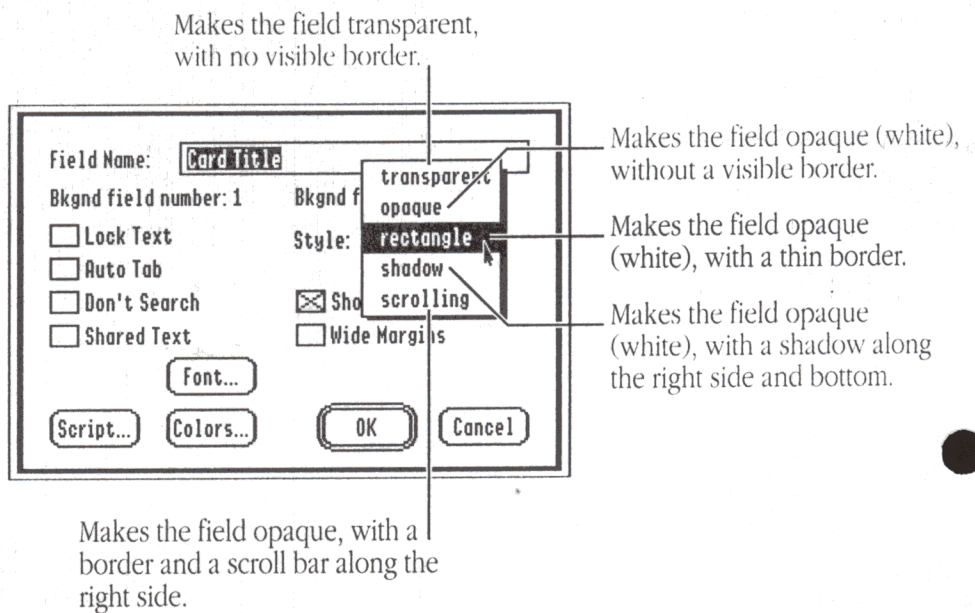
Figure 5-15   Choosing a field style

5. **Click OK.**

❖ *About scrolling:* Choosing the Scrolling option adds a vertical scroll bar to the selected field. You view text in a field with a scroll bar the same way you view text in any scrollable Apple IIGS window. (For details about scrolling in windows, see the documentation that came with your Apple IIGS.) ❖

You can use this procedure to change any field's style, even after you've typed text into the field.

Adding margins   Adding margins to a field makes the text easier to read. When you add margins to a field, you get extra space on the right and left sides of the text in the field. (As a result, text takes up more vertical space.)

To add margins to a field, follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

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

3. **Choose Field Info from the Objects menu.**

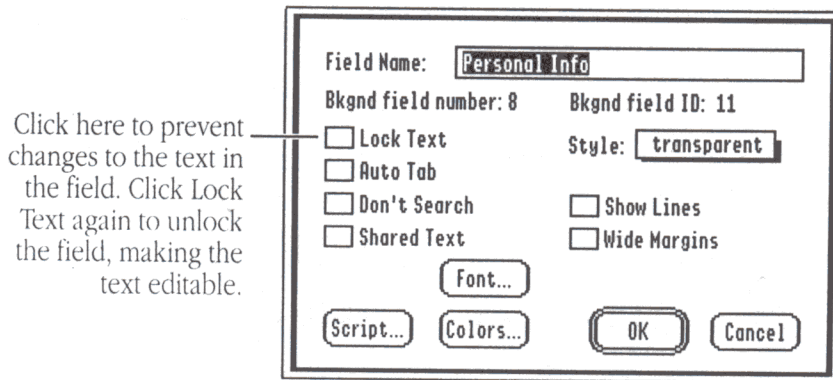   Or just double-click the field. The Field Info dialog box appears.

4. **Click the Wide Margins check box to select it:**
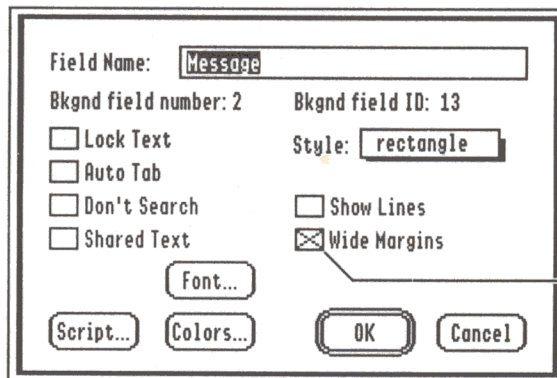
Figure 5-16   Adding margins to a field

5. Click OK.

Wide Margins is selected in the Field Info dialog box for this field.

Wide Margins is not selected in the Field Info dialog box for this field.
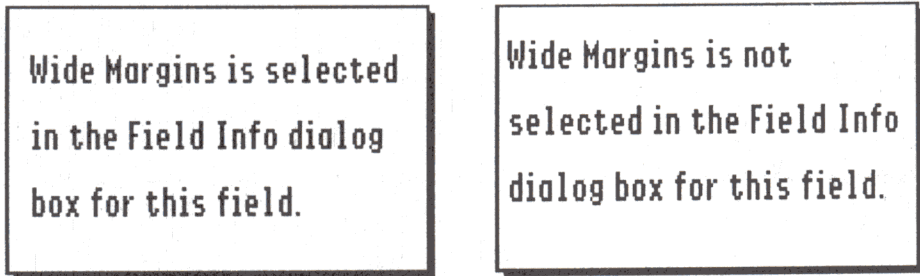
Figure 5-17 Shadow fields with and without margins

Displaying lines in a field

You can display lines in a field. This is useful for making a transparent field visible so you can see where to type in it.

To display lines in a field, follow these steps:

1. Choose the Field tool (▭) from the Tools menu.

2. Click the field to select it.

3. Choose Field Info from the Objects menu.

Or just double-click the field. The Field Info dialog box appears.

4. Click the Show Lines check box to select it:

Field Name: Message
Bkgnd field number: 1   Bkgnd field ID: 1
☐ Lock Text   Style: rectangle
☐ Auto Tab
☐ Don't Search   ☒ Show Lines
☐ Shared Text   ☐ Wide Margins
        Font...
Script... Colors...   OK   Cancel
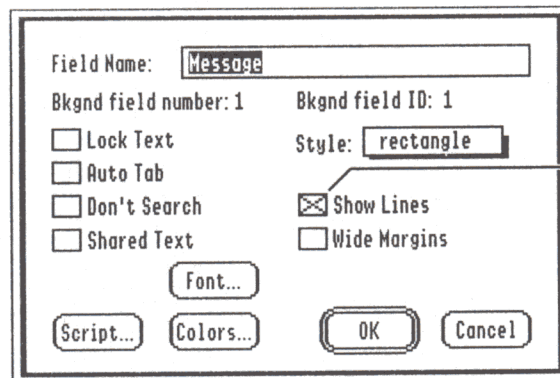
Click here to see the lines in a field. Click again to hide the lines.

Figure 5-18 Displaying lines in a field

5. **Click OK.**

```
┌─────────────────────────────┐  ┌─────────────────────────────┐
│ Show Lines is selected in   │  │ Show Lines is not selected  │
│ the Field Info dialog box   │  │ in the Field Info dialog    │
│ for this field.             │  │ box for this field.         │
│                             │  │                             │
└─────────────────────────────┘  └─────────────────────────────┘
```
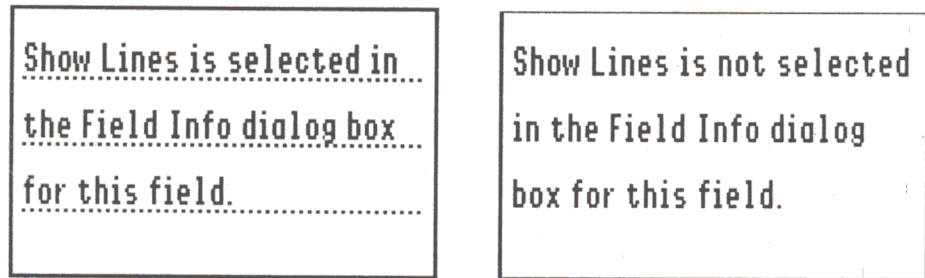
Figure 5-19   Rectangle fields with and without lines

❖ *Note:* You can't display lines in a scrolling field. ❖

Changing a field's colors

You can choose the colors for two parts of a field: its frame and its text:

```
┌──────────────────────────────────────────┐ ─── Frame
│ Merrily, merrily, shall I live now,      │
│ Under the blossom that hangs on the bough.│ ─── Text
└──────────────────────────────────────────┘
```
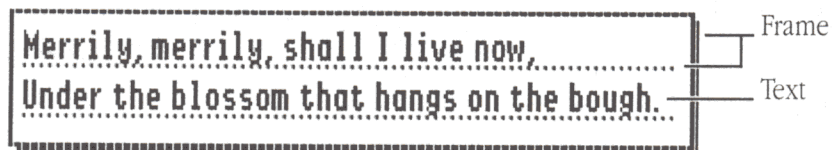
Figure 5-20   The parts of a field that can be different colors

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Double-click the field you want to change.**

   The Field Info dialog box appears.

3. **In the Field Info dialog box, click Colors.**

   The Colors dialog box appears.

4. Choose the colors you want:

The quick brown fox takes a running leap over the lazy dog.

— This shows what the field will look like.

Frame   Text

Cancel

OK

Click the frame color and text color you want. The sample field at the top of this dialog box shows how the selected colors will look.
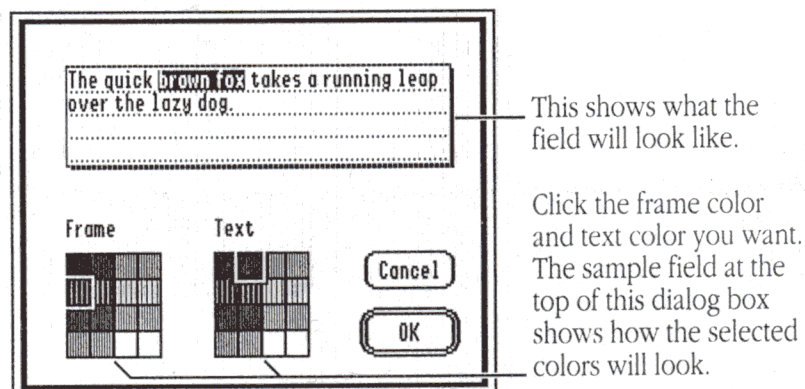
Figure 5-21   The Colors dialog box for a field

5. Click OK.

6. In the Field Info dialog box, click OK to accept the changes you have made to the field.

The field displays the colors you have chosen.

Naming a field

Each field can have a name associated with it. You use field names mostly for referring to fields through scripts or the Message box.

A field name can have up to 31 characters in it, and you can use any character in a field's name.

Follow these steps to name a field:

1. Choose the Field tool (▦) from the Tools menu.

2. Click the field you want to name to select it.

3. **Choose Field Info from the Objects menu.**

   Or double-click the field. The Field Info dialog box appears.

4. **Type a name for the field:**
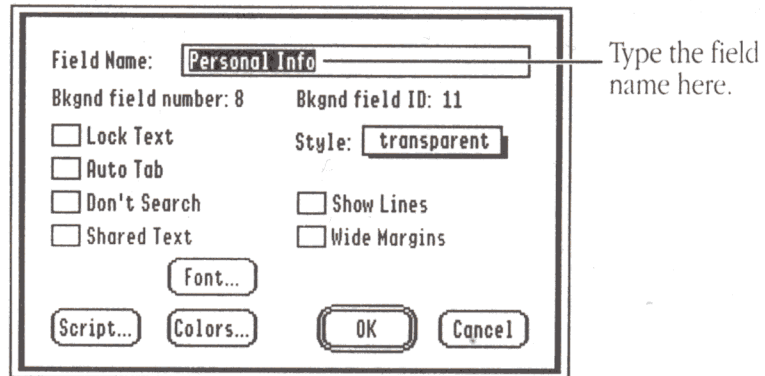
Figure 5-22   Naming a field

5. **Click OK.**

❖ *Script writers take note:* If you change the name of a field, be sure to change its name everywhere you refer to it in a script, too. For example, if you rename a field "Wrigley" and you use the old name "Chester" in a script, the script won't work properly—it won't be able to find the field it needs. ❖

Moving a field around on a card or background

You can place a field wherever you like on the card or background. To reposition a field on the card or background, follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Click the field you want to move to select it.**

   Whether the field is in the card layer or the background layer, you can select it from the card layer.

   A moving dashed line surrounds the selected field.

3. **Drag from the middle of the field, or from one of its edges (not a corner).**

Drag from the middle region to move the field.
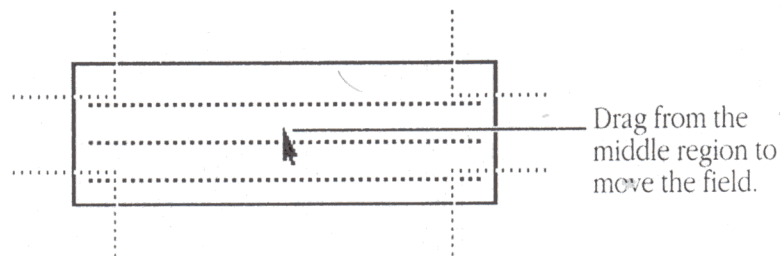
Figure 5-23   Repositioning a field on the card

To constrain the field's movement to horizontal or vertical directions only, hold down the Shift key while you drag from the middle of the field.

4. **Click anywhere outside the field to deselect it.**

You can select and move only one field at a time.

△ **Important:** After you reposition a background field, it's a good idea to look through the cards on which the field appears, to see how the cards look. △

When elements overlap

HyperCard puts different kinds of elements in different layers, as shown in the following figure. Together, all these layers make up the card you see.

Background picture

Background buttons and fields

Card picture

Card buttons and fields

What you see when you look at the card

The background picture is fixed in a layer by itself—it's always behind the background buttons and fields and all the card elements.

The card picture is also fixed in a layer by itself—it's always behind the card buttons and fields, and in front of the background buttons and fields.
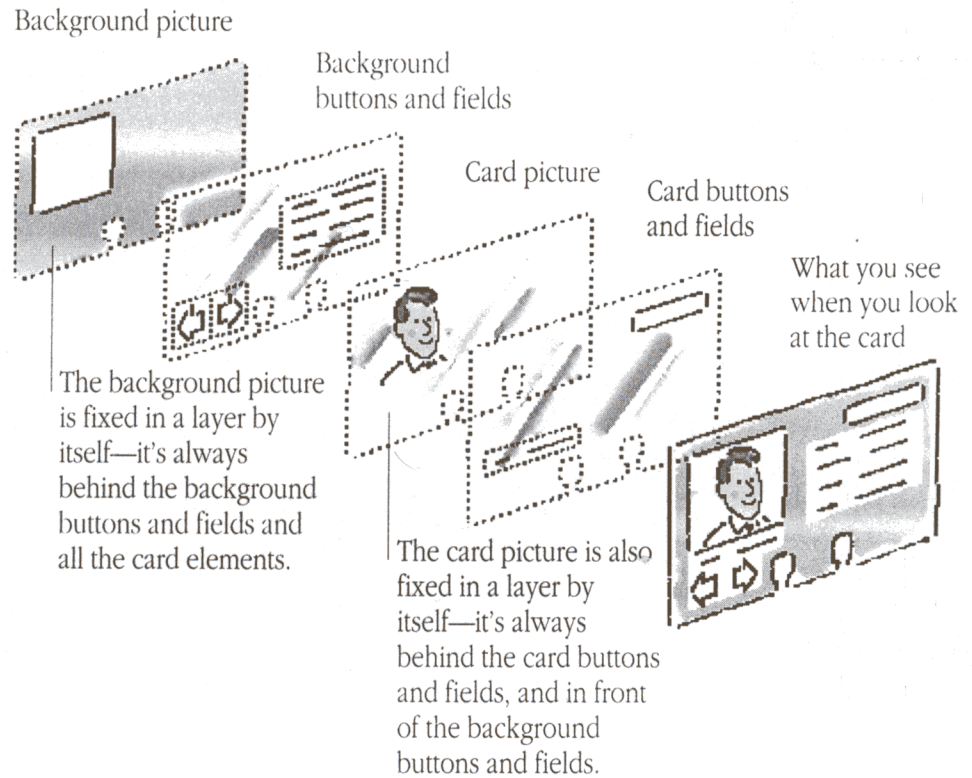
Figure 5-24   HyperCard's layers

As shown in Figure 5-24, background buttons and fields go in a different layer from the card buttons and fields. Within each of these layers, HyperCard places each new button or field you add (whether you've created it or copied it) in front of the element added before it. (*In front of* means "closer to you.")

HyperCard also assigns numbers to the buttons and fields as you add them. The first field you add is field number 1, the second is field number 2, and so on. Likewise, the first button you add is button number 1, the second is button number 2, and so on. The numbers reflect how far away the elements are from you—the farther away an element is, the lower its number. (These numbers appear in the Button Info and Field Info dialog boxes.)

Although HyperCard numbers the buttons and fields separately, it places each new element immediately in front of the previous element (within the same layer), whether it's a button or field.

Figure 5-25   Background button and field layers and numbers

HyperCard numbers the card buttons and fields separately from the background buttons and fields. The card elements are always in front of all the background elements (as shown in Figure 5-24).

This layering of buttons and fields becomes evident when the elements overlap. Elements that are closer to you can obscure elements that are farther away. If this happens, you can either move the elements apart so they don't overlap, or you can try either of the following:

- Reorder the fields and buttons. (You can move any field or button closer or farther, within its layer).

- Make some of the elements transparent, so you can see other elements through them. (Buttons, fields, and graphics can all be made transparent or opaque.)

The following sections describe these solutions.

Reordering fields

Overlapping fields and buttons can cause visual and functional problems in your stack. For example, you can't edit the text in a field that's completely covered by a button (or another field). To solve the problem of overlapping fields and buttons, you can reorder them to bring the ones you need to see and use into full view.

△ **Important:** The fields and buttons in the card layer are always in front of the background fields and buttons. Although you can reorder the background fields and buttons relative to one another, you can never move them closer to you than any of the card elements. (You can, however, make card elements transparent so you can see through them to the background elements, as explained in the next section.) △

To move a field closer or farther (relative to the other fields and buttons in the same layer) follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Click the field you want to move closer or farther to select it.**

   A moving dashed line surrounds the selected field.

3. **Choose Bring Closer from the Objects menu to move the field forward one position, or choose Send Farther to move it back one position.**

Each time you move a field back one position relative to another field in the same layer, its number (in the Field Info dialog box) decreases by 1. Each time you move a field forward one position relative to another field in the same layer, its number increases by 1.

Note that a field's number may not change every time you use the Bring Closer or Send Farther commands to change its position. For example, if a button lies between field 4 and field 3, you'd have to move field 4 back two positions (with the Send Farther command) before it would become field 3.

You can also move the selected field all the way to the front or all the way back using these ⌘-key shortcuts:

To do this . . .	Press
Send the field to the back	⌘-Shift- – (minus)
Bring the field to the front	⌘-Shift- + (plus)

4. **Repeat step 3 until the field is where you want it.**

5. **Choose the Browse tool (🖑) to deselect the field.**

As you reorder fields, the numbers of all the affected fields change to reflect their new positions. Each field's number (shown in the Field Info dialog box) reflects its front-to-back position, relative to the other fields in the same layer. (The field that's farthest away is field number 1. The closer a field is to the front relative to the other fields in the same layer, the higher its number.)

❖ *Tabbing order is affected:* As the fields' numbers change, so does the tabbing order—that is, the order in which you move through the fields when you press Tab—because the tabbing order depends on the field's numbers. (See "Moving From One Field to Another," earlier in this chapter, for more information about the tabbing order.) ❖

The commands Bring Closer and Send Farther work the same way on a selected button, as described in "Reordering Buttons" in Chapter 4.

Making a field opaque or transparent

When you want to be able to see background or card elements through a field that covers them, you can make the field transparent. Conversely, when you want to give a field more prominence, you can make it opaque.

Follow these steps to make a field opaque or transparent:

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Click the field you want to change to select it.**

3. **Choose Field Info from the Objects menu.**

    Or double-click the field. The Field Info dialog box appears.

4. **Move the pointer over the pop-up Style menu, press and hold the mouse button, and drag to select the opaque or transparent style:**

Choosing this style makes the field transparent.

Choosing any of these styles makes the field opaque. (See Figure 5-15.)
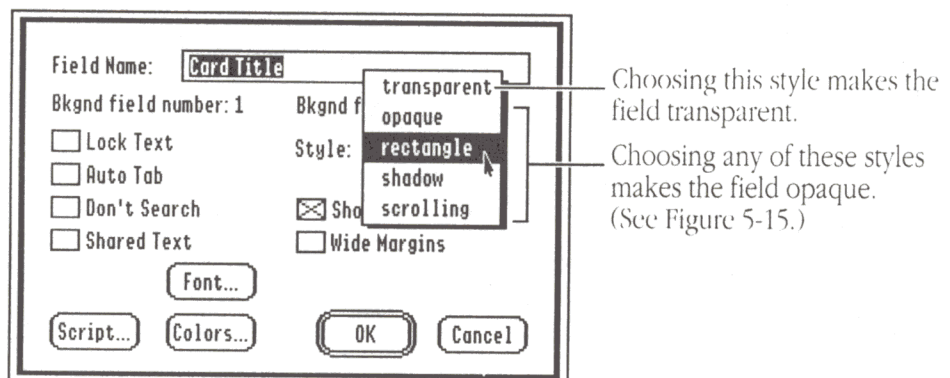
Figure 5-26   Making a field opaque or transparent

5. **Click OK.**

Copying a field

You can duplicate a field on the same card, or copy it to another card, background, or stack. When you copy a field, you also copy its attributes—its name, style, script, text format settings, and so on. You can copy a field either with or without its contents.

Copying a field on the same card

Follow these steps to duplicate a field without its text on the same card:

1. **Choose the Field tool (▭) from the Tools menu.**

2. **Click the field you want to copy to select it.**

   You can select the field from the card layer, whether the field is in the card layer or the background layer.

   A moving dashed line surrounds the selected field.

3. **Press and hold the Option key while you drag the field.**

   As you drag, you create an exact duplicate of the field. If the original is a background field, the duplicate is a background field. If the original is a card field, the duplicate is a card field. However, you can't duplicate the field's text using this method. You have to use the procedure described in the next section to copy the text along with the field.

   To constrain the new field's movement to horizontal or vertical directions only, hold down the Shift key while you drag from the middle of the field.

Copying a field to another card or background

To copy a field with or without its text to another card or background, follow these steps:

1. **Choose the Field tool (▭) from the Tools menu.**

2. **Click the field you want to copy to select it.**

3. **Choose Copy Field from the Edit menu, or press ⌘-C.**

   This makes a copy of the selected field (including its text) and puts it on the Clipboard. (This field replaces the last item you cut or copied; the Clipboard can only hold one item at a time.)

4. **Go to the card or background where you want to put the field.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Field tool is selected.

   If you're not sure whether to put the field in the card layer or the background layer, see "Adding a Field to a Card or Background" near the beginning of this chapter.

5. **If you want to paste both the field and the text that was visible when you copied the field, press and hold the Shift key and choose Paste Field from the Edit menu, or press ⌘-Shift-V.**

   To copy just the field without its text, choose Paste Field from the Edit menu, or press ⌘-V.

   This takes a copy of the field that's on the Clipboard, puts it on the current card or background, and selects it. If you've copied the field and its text from the card layer to the background layer, you won't see the text until you return to the card layer (at the end of this procedure).

   If you've copied a background field to the card layer of the same card, the copy is pasted directly over the original. To see the original, you have to drag the copy to move it.

6. **While it's still selected, drag the field to where you want it.**

7. **If you've copied the field and its text from the card layer to the background layer, choose Background from the Edit menu, or press ⌘-B, to return to the card layer and see the text.**

△ **Important**: The most common mistake in copying a field is putting it in the card layer when you want it in the background layer. (To find out whether a field is in the background, press ⌘-B to view just the background elements.) If you put a field in the card layer by mistake, see the next section, "Moving a Field From the Card to the Background." △

Moving a field from the card to the background

It's easy to put a field in the card layer by mistake when you intend to put it in the background. If this happens, you can move the field from the card layer to the background layer (of the same card) by following these steps:

1. **Choose the Field tool (▭) from the Tools menu.**

2. **Click the field you want to move to select it.**

   A moving dashed line surrounds the selected field.

3. **Choose Cut Field from the Edit menu, or press ⌘-X.**

   This removes the field from the card and puts it on the Clipboard.

4. **Go to the background layer.**

   Choose Background from the Edit menu, or press ⌘-B.

5. **If you want to move the field and its text, press and hold the Shift Key and choose Paste Field from the Edit menu, or press ⌘-Shift-V.**

   To move just the field without its text, choose Paste Field from the Edit menu, or press ⌘-V.

   This takes a copy of the field that's on the Clipboard, puts it in the current background, and selects it. The pasted field appears at the same position from which it was cut. If you've pasted the text along with the field, you won't be able to see the text until you return to the card layer (at the end of this procedure).

6. **While it's still selected, drag the field to where you want it.**

   Since you can't see the elements in the card layer while you're working in the background, you might not be able to tell whether you're putting the field in the right place. If this happens, you can press ⌘-B again to go back to the card layer, then select and drag the field from the card layer.

7. **If you've pasted the text along with the field, choose Background from the Edit menu, or press ⌘-B, to return to the card layer and see the text.**

Moving a field from the background to the card

Follow these steps to move a field from the background layer to the card layer of the same card:

1. **Choose the Field tool (▦) from the Tools menu.**

2. **Click the field you want to move to select it.**

   A moving dashed line surrounds the selected field.

3. **Choose Cut Field from the Edit menu, or press ⌘-X.**

   A dialog box like this appears:

Delete this field and all its text from all 2 cards of this background?

[Delete] [[Cancel]]

Click Delete to confirm that you want to cut the field.

Figure 5-27   Confirmation dialog box for cutting a background field

Click Delete in the dialog box to remove the field from the background and put it on the Clipboard.

4. **If you're in the background layer, go to the card layer by pressing ⌘-B.**

   If you're already in the card layer, skip this step.

5. **If you want to move the field and its text, press and hold the Shift Key and choose Paste Field from the Edit menu, or press ⌘-Shift-V.**

   To move just the field without its text, choose Paste Field from the Edit menu, or press ⌘-V.

   This takes a copy of the field that's on the Clipboard, puts it on the current card, and selects it. The pasted field appears at the same position from which it was cut.

6. **While it's still selected, drag the field to where you want it.**

Moving a field to another card or background

You can move a field to another card in the same stack, or to a card in another stack. When you move a field, its attributes—its style, name, scripts, and so on—move with it. You can move a field either with or without its text.

Follow these steps to move a field to another card or background:

1. **Choose the Field tool (▭) from the Tools menu.**

2. **Click the field you want to move to select it.**

   A moving dashed line surrounds the selected field.

3. **Choose Cut Field from the Edit menu, or press ⌘-X.**

   If the field is a background field, a dialog box like this appears:

   Delete this field and all its text from all 2
   cards of this background?

   [Delete] [Cancel]

   Click Delete to confirm that
   you want to cut the field.

   Figure 5-28   Confirmation dialog box for cutting a background field

   Click Delete to remove the selected field from the current card
   and put it on the Clipboard.

4. **Go to the card or background where you want to put the field.**

   Use the arrow keys or commands in the Go menu to navigate
   between cards while the Field tool is selected.

   If you're not sure whether to put the field in the card layer or the
   background layer, see "Adding a Field to a Card or Background"
   near the beginning of this chapter.

5. **If you want to move the field and its text, press and hold the
   Shift Key and choose Paste Field from the Edit menu, or press
   ⌘-Shift-V.**

   To move just the field without its text, choose Paste Field from
   the Edit menu, or press ⌘-V.

   This takes a copy of the field that's on the Clipboard, puts it
   on the current card or background, and selects it. The pasted
   field appears at the same position from which it was cut. If
   you've moved the field and its text from the card layer to the
   background layer, you won't see the text until you return to
   the card layer (at the end of this procedure).

6. While the field is still selected, drag it to where you want it.

7. If you've moved a field and its text from the card layer to the background layer, choose Background from the Edit menu, or press ⌘-B, to return to the card layer and see the text.

△ **Important:** The most common mistake in copying a field is putting it in the card layer when you want it in the background layer. (To find out whether a field is in the background, press ⌘-B to view just the background elements.) If you put a field in the card layer by mistake, see "Moving a Field From the Card to the Background," earlier in this chapter. △

Locking and unlocking a field

You can lock a field to prevent content changes to its text. Locking a field does not, however, prevent changes to the text format of the field.

To lock a field, follow these steps:

1. Choose the Field tool (▭) from the Tools menu.

2. Click the field to select it.

3. Choose Field Info from the Objects menu.

   Or just double-click the field. The Field Info dialog box appears.

3. **Choose Cut Field from the Edit menu, or press ⌘-X.**

   If the field is a background field, a dialog box like this appears:

   ```
   ┌─────────────────────────────────────────────┐
   │  ┌─────────────────────────────────────┐    │
   │  │ Delete this field and all its text from all 2 │
   │  │ cards of this background?           │    │       Click Delete to confirm that
   │  │                                     │    │       you want to cut the field.
   │  │            [ Delete ]  [ Cancel ]   │    │
   │  └─────────────────────────────────────┘    │
   └─────────────────────────────────────────────┘
   ```

   Figure 5-28   Confirmation dialog box for cutting a background field

   Click Delete to remove the selected field from the current card and put it on the Clipboard.

4. **Go to the card or background where you want to put the field.**

   Use the arrow keys or commands in the Go menu to navigate between cards while the Field tool is selected.

   If you're not sure whether to put the field in the card layer or the background layer, see "Adding a Field to a Card or Background" near the beginning of this chapter.

5. **If you want to move the field and its text, press and hold the Shift Key and choose Paste Field from the Edit menu, or press ⌘-Shift-V.**

   To move just the field without its text, choose Paste Field from the Edit menu, or press ⌘-V.

   This takes a copy of the field that's on the Clipboard, puts it on the current card or background, and selects it. The pasted field appears at the same position from which it was cut. If you've moved the field and its text from the card layer to the background layer, you won't see the text until you return to the card layer (at the end of this procedure).

6. While the field is still selected, drag it to where you want it.

7. If you've moved a field and its text from the card layer to the background layer, choose Background from the Edit menu, or press ⌘-B, to return to the card layer and see the text.

△ **Important:** The most common mistake in copying a field is putting it in the card layer when you want it in the background layer. (To find out whether a field is in the background, press ⌘-B to view just the background elements.) If you put a field in the card layer by mistake, see "Moving a Field From the Card to the Background," earlier in this chapter. △

Locking and unlocking a field

You can lock a field to prevent content changes to its text. Locking a field does not, however, prevent changes to the text format of the field.

To lock a field, follow these steps:

1. Choose the Field tool (▭) from the Tools menu.

2. Click the field to select it.

3. Choose Field Info from the Objects menu.

   Or just double-click the field. The Field Info dialog box appears.

4. Click Lock Text to select it:

Click here to prevent changes to the text in the field. Click Lock Text again to unlock the field, making the text editable.

```
┌─────────────────────────────────────────────┐
│  Field Name:   │Personal Info│               │
│  Bkgnd field number: 8    Bkgnd field ID: 11 │
│  ☐ Lock Text          Style: │ transparent │ │
│  ☐ Auto Tab                                  │
│  ☐ Don't Search       ☐ Show Lines          │
│  ☐ Shared Text        ☐ Wide Margins         │
│              ( Font... )                      │
│  (Script...) (Colors...)  (  OK  ) (Cancel)  │
└─────────────────────────────────────────────┘
```

Figure 5-29   Locking a field

5. Click OK.

When the Browse tool passes over a locked field, it doesn't change to the I-beam pointer (I). This lets you know that you can't edit the field.

If you want to unlock a field to allow text changes, click Lock Text again in the Field Info dialog box to deselect it (as shown in Figure 5-29).

Excluding a field from text searches

The Find command (in the Go menu) allows you to search for specific text in the fields of a stack. You can prevent HyperCard from searching in any particular field during text searches. Follow these steps:

1. **Choose the Field tool (▦) from the Tools menu.**

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

3. **Choose Field Info from the Objects menu.**

4. **Click the Don't Search check box to select it.**

   Clicking Don't Search again deselects it.

5. **Click OK.**

If you want to turn off the Don't Search option to allow HyperCard to search in the field, simply deselect the option (as explained in step 4).

➤ *See also:*   • "Excluding Card and Background Fields From Text Searches" in Chapter 3
   • "Excluding Background Fields From Text Searches" in Chapter 3

Deleting a field

You can delete a field whether or not it has text in it. When you delete a field, any text contained in the field is deleted too.

Follow these steps to delete a field:

1. **Choose the Field tool (▭) from the Tools menu.**

2. **Click the field you want to delete to select it.**

3. **Choose Clear Field from the Edit menu, or press Delete.**

   If the field is a background field, a dialog box like this appears:

   ```
   Delete this field and all its text from all 2
   cards of this background?
                    [ Delete ]  [[ Cancel ]]
   ```
   Click Delete to confirm that you want to cut the field.
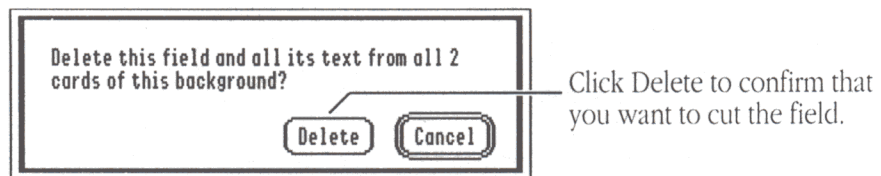
Figure 5-30 Confirmation dialog box for deleting a background field

▲ **Warning:** Once you've deleted the field with the Clear Field command (or with the Delete key), the field and all its text are gone for good—you can't undo the deletion. Deleting a background field also deletes all text in that field on all cards sharing that background. ▲

Working With Graphics

Graphics help communicate what a stack is for and how it works. The graphics described in this chapter include lines, shapes, patterns, pictures, and Paint text—any graphic element that you create or manipulate with the Paint tools.

This chapter explains how to do the following:

- Create graphics yourself using the Paint tools.

- Copy graphics from another stack (or the same one).

- Import graphics from any document in the Apple Preferred File Format.

To do the tasks in this chapter, you must have your user level set at least to Painting. (The section "User Levels and Options" in Chapter 1 explains how to set your user level.)

Adding graphics to a card or background

Each card can have its own unique graphics in the card layer in addition to the background graphics it shares with other cards. Whenever you add a graphic element to a stack, you need to decide whether you want it in the card layer or the background layer. To decide where to put the graphic, consider where you want it to appear:

- If you want the graphic to appear on every card in the stack, put it in the background layer. A background graphic appears in the same location on all the cards that share the background.

- If you want the graphic to appear on only one card, add it to the card layer.

- If you want the graphic to appear on some but not all of the cards in the stack, consider creating a different background for those cards and putting the graphic in that background only. ("Creating a New Background" in Chapter 3 explains how to add a background to a stack.)

To add a graphic to a background, you must be in the background layer; to add a graphic to a card, you must be in the card layer. To go to the background layer, press ⌘-B. When you're in the background layer, the word *Background* appears in the menu bar. If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

➤ *See also:* • "The Card Layer Versus the Background Layer" in Chapter 2
• "When Elements Overlap" in this chapter

The tools for working with graphics

To create and work with graphics, you use the Paint tools in the Tools menu.
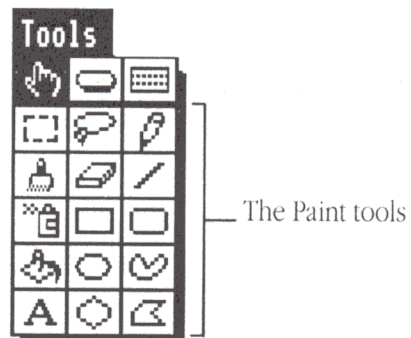
Figure 6-1   HyperCard's tools

The functions of the Paint tools are described briefly in the figure that follows. This chapter provides detailed instructions for using these tools.

The Browse tool is for browsing through stacks and editing text.

The Button tool is for working with buttons.

The Field tool is for working with fields.

The Selection tool is for selecting graphics.

The Lasso is for selecting nonrectangular graphics.

The Pencil draws thin, free-form lines.

The Brush paints with the current pattern or color.

The Eraser erases the part of a graphic you drag it over.

The Line tool draws straight lines.

The Spray tool spritzes paint onto the screen in the current pattern or color.

The Rectangle tool draws rectangles and squares.

The Rounded Rectangle tool draws rectangles with rounded corners.

The Bucket fills enclosed areas or one-color areas with the current pattern or color.

The Oval tool draws ovals and circles.

The Curve tool draws free-form lines and shapes.

The Paint Text tool is for typing text that's part of a graphic.

The Regular Polygon tool creates polygons with regular sides.

The Polygon tool creates polygons with irregular sides.

Figure 6-2   What the tools are used for

Chapter 6: Working With Graphics

To make it easy to alternate between the tools, you can "tear off" the Tools menu to create a movable Tools palette. To do this, drag down through the menu past the bottom or beyond either side. (For an illustration of this, see Figure 2-12.) While you have the Tools palette open, you can select a tool just by clicking it on the palette. This makes it easy to switch back and forth between different Paint tools.

When you choose one of the Paint tools, three new menus appear: Paint, Options, and Patterns. (The Objects menu disappears temporarily while you're working with the Paint tools.)

These three menus appear when you have one of the Paint tools selected.

Selected Paint tool
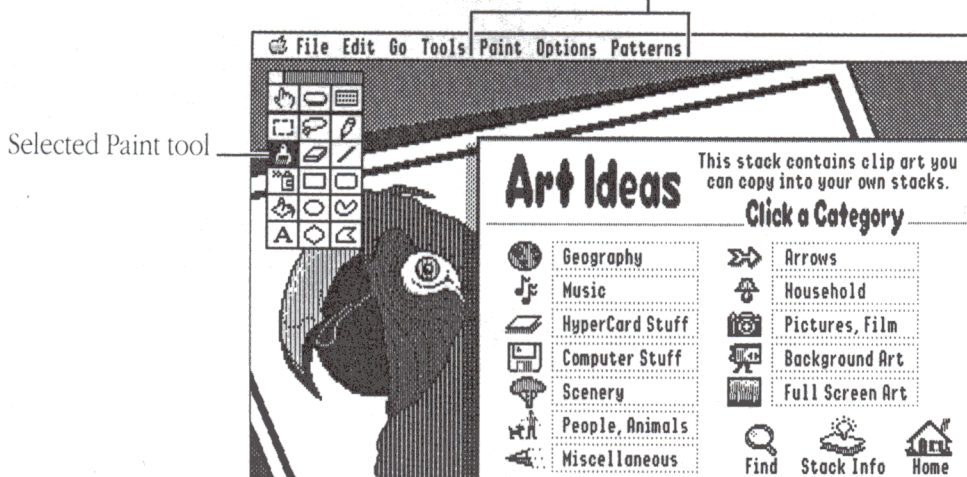
Figure 6-3   Menus that accompany the Paint tools

The Paint and Options menus contain commands for creating and manipulating graphics. These commands are described throughout this chapter.

The Patterns menu contains patterns and colors you can use to fill shapes and draw with. For easy access to the patterns and colors, you can tear off the Patterns menu the same way you tear off the Tools menu—drag down through the menu past the bottom or beyond either side.

You can close the Patterns palette by clicking here.

To move the palette, drag from here.

To tear off the Patterns menu, drag beyond the bottom or either side of the menu.

Click any pattern or color to select it.
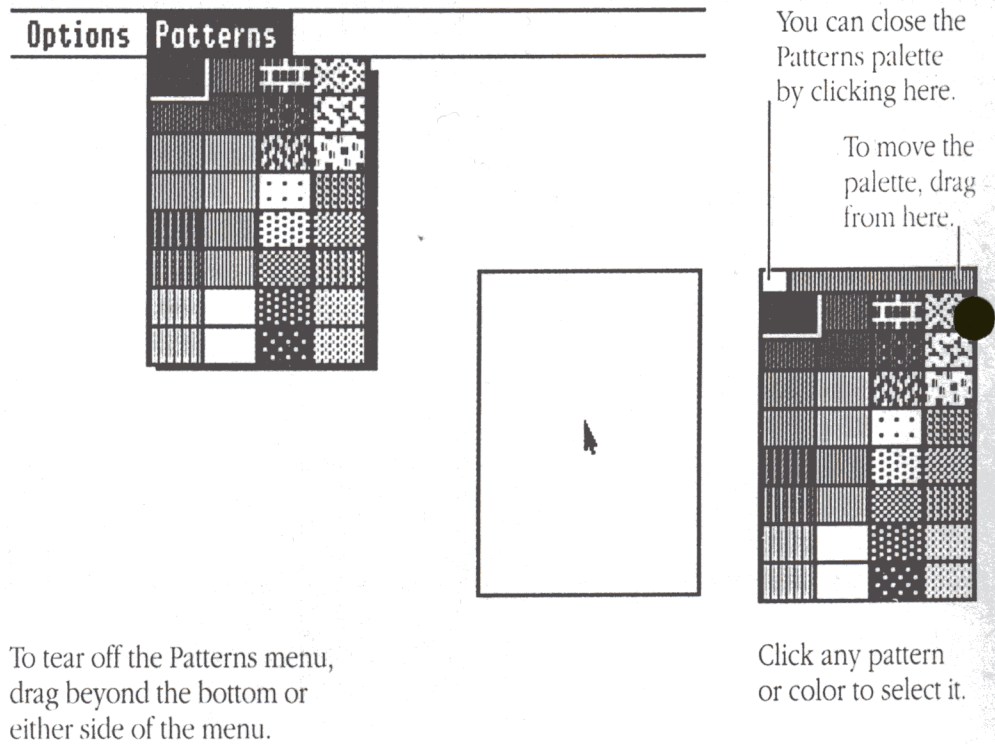
Figure 6-4 Tearing off the Patterns menu

❖ *A shortcut:* Whenever you have a Paint tool selected, you can make the Patterns palette appear and disappear quickly by pressing Tab or double-clicking the Bucket on the Tools palette. ❖

Chapter 6: Working With Graphics

The Patterns palette works like the Tools palette—to select a pattern or color, just click it. "Creating Your Own Patterns," later in this chapter, explains how you can add your own patterns to this palette.

➤ *See also:*   • "Using HyperCard's Tools" in Chapter 2
• "Using Power Keys" in this chapter
• "Using Modifier Keys With Paint Tools" in this chapter
• "Double-Clicking Paint Tools, Patterns, and Colors" in this chapter

Selecting a graphic

Before you can modify, move, or copy a graphic, you must first select it. There are many different ways to select a graphic. The method you use depends on the shape and size of the particular graphic element(s) you want to select. The sections that follow explain all the methods for selecting graphics.

To select a graphic, you must be working in the same layer as the graphic. If the graphic is in the background layer, you can select it only from the background layer. If it's in the card layer, you can select it only from the card layer. If you try to select a graphic and it doesn't become selected, chances are the graphic is in the background layer and you're working in the card layer. (It's also possible that the element you're trying to select is actually a button or field. Chapters 4 and 5 explain how to select buttons and fields.)

❖ *Blank space vs. white paint:* A white area on a card or background is not necessarily blank, transparent space—it can also be white paint or an opaque area. White paint can be useful for hiding background elements and for graphic effects such as painting in white over a color or pattern. In most respects, white paint is the same as any other paint: You can fill selections and draw with it, and you can erase it. However, not all the methods of selecting a graphic work for white paint. Each of the following sections explains how the selection of white paint differs from the selection of a color. ❖

Once you've selected a graphic, it stays selected until you choose a tool or click outside the selection.

❖ *Icons are selected differently than graphics:* Remember that an icon is part of a button. To select an icon, you have to select the button that displays it. If you're not sure whether a particular element is an icon or a graphic, choose the Button tool (○) from the Tools menu, click the element, and drag it. If a moving dashed line appears around the element and you can move it by dragging, it's an icon. Chapter 4 gives instructions for working with buttons and icons. ❖

Selecting a rectangular area

To select a rectangular graphic element or a rectangular area of a picture, follow these steps:

1. **Go to the card or background that contains the graphic element or the area you want to select.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphic you want while you're in the background layer, the graphic is in the card layer.

2. **Choose the Selection tool (▱) from the Tools menu.**

   Or click it on the Tools palette. The pointer changes to a crosshair (+).

3. **Move the crosshair pointer to one corner of the area you want to select.**

4. **Drag diagonally to the opposite corner of the area.**

   A moving dashed line surrounds the selected area. If the area includes white paint, the white paint is included in the selection.

❖ *For a tighter selection:* To eliminate extra blank space from the selection, press the ⌘ key while you drag; when you release the mouse button, the moving dashed line snaps in to select the smallest rectangular area surrounding the graphic. Any white paint that lies outside the rectangular area will also be eliminated. ❖

Press and hold the ⌘ key and drag diagonally with the Selection tool from here . . .
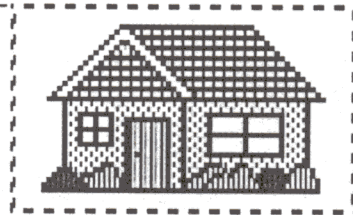
. . . to here.

The moving dashed line snaps around the graphic to eliminate extra blank space from the selection.

Figure 6-5   Eliminating extra blank space in a rectangular selection

If you select too much or not enough, deselect the graphic by clicking on the card outside the selection, then select the graphic again.

Selecting a nonrectangular area

To select a nonrectangular graphic element or a nonrectangular area of a picture, follow these steps:

1. **Go to the card or background that contains the graphic element or the area you want to select.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphic you want while you're in the background layer, the graphic is in the card layer.

2. Choose the Lasso (⌐) from the Tools menu.

Or click it on the Tools palette. The pointer turns into a lasso.

3. Drag around the graphic you want to select:

The tip of the line trailing out of the Lasso determines what you select.
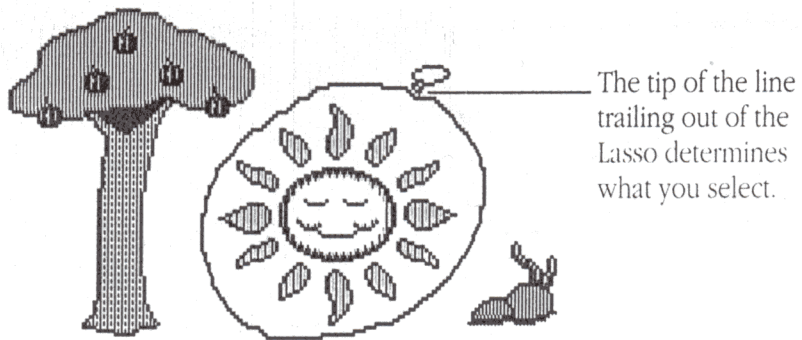
Figure 6-6   Selecting a nonrectangular area

You don't need to drag completely around the graphic; HyperCard will complete the selection by drawing a straight line between the point where you start dragging and the point where you stop. (But if you stop too soon, you might miss part of the graphic you want to select.)

When you release the mouse button, the edges of the selected graphic shimmer. If there was any white paint or blank space surrounding the graphic, it's eliminated from the selection:

The edges of the selected graphic shimmer.
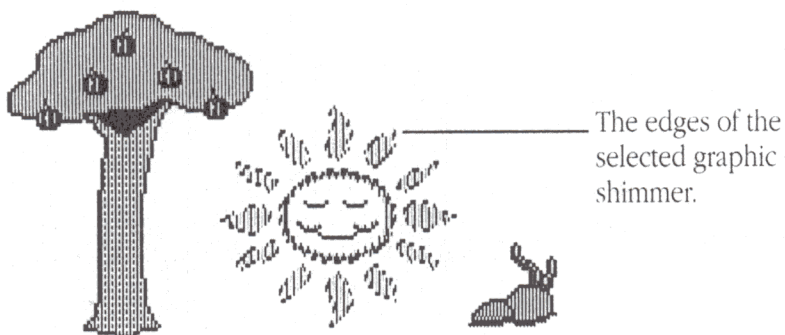
Figure 6-7   Only the lassoed graphic is selected

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❖ *If you want to include the surrounding blank space:* To lasso a graphic without eliminating any surrounding blank space or white paint, press the Option key while you drag with the lasso. This selects exactly the area you drag around. ❖

If you select too much or not enough, deselect the graphic by clicking on the card outside the selection, then select the graphic again.

Selecting an individual graphic element

There are several ways to select a single graphic element without any of the blank space or white paint that surrounds it—including the method described in the preceding section, "Selecting a Nonrectangular Area." This section describes two additional methods.

Use the following technique when you want to select a specific graphic element quickly and exclude the surrounding blank space and white paint, or if your hand isn't steady enough to use the Lasso with precision:

1. **Go to the card or background that contains the graphic you want to select.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphic you want while you're in the background layer, the graphic is in the card layer.

2. **Choose the Selection tool (▱) from the Tools menu.**

   Or click it on the Tools palette. The pointer changes to a crosshair (✛).

3. **Move the crosshair pointer to one corner of the graphic.**

4. **Press the Option key while you drag diagonally to the opposite corner of the graphic.**

   Or choose Select from the Paint menu (or press ⌘-S) after you drag to the opposite corner. This automatically chooses the Lasso and selects the graphic.

Press and hold the ⎯ Option key and drag diagonally with the Selection tool from here . . .

. . . to here.   The selected graphic shimmers.

Figure 6-8   Selecting an individual graphic element

If you select too much or not enough, click on the card outside the selection to deselect the graphic, then select it again.

You can use the following technique to select a one-color graphic element that has no breaks in it—that is, one that's composed entirely of connected dots of the same color. This technique is useful for selecting small graphic elements of one solid color.

1. **Go to the card or background that contains the graphic element you want to select.**

2. **Choose the Lasso from the Tools menu.**

3. **Move the Lasso's tip into the graphic.**

4. **Press the ⌘ key while you click the graphic.**
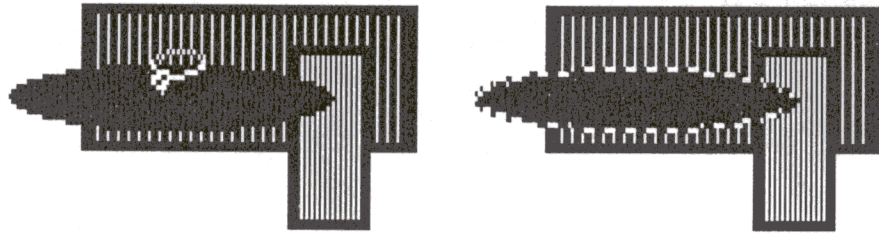
Select a one-color graphic
element by ⌘-clicking it with
the tip of the Lasso.

The edges of the selected
graphic shimmer.

Figure 6-9   Selecting a one-color graphic element

Selecting the graphic you've just created

Immediately after you draw a single graphic element (and *before* you click anywhere), you can select the element you've just created by choosing Select from the Paint menu or pressing ⌘-S. The Select command selects *only* the graphic element (including white paint) you've created since the last time you pressed the mouse button. (If you haven't just created a new graphic, the Select command selects all the graphics in the layer in which you're working.)

This technique is particularly useful if you've just drawn a shape very close to or actually touching another shape, and you need to move the new shape. You can even draw a new shape on top of an old one, choose Select, and then drag the new shape away without changing the old shape.

You can also use the Select command to select an area you've just erased. (The erased area becomes opaque after you select and move it.)

If the Power Keys option is turned on (and the Message box is hidden), you can press S instead of choosing Select. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Selecting all the graphic elements on a card or background

When your card or background picture is made up of several individual graphic elements, you might want to select them all at once to make changes to them or to copy or move them. This section explains how to select all the graphic elements in the current layer, excluding any blank space or white paint between them.

To select all the individual graphic elements on the card or background, first make sure you're in the layer that contains the graphics you want to select. Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphics you want while you're in the background layer, they're in the card layer.

Select all the graphic elements in the current card layer or background layer by using one of these methods:

- Choose Select from the Paint menu, or press ⌘-S.

- Double-click the Lasso on the Tools palette.

- If the Power Keys option is turned on (and the Message box is hidden), press S. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

When you're in the card layer and you choose Select from the Paint menu, all the card graphics become selected (their edges shimmer) . . .
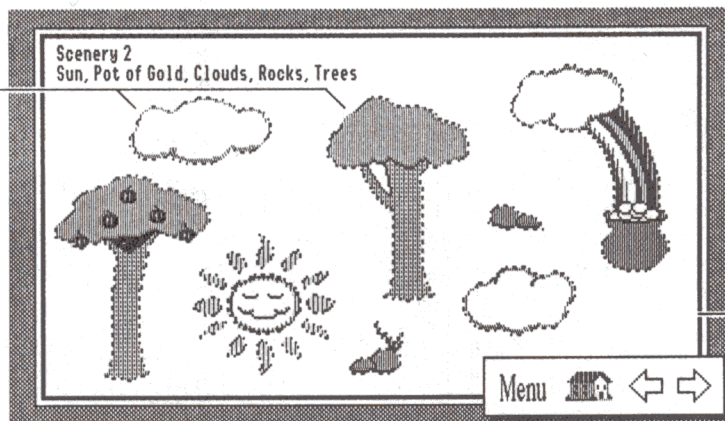
. . . but the background graphics don't.

Figure 6-10   Selecting all the graphic elements in the current layer

Selecting the entire card picture or background picture

When you want to copy, delete, or change the entire card picture or background picture (for example, by filling it with a pattern), you can select the whole picture at once in one rectangular selection the size of the card. This section explains how to select the whole picture in the current layer, including all the graphic elements and the blank space between them.

To select an entire picture, first make sure you're in the layer that contains the picture. Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the picture you want while you're in the background layer, it's in the card layer.

Select the entire picture by using one of these methods:

- Choose Select All from the Paint menu, or press ⌘-A.

- Double-click the Selection tool on the Tools palette.

- If the Power Keys option is turned on (and the Message box is hidden), press A. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

- Choose the Selection tool (⊡) from the Tools menu and drag diagonally from one corner of the card or background to the opposite corner.

A moving dashed line surrounds the selected card or background picture. To deselect the picture, click anywhere on the card or background, or choose a tool from the Tools menu.

Copying graphics that come with HyperCard

The easiest way to get art into your stacks is to copy graphics that already exist. Copying graphics can simplify the stack-building process. HyperCard comes with a stack called Art Ideas that contains all kinds of illustrations you can copy and paste into your stacks. The first card in this stack lists categories of graphic images. To see graphics in a particular category, click the category name.

Figure 6-11   Some graphics from the Art Ideas stack

When you see a graphic you like in Art Ideas or any other stack that comes with HyperCard, copy it and paste it into your stack. Follow these steps:

1. **Open the Art Ideas stack (or any other stack that comes with HyperCard).**

2. **Go to the card that has the graphic you want to copy.**

3. **Select the graphic you want.**

   For instructions on selecting a graphic, see "Selecting a Graphic," earlier in this chapter.

4. **Choose Copy Picture from the Edit menu, or press ⌘-C.**

   This puts a copy of the selected graphic on the Clipboard.

5. **Go to the card or background where you want to put the graphic.**

   You can use the arrow keys or commands in the Go menu to navigate between cards or stacks while you have the Selection tool or Lasso selected.

   If you're not sure whether to put the graphic in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

6. **Choose Paste Picture from the Edit menu, or press ⌘-V.**

   This takes a copy of the graphic that's on the Clipboard, puts it on the current card or background, and selects it.

7. **While the graphic is still selected, drag it to where you want it on the card or background.**

   The graphic becomes opaque after you paste it. If you want to be able to see through the graphic to the elements behind it, select it and choose Transparent from the Paint menu.

➤ *See also:* • "Changing the Appearance of a Graphic" in this chapter

Undoing your mistakes

If you make a mistake while you're working with the Paint tools and commands, you can undo your last operation by choosing Undo from the Edit menu (or pressing ⌘-Z, Esc, or Tilde) *before* you do anything else.

❖ *If Undo doesn't work:* If Undo doesn't work consistently, it's a sign that HyperCard is running low on memory. For more information about low-memory situations, see "Working With Paint Tools When Memory Is Low," later in this chapter. ❖

You can erase a mistake by choosing the Eraser from the Tools menu and dragging over the graphic. You must be working in the background layer to erase a background graphic and in the card layer to erase a card graphic. To erase in a straight horizontal or vertical line, press Shift while you drag the Eraser.

➤ *See also:* • "Reverting to the Last Version of a Graphic" in this chapter
• "Saving the Graphics on a Card or Background" in this chapter
• "Deleting a Graphic" in this chapter

Painting with the Brush, Spray tool, and Bucket

Three of the tools in the Tools menu are analogous to everyday painting implements. These tools work much like the implements they represent:

■ The Brush (🖌) works like a paint brush.

■ The Spray tool (🖍) works like a can of spray paint.

■ The Bucket (🪣) works like a bucket full of paint.

You can use these tools in conjunction with patterns and colors in the Patterns menu. This section explains how.

Painting with the Brush

The Brush works like a paint brush—it leaves a swath of "paint" in its path. You can use the Brush to paint an area with a pattern or color. (HyperCard's default color is black.)

Follow these steps to paint with the Brush:

1. **Go to the card or background where you want the paint.**

   If you're not sure whether to put the paint in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **Choose the Brush (✎) from the Tools menu.**

   Or click it on the Tools palette. The pointer changes to the
   current Brush shape.

3. **Drag where you want to paint.**

   Paint (in the current pattern or color) appears where you drag.
   To paint in a straight horizontal or vertical line, press and hold
   the Shift key while you drag.

   ❖ *To erase with the Brush:* You can erase any existing paint in
     the path of the Brush by pressing and holding the ⌥ key
     while you drag. ❖

   If you want to paint with a different pattern or color, choose the
   one you want from the Patterns menu (or click it on the Patterns
   palette) before you drag with the Brush.

   If you want to paint (or erase) with a different brush shape, choose
   Brush Shape from the Options menu or double-click the Brush on
   the Tools palette. The Brush Shape dialog box appears:

Click a brush shape to
select it. After you select
a brush shape, this
dialog box disappears.
The pointer changes
to the brush shape
you select.
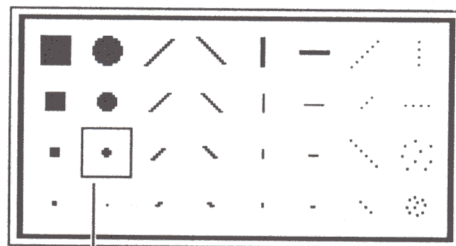
A box appears around the
selected brush shape.

Figure 6-12   The different brush shapes

The different brush shapes create different effects when you paint. The following figure shows some examples:
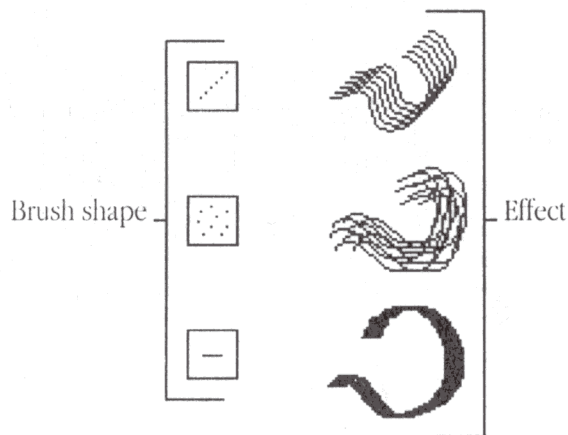
Brush shape —

Effect

Figure 6-13   The different brush shapes create different effects

Painting with the Spray tool

The Spray tool works like a can of spray paint—it "spritzes" paint onto the screen in the selected pattern.

Follow these steps to paint with the Spray tool:

1. **Go to the card or background where you want the paint.**

   If you're not sure whether to put the paint in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **Choose the Spray tool (🖦) from the Tools menu.**

   Or click it on the Tools palette. The pointer changes to the Spray tool (☀).

3. Drag where you want to paint.

Spray paint, in the current pattern or color, appears where you drag. The more you spray back and forth over the same area, the more the pattern or color becomes apparent. (Some patterns don't show up until you've thoroughly covered an area.)

To paint in a straight horizontal or vertical line, press and hold the Shift key while you drag.

❖ *To erase with the Spray tool:* You can erase any existing paint in the path of the Spray tool by pressing and holding the ⌘ key while you drag. ❖

If you want to spray with a different pattern or color, choose the one you want from the Patterns menu or click it on the Patterns palette before you drag with the Spray tool.

Filling an area with a pattern or color

You can fill any area on a card or background with a pattern or color by using either the Bucket (in the Tools menu) or the Fill command (in the Paint menu). Before you fill an area, you can choose the pattern or color you want to fill it with.

This section describes two different methods for filling an area. The method you use depends on whether the area you want to fill is completely enclosed.

❖ *Filling shapes:* If you know before creating a shape that you want to fill it with a pattern or color, you can fill the shape automatically as you draw it. For instructions, see "Drawing a Shape Filled With a Pattern or Color," later in this chapter. ❖

Filling an enclosed area

When you want to fill an area that's completely enclosed—that is, completely surrounded by an outline—follow these steps:

1. **Go to the card or background that contains the enclosed area you want to fill.**

   If the outline enclosing the area is in the background layer, go to the background layer. If it's in the card layer, make sure you're in the card layer. If the outline is composed of several different graphic elements, they must all be in one layer.

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

2. **Choose the pattern you want from the Patterns menu.**

   Or click it on the Patterns palette.

3. **Choose the Bucket (⌂) from the Tools menu.**

   Or click it on the Tools palette. The pointer changes to the Bucket.

4. **Move the Bucket so that the tip of the stream pouring from it is within the enclosed space you want to fill, then click:**

This is the part of the Bucket that dispenses paint.

Paint text
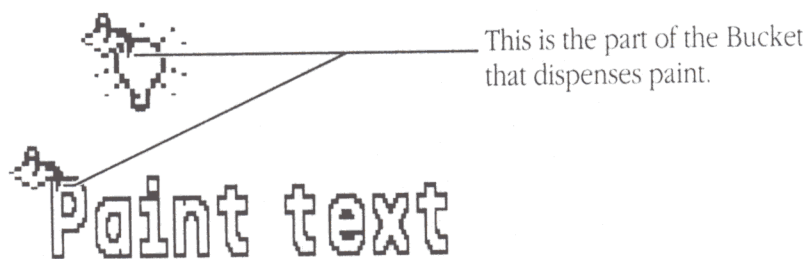
Figure 6-14   Positioning the Bucket pointer to fill an area

If there are any gaps in the outline that encloses the area you want to fill, paint will spill out and fill the surrounding area, too. If this happens, immediately choose Undo from the Edit menu, or press ⌘-Z, Tilde, Esc, or Delete. Then check carefully for gaps in the outline before using the Bucket again.
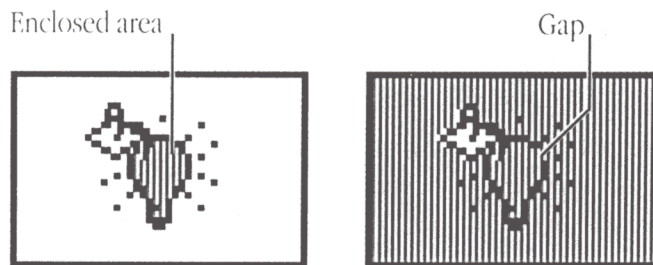
Figure 6-15   Paint spills out of an unenclosed area

❖   *To check for gaps:* You can magnify the graphic to check for gaps in its outline by using the technique described in "Magnifying a Graphic for Editing," later in this chapter. ❖

Filling an unenclosed area

To fill an area that's not completely enclosed by an outline or other graphics, follow these steps:

1. **Go to the card or background that contains the area you want to fill.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

2. **Choose the pattern you want from the Patterns menu.**

   Or click it on the Patterns palette.

3. Select the graphic element or the area you want to fill.

If you want to fill a specific graphic element, you can select it with either the Selection tool or the Lasso, as explained in "Selecting an Individual Graphic Element," earlier in this chapter. If you want to fill a blank area, select it with the Selection tool, as explained in "Selecting a Rectangular Area," earlier in this chapter.

4. Choose Fill from the Paint menu.

The selected area fills with the current pattern or color.

Select the graphic you want to fill . . .   . . . and choose Fill
                                                             from the Paint menu.

Figure 6-16   Using the Fill command

If the Power Keys option is turned on, you can press F instead of choosing Fill. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Creating your own patterns

You can change any pattern in the third or fourth column of the Patterns menu or replace it with a pattern of your own creation. When you change or create a pattern, the new pattern is saved with the stack you're working in. It appears in the Patterns menu every time that stack is active.

To change or create a pattern, follow these steps:

1. **Choose the pattern you want to change from the third or fourth column of the Patterns menu.**

   Or click it on the Patterns palette. You cannot change any of the individual colors in the first or second columns.

2. **Choose Edit Pattern from the Options menu.**

   Or double-click the pattern you want to change on the Patterns palette. The Edit Pattern dialog box appears.

3. **Edit the pattern.**

This is the editing area. You can click to draw and erase the little squares that make up the pattern.

As you edit the pattern in the editing area to the left, this shows you how the pattern will look.

Click here to fill the pattern with the selected color.

Click here to mix the the selected color into the pattern.

Click the color you want to use to select it.
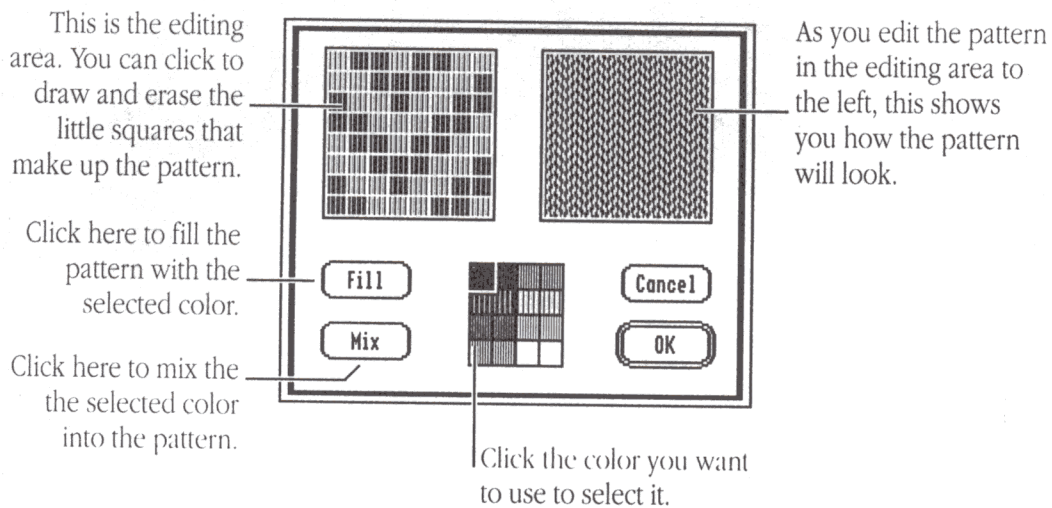
Figure 6-17 Editing a pattern

4. **Click OK to save the new pattern.**

   The new pattern takes the place of the one that was selected in the Patterns menu.

Changing color sets

The *color set* for a HyperCard stack determines the 16 colors available for use by the backgrounds, cards, buttons, and fields in the stack. You can choose from among five color sets for any given stack: the standard system color set, a gray scale color set, and three others.

When you change your stack's color set, the colors of some or all the graphics, buttons, and fields in the stack may change to reflect the new colors. For example, these three images all make use of the same graphic, but different color sets:

Standard system color set
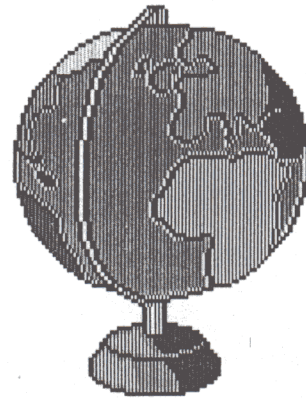
Gray scale color set

A pastel color set

Figure 6-18 Changing color sets

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If you wish, you can select color sets for the cards and backgrounds in your stack that are different from the color set selected for the stack as a whole. If a card's color set has not been specified individually, the card uses the color set currently selected for its background. Similarly, if a background's color set has not been specified individually, the background uses the color set currently selected for the stack.

For example, the cards in the Birds stack use several different color sets so that the colors in each drawing match the bird's true colors more closely. By carefully selecting the color sets for cards and backgrounds in a stack, you can control the colors in your stacks more precisely than would be possible with just one color set.

If none of the five color sets available for a card or background includes the colors you want, you can add a sixth color set to a card or background in the stack from any document in the Apple Preferred File Format, the standard format for Apple IIGS graphics documents. For instructions on how to do this, see "Importing a New Color Set for a Card or Background," later in this chapter.

You can also add a sixth color set to a card or background by using a desk accessory, an XCMD, or HyperTalk to specify the colors you want. If you use a desk accessory or an XCMD to do this, the color set you specify will be added automatically to the color sets for the current card or background and will be selected. For instructions on using HyperTalk to add a sixth color set to a card or background, see the discussion of the `colorSet` property in the HyperTalk Help stack.

The sections that follow describe how to change the color set for a stack, a card, and a background.

Changing a stack's color set

To change the color set for the stack you're working in, follow these steps:

1. **Make sure you have one of the General tools selected.**

   The Browse tool (✍️), the Button tool (⌒), or the Field tool (▦) will work.

2. **Choose Stack Info from the Objects menu.**

3. **Click Colors.**

   The Colors dialog box for the stack appears.

4. **Select the color set you want:**

These are the color sets that are available for the current stack. Click the one you want to use . . .

Display colors for stack "MyStack"

Standard system colors
Gray scale
Other color sets...

When displaying this stack:

Use these colors

OK   Cancel
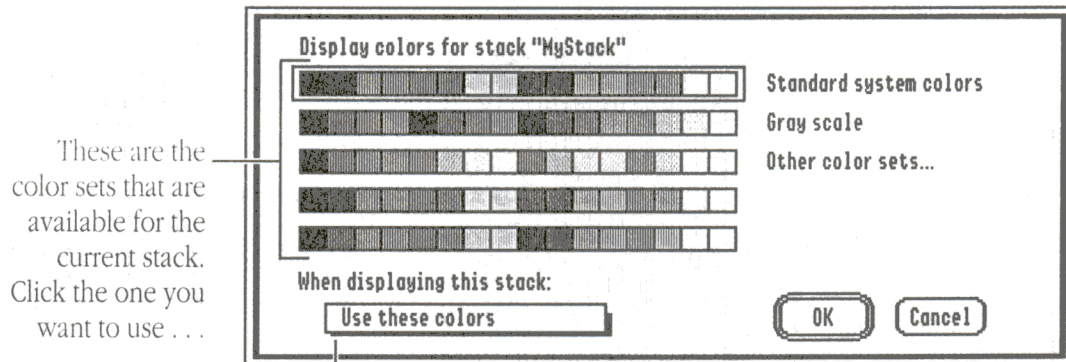
. . . then press and hold the mouse button here and drag to choose "Use these colors" (if it's not already selected) from the pop-up menu. If you choose "Get standard system colors" instead, your stack will use the standard system colors no matter which color set is selected for the stack.

Figure 6-19   Changing a stack's color set

5. **When you're finished, click OK.**

   The Colors dialog box disappears, and you see the Stack Info dialog box again.

6. In the Stack Info dialog box, click OK.

The colors displayed in the stack now match the color set you selected (unless different color sets have been selected for individual cards or backgrounds).

Changing a card's color set

You can easily tell which colors are in the color set for the current card by checking the Patterns menu while you're working in the card layer. The first and second columns in the Patterns menu show the colors currently being used by the card.

To change the color set for a card, follow these steps:

1. Go to the card whose color set you want to change.

2. Make sure you have one of the Paint tools selected.

3. Choose "Choose ColorSet" from the Options menu.

Or double-click any color in the first or second column of the Patterns palette. The Colors dialog box for the card appears.

4. Select the color set you want:

These are the color sets that are available for the current card. Click the one you want to use . . .

Display colors for card ID 2928

Standard system colors
Gray scale
Other color sets...

When displaying this card:

Use these colors   OK   Cancel
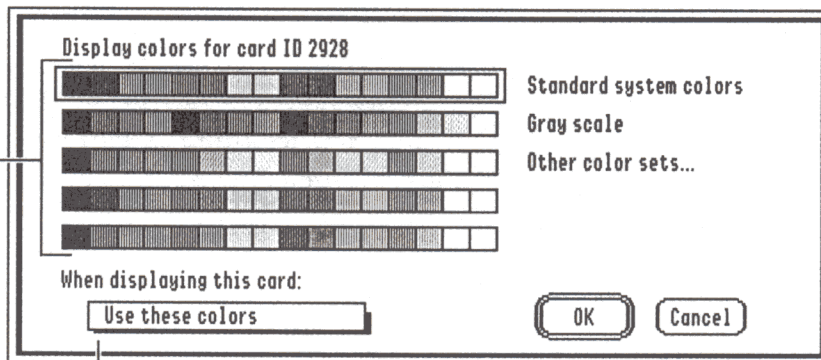
. . . then press and hold the mouse button here and drag to choose "Use these colors" (if it's not already selected) from the pop-up menu. If you choose "Get colors from background" instead, the card will use the colors currently specified for the background no matter which color set is selected for the card.

Figure 6-20   Changing a card's color set

5. **When you're finished, click OK.**

   The colors displayed on the card now match the color set you selected.

You can also change a card's color set when you have one of the General tools selected, as described in "Changing a Card's Color Set" in Chapter 3.

If none of the five color sets for a card include the colors you want, you can add a sixth color set to a card from any document in the Apple Preferred File Format, the standard format for Apple IIGS graphics documents. For instructions on how to do this, see "Importing a New Color Set for a Card or Background," later in this chapter.

You can also add a sixth color set to a card by using a desk accessory, an XCMD, or HyperTalk to specify the colors you want. If you use a desk accessory or an XCMD to do this while you're working in the card layer, the color set you specify will be added automatically to the color sets for the current card and will be selected. For instructions on using HyperTalk to add a sixth color set to a card, see the discussion of the `colorSet` property in the HyperTalk Help stack.

Changing a background's color set

You can easily tell which colors are in the color set for the current background by checking the Patterns menu while you're working in the background layer. The first and second columns in the Patterns menu display the colors currently being used by the background.

To change the color set for a background, follow these steps:

1. **Go to any card that has the background whose color set you want to change.**

2. **Make sure you have one of the Paint tools selected.**

3. **Go to the background layer.**

   Choose Background from the Edit menu, or press ⌘-B.

4. **Choose "Choose ColorSet" from the Options menu.**

   Or double-click any color in the first or second column of the Patterns palette. The Colors dialog box for the background appears.

5. **Select the color set you want:**

These are the color sets that are available for the current background. Click the one you want to use . . .

Display colors for background ID 2697

Standard system colors

Gray scale

Other color sets...

When displaying this bkgnd:

Use these colors

OK   Cancel

. . . then press and hold the mouse button here and drag to choose "Use these colors" (if it's not already selected) from the pop-up menu. If you choose "Get colors from stack" instead, your stack will use the colors currently specified for the stack no matter which color set is selected for the background.
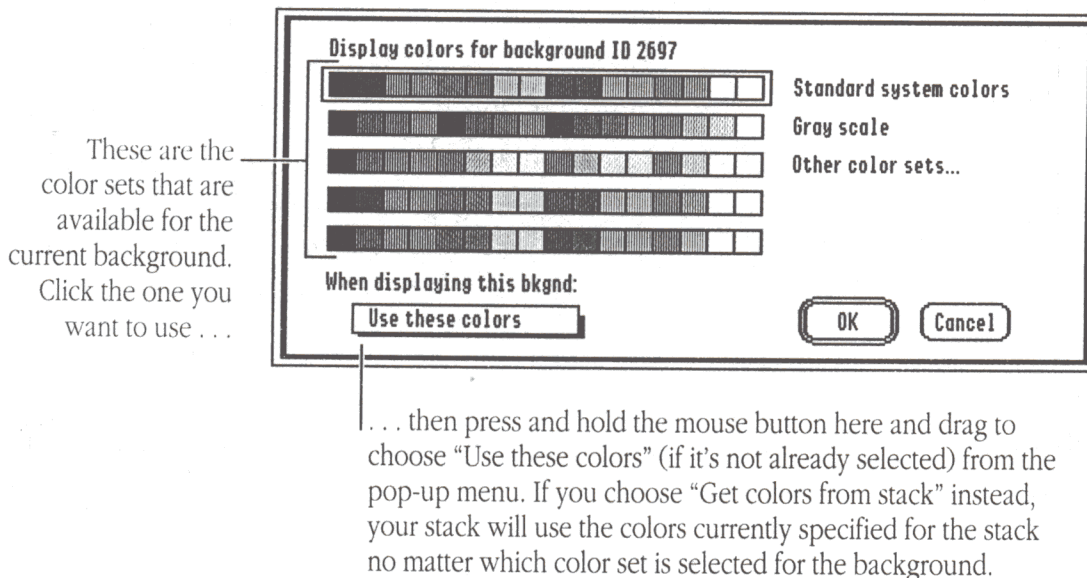
Figure 6-21   Changing a background's color set

6. **When you're finished, click OK.**

   The colors displayed in the background now match the color set you selected (unless different color sets have been selected for individual cards in the background).

You can also change a background's color set when you have one of the General tools selected, as described in "Changing a Background's Color Set" in Chapter 3.

If none of the five color sets for a background include the colors you want, you can add a sixth color set to a background from any document in the Apple Preferred File Format, the standard format for Apple IIGS graphics documents. For instructions on how to do this, see the next section, "Importing a New Color Set for a Card or Background."

You can also add a sixth color set to a background by using a desk accessory, an XCMD, or HyperTalk to specify the colors you want. If you use a desk accessory or an XCMD to do this while you're working in the background layer, the color set you specify will be added automatically to the color sets for the current background and will be selected. For instructions on using HyperTalk to add a sixth color set to a background, see the discussion of the `colorSe` property in the HyperTalk Help stack.

Importing a new color set for a card or background

The Colors dialog box for a card or background normally allows you to choose from only five color sets. However, you can add a sixth color set to a card or background from any document in the Apple Preferred File Format by following these steps:

1. **Go to the card or background where you want the new color set.**

△ **Important:** If there are any graphics on the card or background that you want to keep, make a copy of them for temporary safekeeping as described in "Copying a Graphic to Another Card or Background," later in this chapter, before you import the new color set. Otherwise, you will lose the graphics permanently. △

2. **Make sure you have one of the Paint tools selected.**

3. **Choose Import Paint from the File menu.**

   A directory dialog box appears.

4. **Use the directory dialog box to locate and open the Paint file that contains the color set you want to import.**

   The upper-left portion of the imported picture appears.

5. **Choose Keep from the Paint menu.**

   HyperCard adds the color set from the imported picture's original Paint file below the color sets in the current card or background's Colors dialog box, and selects it.

If you want to keep the new color set but not the imported picture, erase the picture and replace it with your original graphics or any other graphics you want to use. For more information about importing graphics, see "Importing a Graphic," later in this chapter.

Drawing lines and shapes

The Tools menu includes tools for drawing lines and shapes—including circles, ovals, rectangles, polygons, and free-form shapes. This section explains how to create lines and shapes with these tools.

These tools are for drawing lines and shapes.
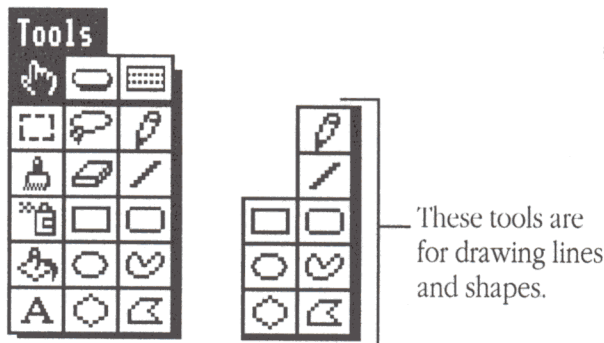
Figure 6-22 Tools for drawing lines and shapes

➤ *See also:*   • "Drawing With Patterns, Colors, and Different Line Widths" in this chapter
   • "Creating Special Graphic Effects" in this chapter
   • "Changing the Appearance of a Graphic" in this chapter

Drawing a line or a free-form shape

To draw a straight line or a free-form line or shape, follow these steps:

1. **Go to the card or background where you want the line or shape.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **If you want to draw a straight line, choose the Line tool (╱) from the Tools menu.**

   Or, to draw a free-form line or shape, choose the Curve tool (♡) from the Tools menu. The pointer changes to a crosshair (+).

3. **Drag where you want to draw the line or shape.**

Figure 6-23   Lines and free-form shapes

If you're using the Line tool, you can draw a straight line at a 15° angle from horizontal, or at an angle that's a multiple of 15°, by pressing the Shift key while you drag. To change the angle of a straight line while you're drawing it, change the direction of the mouse as you drag.

When you use the Line tool, you can draw a straight line from its center point by first turning on the Draw Centered option. To turn on Draw Centered, choose it from the Options menu. When Draw Centered is turned on, a check mark appears next to it in the menu. To turn off Draw Centered, choose it again. (If the Power Keys option is turned on and the Message box is hidden, you can also press C to turn Draw Centered on or off. "Using Power Keys," later in this chapter, explains the Power Keys option.)

❖ *Using the Pencil:* The Pencil allows you to draw thin lines and free-form shapes, too. For a discussion of the special characteristics of the Pencil, see "Drawing With the Pencil," later in this chapter. ❖

Drawing circles, ovals, and rectangles

To draw a circle, oval, or rectangle, follow these steps:

1. **Go to the card or background where you want the shape.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **If you want to draw an oval or circle, choose the Oval tool (○) from the Tools menu.**

   Or, to draw a rectangle or square, choose either the Rectangle tool (□) or the Rounded Rectangle tool (▢) from the Tools menu. (The Rounded Rectangle tool draws rectangles and squares with rounded corners.)

   The pointer changes to a crosshair (+).

3. Drag diagonally to draw the shape.

To draw a circle, oval or rectangle, select the appropriate tool, then drag diagonally from one corner . . .

. . . to the opposite corner.
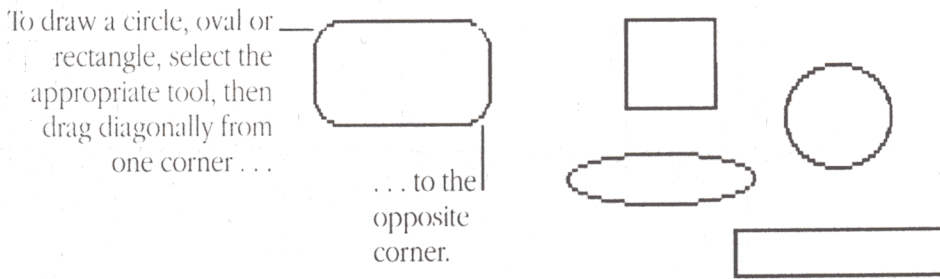
Figure 6-24   Drawing circles, ovals, and rectangles

To draw an oval or rectangle that is the same number of pixels wide as it is high (that is, an approximate circle or square), press the Shift key while you drag.

To move the shape around on the card while you're drawing it, press ⌘ *before* you release the mouse button. This allows you to drag the shape anywhere on the card. You can release the ⌘ key to continue creating the shape, then press the ⌘ key again to move the shape. Once you've released the mouse button, you have to select the shape before you can move it. ("Selecting a Graphic," earlier in this chapter, explains how.)

To draw a shape from the center outward, first turn on the Draw Centered option by choosing it from the Options menu. When Draw Centered is turned on, a check mark appears next to it in the menu. To turn off Draw Centered, choose it again. (If the Power Keys option is turned on and the Message box is hidden, you can also press C to turn Draw Centered on or off. "Using Power Keys," later in this chapter, explains the Power Keys option.)

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To draw a shape in outline—so that only its outline appears on the screen while you're drawing it—first turn on the Draw Outlined option by choosing it from the Options menu. When Draw Outlined is turned on, a check mark appears next to it in the menu. This option allows you to draw a shape more quickly and smoothly. The entire shape appears after you release the mouse button.

Drawing a regular polygon

To draw a regular polygon (one that is the same number of pixels wide as it is high), follow these steps:

1. **Go to the card or background where you want the polygon.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **Choose the Regular Polygon tool (○) from the Tools menu.**

   The pointer changes to a crosshair (+).

3. **If you want to select the number of sides for your polygon, choose Polygon Sides from the Options menu.**

   Or double-click the Regular Polygon tool on the Tools palette. The Polygon Sides dialog box appears.

   This step and the next step are optional. If you don't select the number of sides before you draw the polygon, it will be either an approximate square (the default shape) or the last shape you selected in the Polygon Sides dialog box.

4. Click the shape that corresponds to the polygon you want to draw:

Click a shape to indicate how many sides you want the polygon to have. (The shape you select will remain in effect until you change it by selecting a different shape.) After you click a shape, this dialog box disappears.

— A box appears around the selected shape.

Figure 6-25   Choosing the number of sides for a polygon

5. Drag diagonally to draw the polygon.

The polygon is drawn from the center . . .   . . . outward.

Figure 6-26   Drawing a regular polygon

To move the polygon around on the card while you're drawing it, press ⌘ *before* you release the mouse button. This allows you to drag the shape anywhere on the card. You can release the ⌘ key to continue creating the polygon, then press the ⌘ key again to move the shape. Once you've released the mouse button, you need to select the shape before you can move it. ("Selecting a Graphic," earlier in this chapter, explains how.)

To rotate the polygon while you're drawing it, drag with a circular motion. If you press Shift while you drag with a circular motion, the polygon rotates only in 15° increments, which makes it easier to position at exactly the angle you want.

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To draw a shape in outline—so that only its outline appears on the screen while you're drawing it—first turn on the Draw Outlined option by choosing it from the Options menu. When Draw Outlined is turned on, a check mark appears next to it in the menu. This option allows you to draw a shape more quickly and smoothly. The entire shape appears after you release the mouse button.

Drawing a regular polygon

To draw a regular polygon (one that is the same number of pixels wide as it is high), follow these steps:

1. **Go to the card or background where you want the polygon.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **Choose the Regular Polygon tool (○) from the Tools menu.**

   The pointer changes to a crosshair (+).

3. **If you want to select the number of sides for your polygon, choose Polygon Sides from the Options menu.**

   Or double-click the Regular Polygon tool on the Tools palette. The Polygon Sides dialog box appears.

   This step and the next step are optional. If you don't select the number of sides before you draw the polygon, it will be either an approximate square (the default shape) or the last shape you selected in the Polygon Sides dialog box.

4. Click the shape that corresponds to the polygon you want to draw:

Click a shape to indicate how many sides you want the polygon to have. (The shape you select will remain in effect until you change it by selecting a different shape.) After you click a shape, this dialog box disappears.

— A box appears around the selected shape.

Figure 6-25 Choosing the number of sides for a polygon

5. Drag diagonally to draw the polygon.

The polygon is drawn from the center . . . . . . outward.

Figure 6-26 Drawing a regular polygon

To move the polygon around on the card while you're drawing it, press ⌘ *before* you release the mouse button. This allows you to drag the shape anywhere on the card. You can release the ⌘ key to continue creating the polygon, then press the ⌘ key again to move the shape. Once you've released the mouse button, you need to select the shape before you can move it. ("Selecting a Graphic," earlier in this chapter, explains how.)

To rotate the polygon while you're drawing it, drag with a circular motion. If you press Shift while you drag with a circular motion, the polygon rotates only in 15° increments, which makes it easier to position at exactly the angle you want.

With the Regular Polygon tool, the shape is always drawn from the center outward, whether or not Draw Centered is checked in the Options menu.

Drawing an irregular polygon

To draw a polygon whose sides aren't necessarily the same length, follow these steps:

1. **Go to the card or background where you want the polygon.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **Choose the Polygon tool (◁) from the Tools menu.**

   The pointer changes to a crosshair (+).

3. **Click at the point where you want to begin the first side of the polygon.**

   The Polygon tool works differently from the other tools—you don't hold down the mouse button to draw.

4. **Without holding down the mouse button, move the crosshair pointer to draw one side of the polygon.**

   You can draw the side of the polygon at a 15° angle from horizontal, or at an angle that's a multiple of 15°, by pressing the Shift key while you move the mouse. To change the angle of the side while you're drawing it, change the direction of the mouse as you drag.

5. When the side of the polygon is the length you want it, click to fix it in place.

6. Repeat steps 4 and 5 for each additional side of the polygon.

7. To finish the shape, click on the starting point.

Alternatively, you can double-click or press ⌘-Z at any point to stop drawing, whether or not the shape is complete. (Pressing ⌘-Z also deletes the line that was drawn since you last clicked.)

8. Draw this side by moving the pointer without holding down the mouse button.

9. Click here to finish the shape.

1. Click here to start the shape.

6. Draw this side by moving the pointer without holding down the mouse button.

7. Click here.

2. Draw this side by moving the pointer without holding down the mouse button.

5. Click here.

3. Click here.

4. Draw this side by moving the pointer without holding down the mouse button.

Figure 6-27   Drawing an irregular polygon

Drawing with the Pencil

You can use the Pencil to create free-form lines and shapes and touch up graphics.

To draw with the Pencil, just choose it from the Tools menu and drag where you want to draw. The Pencil draws in the color currently selected in the Patterns palette, unless you begin to drag from a place that is the same color as the color you are drawing with. In this case, the Pencil draws in white:
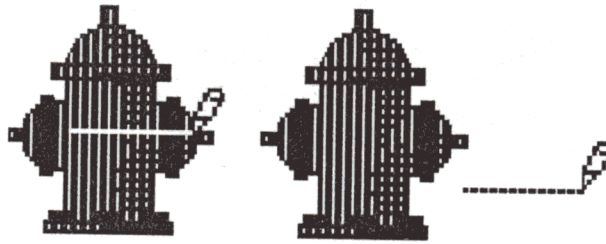
If you start dragging on a color that's the same as the color you're drawing with, the Pencil draws in white.

If you start dragging on white (or on any color other than the one you're drawing with), the Pencil draws in the currently selected color.

Figure 6-28   Drawing in the selected color and drawing in white

The Pencil also draws in white if you are drawing while a pattern is selected in the Patterns palette and you begin to drag from a place that is filled with any pattern.

To draw a straight horizontal or vertical line with the Pencil, press the Shift key while you drag.

Drawing with patterns, colors, and different line widths

This section explains how to create lines and shapes that have patterns and colors, and lines and shape borders in varying line widths.

You can use these tools to draw shapes and lines with patterns, colors, and different line widths.
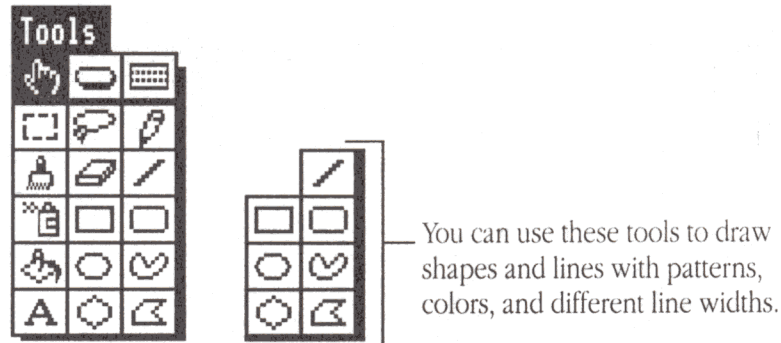
Figure 6-29   The tools for drawing with patterns, colors, and different line widths

Drawing a shape filled with a pattern or color

When you know before creating a shape that you'll want it filled with a pattern or color, you can fill the shape automatically as you draw it. Follow these steps:

1. **Choose the pattern or color you want the shape to have from the Patterns menu.**

   Or click it on the Patterns palette.

2. **Choose Draw Filled from the Options menu to turn it on.**

   When Draw Filled is turned on, a check mark appears next to it in the menu. (Choosing Draw Filled again turns it off.)

   ❖ *A shortcut:* You can also turn Draw Filled on or off by double-clicking any of the shape tools on the Tools palette (except the Regular Polygon tool). ❖

The Tools menu looks different when Draw Filled is turned on:
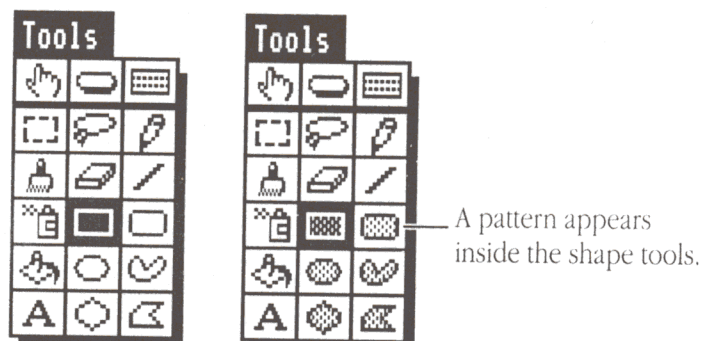
The Tools menu
when Draw Filled
is turned off

The Tools menu
when Draw Filled
is turned on

A pattern appears
inside the shape tools.

Figure 6-30   The Tools menu with Draw Filled turned off and turned on

3. Draw the shape.

Choose the tool for the shape you want to draw from the Tools menu, then drag to draw the shape. (See "Drawing Lines and Shapes," earlier in this chapter, if you want more detailed instructions.)

When you finish drawing the shape, it automatically fills with the selected pattern.

❖ *Draw Filled with the Curve tool and Polygon tool:* If Draw Filled is turned on while you're using the Curve tool or the Polygon tool, HyperCard draws a straight line connecting your starting and ending points when you finish drawing; then it fills the shape with the selected pattern. ❖

— HyperCard draws
this line.

Using the Curve   Using the Curve
tool with Draw   tool with Draw
Filled turned off   Filled turned on

Figure 6-31   Creating a filled, curved shape

— HyperCard draws
this line.

Using the Polygon   Using the Polygon
tool with Draw   tool with Draw
Filled turned off   Filled turned on
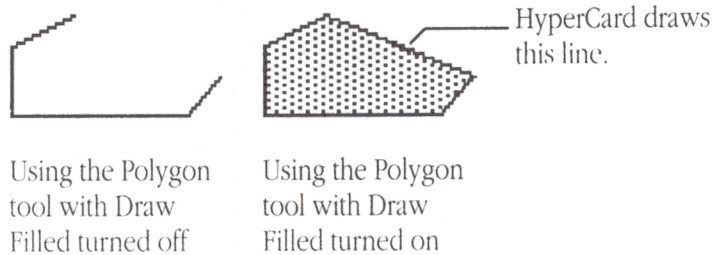
Figure 6-32   Creating an enclosed, filled polygon

❖ *Filled shapes without borders:* To draw a filled, borderless shape,
turn on Draw Filled, then hold down the Option key while you
draw the shape. ❖

Drawing with
different line widths

Before you draw a line or shape, you can select the thickness of the
line or the shape's border (unless you're using the Pencil, which
draws in only one thickness). Follow these steps:

1. **Choose Line Size from the Options menu.**

   Or double-click the Line tool on the Tools palette. The Line Size
   dialog box appears.

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2. To select a line thickness, click it:
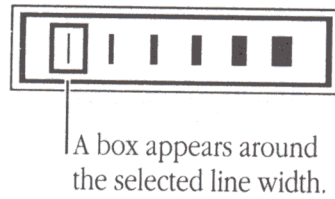
Click the line that represents the line width you want. After you click a line width, this dialog box disappears.

A box appears around the selected line width.

Figure 6-33   Line widths

3. Draw the line or shape.

Choose the tool for the line or shape from the Tools menu, then drag to draw the shape. (See "Drawing Lines and Shapes," earlier in this chapter, if you want more detailed instructions.)

❖ *A shortcut for selecting line widths:* When the Power Keys option is turned on (and the Message box is hidden), you can type a number from 1 to 8 to select a line width while any Paint tool is selected. ("Using Power Keys," later in this chapter, explains the Power Keys option.) ❖

1   2   3   4 or 5   6 or 7   8 ___ Power keys

Note: These power keys don't work when the Line Size dialog box is open.

Figure 6-34   The power keys for choosing line widths

Drawing borders with patterns and colors

To draw a shape with a patterned or colored border, follow these steps:

1. Choose the pattern or color you want from the Patterns menu.

Or click it on the Patterns palette.

2. **Choose the tool for the shape you want to draw.**

   Any of the shape tools will work.

3. **Press and hold the Option key while you draw the shape.**

   See "Drawing Lines and Shapes," earlier in this chapter, if you want more detailed instructions.

Figure 6-35   Shape borders with patterns and colors

❖ *Filled shapes without borders:* If the Draw Filled option is turned on and you press the Option key while you draw a shape, you create a filled, borderless shape. ❖

Moving a graphic around on a card or background

You can place a graphic wherever you like on a card or background. To reposition a graphic on a card or background, follow these steps:

1. **Go to the card or background that has the graphic you want to move.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

2. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

3. **Position the pointer over the selected graphic so that it changes to the arrow pointer.**

4. Drag the selected graphic.

To move the graphic straight horizontally or vertically, press and hold Shift while you drag.

❖ *Can't drag the graphic?* If you think you've selected a graphic but you can't drag it, you might be trying to move a background graphic from the card layer. Press ⌘-B and try again. If you still can't drag it, it's either a button or a field. (Chapters 4 and 5 explain how to move buttons and fields.) ❖

△ **Important**: After you reposition a background graphic, it's a good idea to look through the cards on which the graphic appears, to see how the cards look. △

Creating special graphic effects

You can use the Paint tools in combination with one or more of the commands in the Options menu to create a variety of special effects. This section shows examples of the effects you can create.

Drawing in multiples

You can draw multiple lines or shapes using the Draw Multiple option in the Options menu.

Draw Multiple works with these tools.
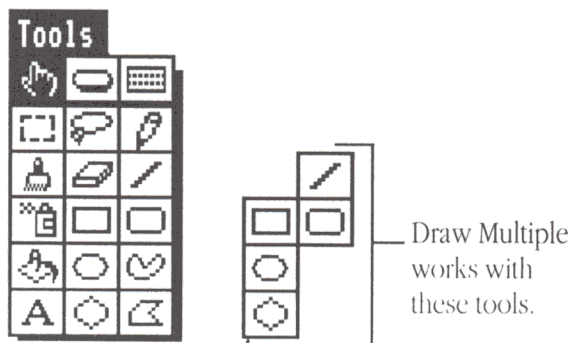
Figure 6-36   The tools you can use with the Draw Multiple option

To draw multiple lines or shapes in a single stroke, follow these steps:

1. **Choose Draw Multiple from the Options menu to turn it on.**

   When Draw Multiple is turned on, a check mark appears next to it in the Options menu. (Choosing Draw Multiple again turns it off.)

2. **Draw a line or shape.**

   Choose the tool for the line or shape you want from the Tools menu, then drag to draw the shape. (See "Drawing Lines and Shapes," earlier in this chapter, if you want more detailed instructions.)

	Line tool	Rectangle tool	Rounded Rectangle tool	Oval tool	Regular Polygon tool
Draw Multiple turned off					
Draw Multiple turned on					
Draw Multiple and Draw Centered turned on					
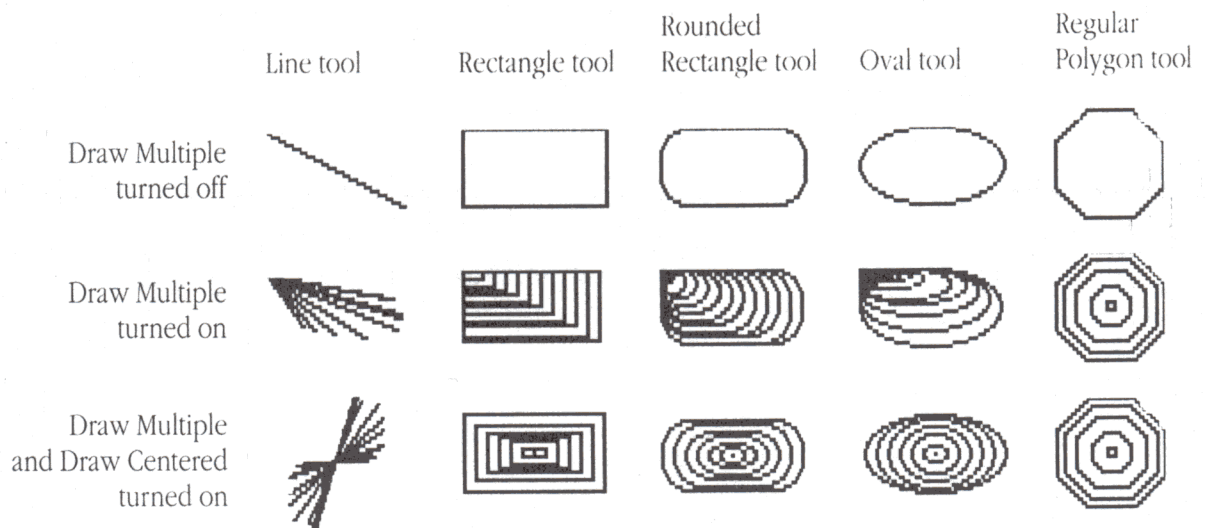
Figure 6-37   Drawing shapes with and without Draw Multiple

To control the spacing between the multiple images, press the
Option key in combination with a number from 1 to 9 before you
drag. The higher the number you type, the farther apart the images
will be.

Option-3   Option-5   Option-7   Option-9
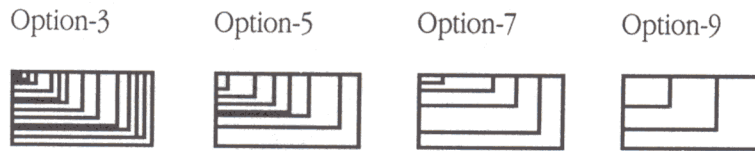
Figure 6-38   Varying the spacing between images for the Draw Multiple option

If the Power Keys option is turned on (and the Message box is
hidden), you can press M to turn Draw Multiple on or off. (The
Power Keys option is explained in "Using Power Keys," later in
this chapter.)

Aligning graphics

You can use HyperCard's Grid option to help you line up graphic
elements and position them more precisely. To turn on the Grid
option, choose it from the Options menu. (When Grid is turned
on, a check mark appears next to it in the menu. Choosing Grid
again turns it off.)

When Grid is turned on, the movement of the pointer is
constrained to an invisible grid whose lines are 8 pixels apart
(just under one-quarter of an inch). As you draw graphics with the
Line tool and shape tools, or drag graphics to move them around,
they'll be aligned to this invisible grid. The grid also constrains
the movement of the Selection tool as you select graphics and the
movement of the I-beam as you try to position the insertion point
to type Paint text.

The Grid option is most helpful for aligning graphics that were created with the Grid option turned on. If you create graphics with Grid turned off and then turn Grid on, HyperCard will have a difficult time aligning the graphics because their sizes and positions won't conform to the grid's intervals.
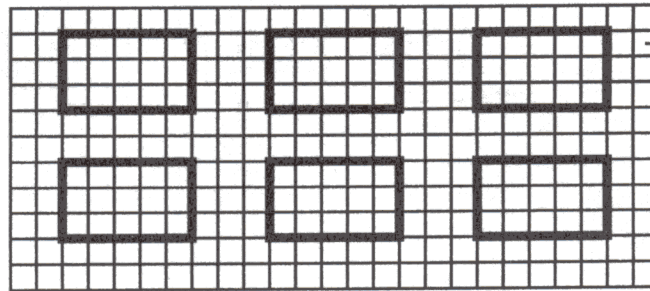
If the grid were visible, it would look like this. The graphics you create while the Grid option is turned on are aligned to the grid.

Figure 6-39   Aligning graphics with the grid

The Grid option works with these tools.
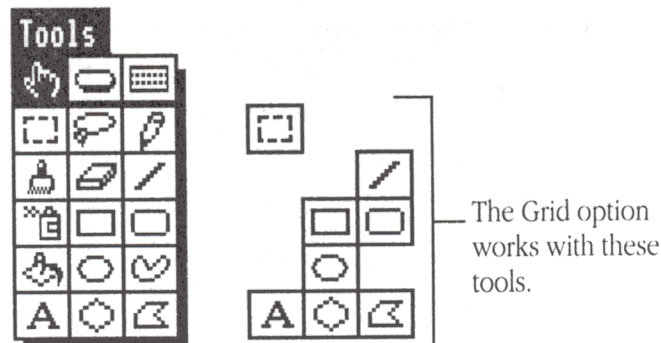
Figure 6-40   The tools affected by the Grid option

You can use Grid in combination with other options in the Options menu to create a variety of effects, as shown in the next section, "Combining Options for Unique Effects."

If the Power Keys option is turned on (and the Message box is hidden), you can press G to turn Grid on or off. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Combining options for unique effects

You can create some interesting visual images when several options in the Options menu are turned on at the same time. And you can add to the variety by holding down various modifier keys while you draw with different options turned on. Experiment with different combinations to see what happens.
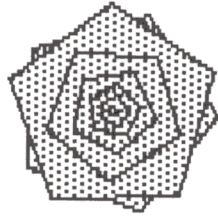
Regular Polygon tool, Draw Filled turned on, Draw Multiple turned on
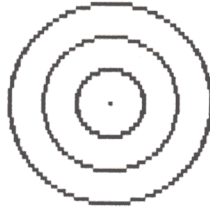
Oval tool, Shift key pressed, Grid turned on, Draw Centered turned on, Draw Multiple turned on
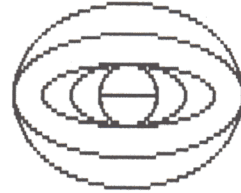
Oval tool, Grid turned on, Draw Centered turned on, Draw Multiple turned on
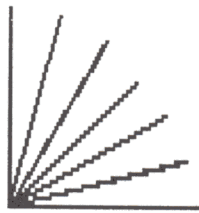
Line tool, Shift key pressed, Draw Multiple turned on
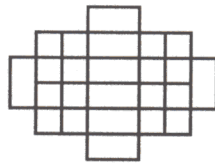
Rectangle tool, Grid turned on, Draw Centered turned on, Draw Multiple turned on
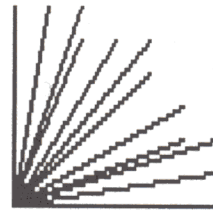
Line tool, Grid turned on, Draw Multiple turned on

Figure 6-41   Special effects

Adding Paint text

Paint text is text you create with the Paint Text tool. It looks like the text you type in fields, but you use the Paint tools to create, move, copy, and change Paint text, just as you would with any other graphic.

Paint text is especially useful when you need to include text as part of a picture—for example, as a picture title or labels—or whenever you want text to behave more like a picture than text. You can select both a picture and Paint text at once with the same tool and use the same commands on them. And you can create special effects with Paint text by using commands in the Paint menu (for example, Invert or Trace Edges). To add Paint text to a card or background, follow these steps:

1. **Go to the card or background where you want the Paint text.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

2. **Choose the Paint Text tool (A) from the Tools menu.**

   The pointer changes to an I-beam (I).

3. **To select a font and style for the text, choose Text Style from the Edit menu, or press ⌘-T.**

   Or double-click the Paint Text tool in the Tools palette. You see the Text Style dialog box.

   The preset format for Paint text is 8-point plain Shaston with a line height of 9 points.

4. Choose from the options in the Text Style dialog box:

Click to select the font you want.

Click to select a font size (measured in points).

Click to select or deselect one or more text styles. (Select nothing for plain text.) The sample text at the bottom of the dialog box shows the effect of the selected styles.

To use a font size not listed, type it here. Then, if you want to adjust the height to the new type size, press Enter. (If you don't press Enter, the line height will remain the same).

Press and hold the mouse button here to see a pop-up menu for choosing the alignment of Paint text.

This shows what your text will look like.

This number determines the space between lines. HyperCard sets this number automatically when you click one of the standard font sizes, but you can change it.

Figure 6-42   Selecting a font, style, and size for Paint text

The choices you make in this dialog box stay in effect for the Paint Text tool until you change them, or until you restart HyperCard. (The preset format is restored when you restart HyperCard.)

5. Click where you want to position the insertion point and begin typing.

While you're typing, you can press Delete to delete one character to the left of the insertion point. And you can press Return to start a new line of text.

As long as the insertion point is still blinking, you can change the font, style, and size of the text you're typing by choosing Text Style from the Edit menu and changing the settings in the Text Style dialog box. All the text you've typed since you last clicked (or since you last pressed Enter) is changed to the new font, style, and size.

Similarly, you can change the pattern or color of the text you're typing by choosing a different one from the Patterns menu. All the text you've typed since you last clicked or pressed Enter is changed to the new pattern or color.

As soon as you click anywhere, choose another tool, choose Keep from the Paint menu, switch into or out of the background, or move to another card, the text becomes part of the picture—its attributes become fixed. To change the text or its attributes, you have to erase it and start again.

❖ *Quick text pickup tip:* To select Paint text you've just finished typing, press ⌘-S immediately, before you click anywhere. ❖

△ **Important:** You can't use the Find command to search for Paint text. To HyperCard, Paint text is just another graphic. If you think that you'll want to search later for what you're typing now, create a field and enter the text in the field using the Browse tool. (See Chapter 5 for instructions on entering field text.) △

Turning field text into Paint text

You can turn existing field text into Paint text, if you decide that you'd like to make it part of a picture. Follow these steps:

1. **Choose the Browse tool from the Tools menu.**

   The pointer becomes an I-beam (I) when you move it over the field. (If you don't see the I-beam, consult "Where's the I-beam Pointer" in Chapter 5.)

2. **Drag (with the I-beam) to select the field text you want to change.**

3. **Choose Copy Text from the Edit menu, or press ⌘-C.**

   Or, if want to remove the text from the field, choose Cut Text from the Edit menu, or press ⌘-X.

4. **Choose any Paint tool from the Tools menu.**

5. **Go to the card or background where you want the text.**

   If you're not sure whether to put it in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

6. **Choose Paste Text from the Edit menu, or press ⌘-V.**

   The copied text appears in the center of the card, surrounded by a moving dashed line:

```
This text has been changed from field text into Paint text.
```

To move the selected text, drag any part of it.

You can change the shape of the selection by pressing the ⌘ key and dragging from a corner. (The text wraps at the right border of the selection.)

Figure 6-43 Turning field text into Paint text

While the text is still selected, you can format it by choosing Text Style from the Edit menu (or pressing ⌘-T) and changing the settings in the Text Style dialog box. The text becomes part of the picture after you click outside the selected area.

When elements overlap

HyperCard puts different kinds of elements in different layers, as shown in the following figure. Together, all these layers make up the card you see.

Background picture

Background buttons and fields

Card picture

Card buttons and fields

What you see when you look at the card

The background picture is fixed in a layer by itself—it's always behind the background buttons and fields and all the card elements.

The card picture is also fixed in a layer by itself—it's always behind the card buttons and fields, and in front of the background buttons and fields.
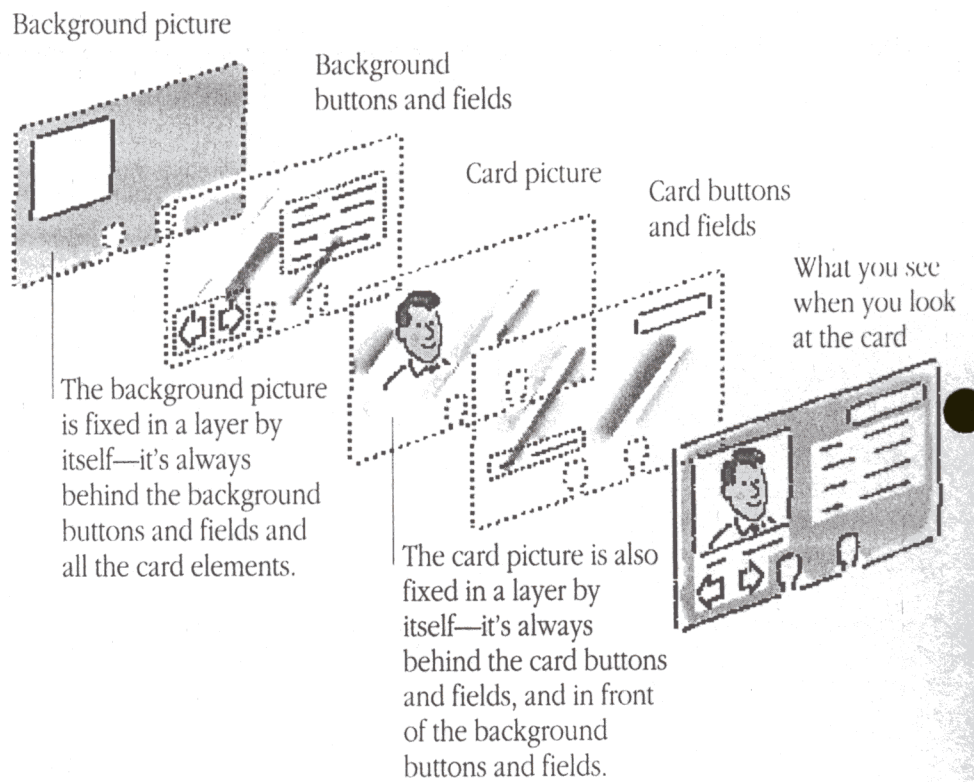
Figure 6-44 HyperCard's layers

As shown in Figure 6-44, the graphics in the card layer (referred to collectively as the *card picture*) are behind all the buttons and fields in the card layer, but they're in front of all the elements in the background layer. This means graphics in the card layer can obscure the background elements, but they can be obscured by the buttons and fields in the card layer.

Graphics can also obscure one another. Graphics in the background layer (referred to collectively as the *background picture*) can get lost behind graphics in the card layer, and a graphic that you've created recently can cover graphics that were drawn earlier in the same layer.

When elements overlap so that some graphics obscure, or are obscured by, other elements, you can either rearrange the elements so they don't overlap, or you can make some of the elements transparent so you can see other elements through them. "Moving a Graphic Around on a Card or Background," earlier in this chapter, explains how to reposition graphics on the card or background. The next section explains how to make graphics opaque or transparent. (Chapters 4 and 5 give instructions for rearranging buttons and fields and making them opaque or transparent.)

Making a graphic opaque or transparent

When you want to be able to see elements that are obscured by a graphic, you can make the graphic transparent. Conversely, when you want to make a graphic more prominent, you can make it opaque.

Follow these steps to make a graphic opaque or transparent:

1. Select the graphic.

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Choose Transparent from the Paint menu to make any blank space or white paint within the graphic transparent.**

Or choose Opaque from the Paint menu to make the entire graphic opaque.
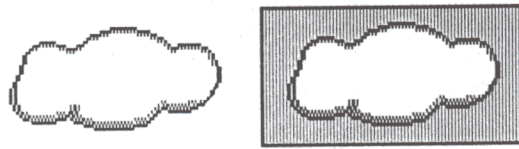
A graphic
element . . .

. . . made opaque and
moved over a color

Figure 6-45   Making a graphic opaque
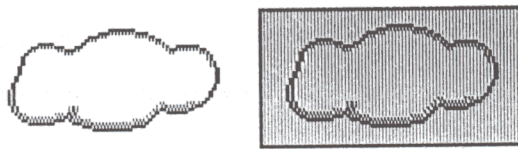
A graphic
element . . .

. . . made transparent
and moved over a color

Figure 6-46   Making a graphic transparent

❖ *Making the entire graphic transparent:* If you want to make the entire graphic transparent—including blank space, white paint, and colors—hold down the Option key while you choose Transparent from the Paint menu. (Note that placing a transparent color over another color sometimes leads to unexpected results, such as black.) ❖

When you first create or paste a graphic, it's opaque—that is, it covers the graphics beneath it. You can make the new graphic transparent by choosing Transparent *immediately* after you create it (before you click anywhere)—or, if you've pasted it, by choosing Transparent while it's still selected. Transparent will affect just the graphic you've created since the last time you pressed the mouse button if nothing else is selected.

If the Power Keys option is turned on, you can also press O to make the selected graphic opaque, or T to make it transparent. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

To identify which areas on a card or background are opaque and which are transparent, hold down the Option key and press O. The opaque areas will appear white and the transparent areas black until you release the keys.

Changing the appearance of a graphic

HyperCard includes many commands and options for changing the look of an existing graphic—including commands that let you edit a picture pixel by pixel and commands for flipping a graphic upside down or backward. This section describes all the ways you can modify graphics and Paint text.

➤ *See also:*
- "Using Power Keys" in this chapter
- "Using Modifier Keys With Paint Tools" in this chapter
- "Double-Clicking Paint Tools, Patterns, and Colors" in this chapter

Magnifying a graphic for editing

You can zoom in on a section of a picture to do close-in finish work and edit your picture one dot (two pixels) at a time. Follow these steps:

1. **If you want to work on a particular part of the picture, select that part of the picture.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. Choose FatBits from the Options menu.

Or double-click the Pencil on the Tools palette. (Or press Option-F.)

Alternatively, you can zoom in on a particular part of the picture by choosing the Pencil and pressing the ⌘ key while you click on the part of the graphic you want to edit.

HyperCard zooms in on the part of the graphic you've selected (or ⌘-clicked with the Pencil) and magnifies it. (If nothing is selected and you haven't ⌘-clicked anything with the Pencil, HyperCard zooms in on the graphic you were just working with, or on the center of the card, if you weren't working on any graphics.)

3. Edit the graphic.

You can close this window by clicking its close box. (This doesn't turn off FatBits.)

You can move this window by dragging from here.

When the Pencil is selected, you can add or remove a single pixel at a time just by clicking.

This window displays an actual-size version of the graphic. As you make changes to the magnified graphic, this shows you how the graphic will actually look.

Figure 6-47   Editing a graphic with FatBits turned on

You can use any of the Paint tools to modify the graphic—they all work at the magnified scale.

To see individual pixels, hold down the Caps Lock key. When the Caps Lock key is up, you see colors more accurately; when it's down, you see details more accurately and you can read Paint text, which otherwise is not legible when FatBits is turned on.

If you want to edit a different part of the picture, press Option and drag the magnified graphic with the hand pointer (🖐):

To see a different section of the card, press Option while you drag the card with the hand pointer.

As you drag the card with the hand pointer, this window shows you the actual-size version of the part of the card you're looking at.
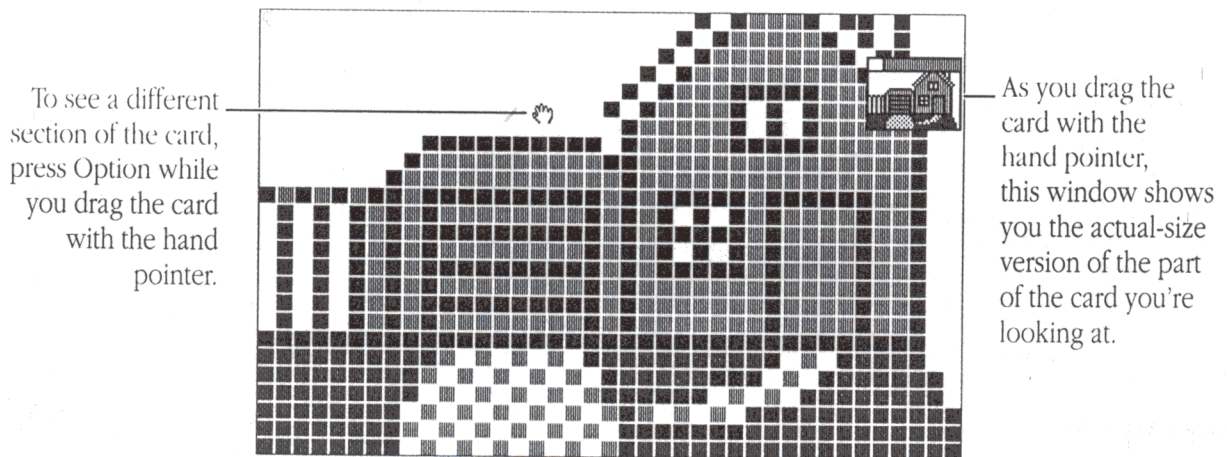
Figure 6-48   Moving to a different section of the magnified picture

4. **When you're finished editing the graphic, turn off FatBits by choosing it again from the Options menu.**

   You can also turn off FatBits by doing any of the following:

   - Click in the little window that shows the actual-size version of the graphic.

   - Double-click the Pencil on the Tools palette.

   - Press Option-F.

   - With the Pencil selected, ⌘-click on the magnified picture.

   - Choose the Browse tool (🖐), the Button tool (◯), or the Field tool (▭) from the Tools menu.

Changing the size of a graphic

To resize a graphic, follow these steps:

1. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Press the ⌘ key while you drag from a corner or an edge of the selected graphic to resize it:**

The original graphic

To resize it proportionately, press ⌘-Shift and drag from a corner.

To make it wider, narrower, taller, or shorter, press ⌘ and drag from an edge.
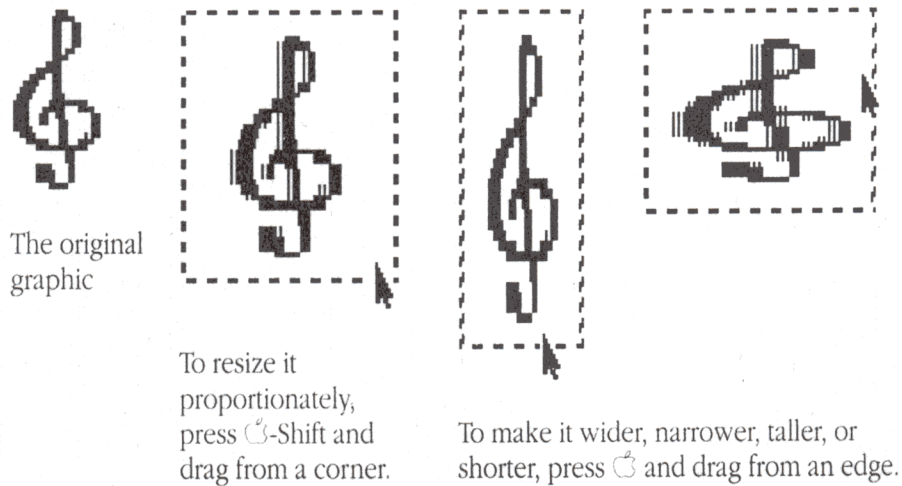
Figure 6-49   Resizing a graphic

❖ *Can't drag the graphic?* If you think you've selected a graphic but you can't drag it, you might be trying to resize a background graphic from the card layer. Press ⌘-B and try again. If you still can't drag it, it's either a button or a field. (Chapters 4 and 5 explain how to move buttons and fields.

Changing the pattern or color of a graphic

There are three ways to change the pattern or color of a graphic:

- Use the Fill command to fill the graphic with a different pattern or color.

- Use the Bucket to "pour" a different pattern or color into the graphic.

- Use the Pickup command to give the graphic the same patterns and colors as another graphic on the card.

Using the Fill command to change a graphic's pattern or color

Using the Fill command is the most reliable way to change the pattern or color of an entire graphic. Follow these steps:

1. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Choose the pattern or color you want from the Patterns menu.**

   Or click it on the Patterns palette.

3. **Choose Fill from the Paint menu.**

   The selected graphic acquires the selected pattern or color.

The original   1. Select the   2. Choose a pattern   3. Choose Fill from
graphic   graphic.   or color.   the Paint menu.
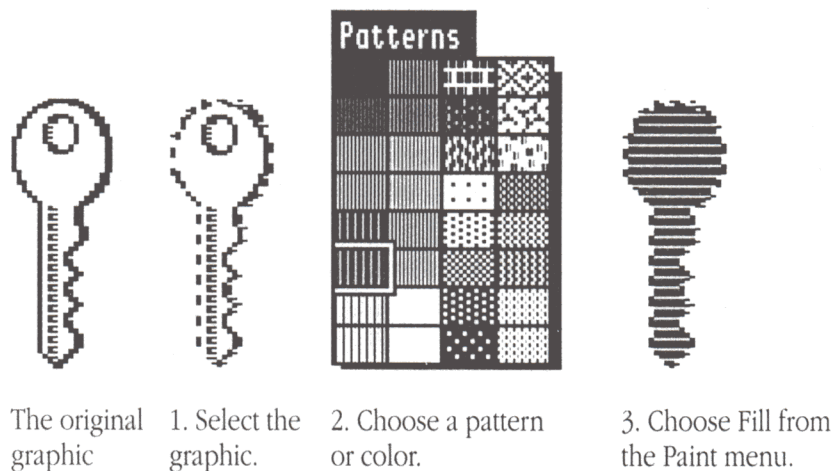
Figure 6-50   Assigning a new pattern or color to a graphic

If you've just created a graphic element and you haven't clicked *anywhere,* the Fill command works on the new element (that is, just the element you've created since you last pressed the mouse button) if you haven't selected anything else.

If the Power Keys option is turned on, you can press F instead of choosing Fill. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Using the Bucket to change a graphic's pattern or color

You can use the Bucket to change the pattern or color of a graphic. However, this technique works best when you want to fill a solid area of color with another color or a pattern. If you try to use this technique to fill a patterned area with another pattern or a color, the results will be unpredictable; the pattern might change in different ways than you expect, or you may be able to change only a few pixels at a time.

△ **Important:** Use the Bucket to change a graphic's pattern or color *only* if the graphic is a solid color or completely enclosed. Otherwise, paint might spill out and fill the surrounding area. △

To change a graphic's pattern or color with the Bucket, follow these steps:

1. **Go to the card or background that contains the graphic.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer.

2. **Choose the pattern or color you want from the Patterns menu.**

   Or click it on the Patterns palette.

3. **Choose the Bucket (🪣) from the Tools menu.**

    Or click it on the Tools palette. The pointer changes to the
    Bucket.

4. **Move the Bucket so that the tip of the stream pouring from it
    is within the graphic, then click:**

This is the part of the _____
Bucket that dispenses paint.
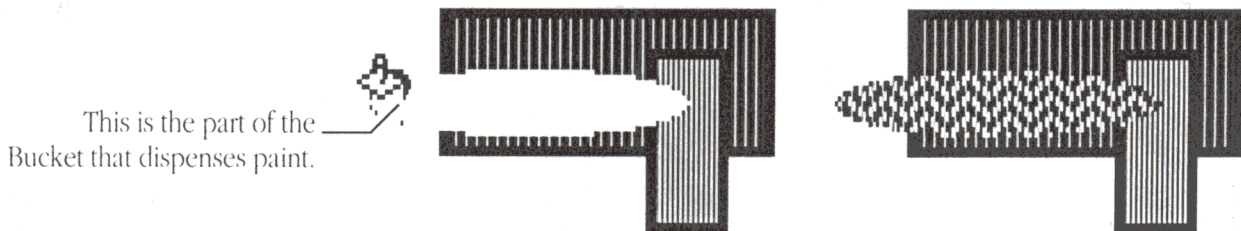
Figure 6-51   Positioning the Bucket to fill a graphic

If paint spills out into the surrounding area, immediately choose
Undo from the Edit menu, or press ⌘-Z, Tilde, Esc, or Delete.

Using the Pickup command to change a graphic's pattern or color

To give a graphic the same patterns and colors as another graphic on
the card, follow these steps:

1. **Select the graphic.**

    "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Drag the selected graphic to the part of the card that has the
    pattern or color you want to give the graphic.**

    See Figure 6-52.

3. While the graphic is still selected, choose Pickup from the Paint menu.

The selected graphic picks up the image of whatever Paint image is behind it in the same layer, including any areas that are blank, with no paint.

Leave the graphic selected. *Don't* click outside the selection.

4. Drag the selected graphic away.

1. Select the graphic (its edges will shimmer).	2. Move the selected graphic over the pattern you want to give it.	3. Choose Pickup from the Paint menu.	4. Drag the graphic away.
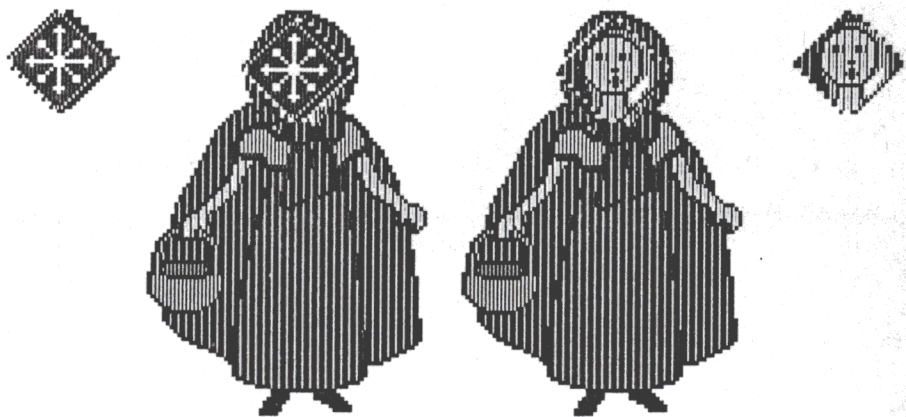
Figure 6-52   Using the Pickup command to change a graphic's pattern

❖ *If it doesn't work:* If you've selected a graphic in the card layer and it doesn't acquire the pattern that's behind it when you choose Pickup (or if it disappears), the pattern is probably in the background layer. A graphic can only pick up a pattern that's in the same layer. If there's no pattern behind the graphic in the same layer, the graphic turns white. ❖

If the Power Keys option is turned on, you can press P instead of choosing Pickup. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Inverting a graphic

To reverse the colors of a graphic so that they become the inverse video of the original colors—that is, so that black becomes white, white becomes black, red becomes green, green becomes red, and so on—follow these steps:

1. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Choose Invert from the Paint menu.**

1. Select the graphic.   2. Choose Invert from the Paint menu.

Figure 6-53   Inverting a graphic

If you've just created a graphic element and you haven't clicked *anywhere,* the Invert command works on the new element (that is, just the element you've created since you last pressed the mouse button) if you haven't selected anything else.

If the Power Keys option is turned on, you can press I instead of choosing Invert. ("Using Power Keys," later in this chapter explains the Power Keys option.)

Outlining a graphic

To outline a graphic, follow these steps:

1. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Choose Trace Edges from the Paint menu.**

   An outline appears around the parts of the selected graphic that were originally a solid color. Each time you choose Trace Edges, another outline is added.

   ❖ *Note:* If the graphic is mostly a solid color, the solid areas turn white except for their edges. Each subsequent time you choose Trace Edges, an outline is added around each solid edge. ❖

The original   Trace Edges   Trace Edges   Trace Edges
graphic   once   twice   three times
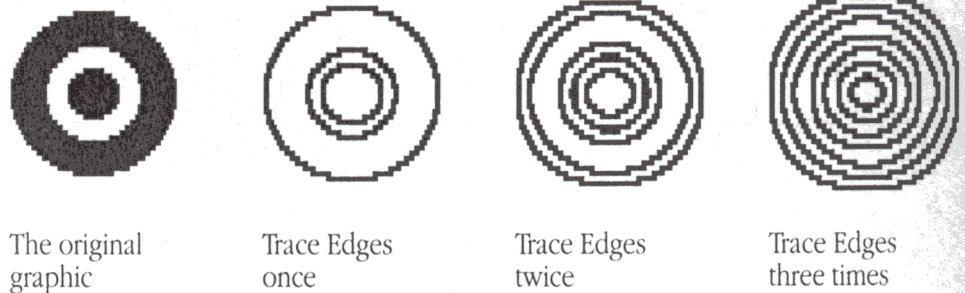
Figure 6-54   Repeated use of the Trace Edges command

If you've just created a graphic element and you haven't clicked *anywhere,* the Trace Edges command works on the new element (that is, just the element you've created since you last pressed the mouse button) if you haven't selected anything else.

If the Power Keys option is turned on, you can press E instead of choosing Trace Edges. Pressing and holding E keeps adding outlines. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Rotating a graphic 90°   To rotate a graphic 90°, follow these steps:

1. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Choose Rotate Left from the Paint menu to rotate the selected graphic 90° to the left, or choose Rotate Right to rotate it 90° to the right.**
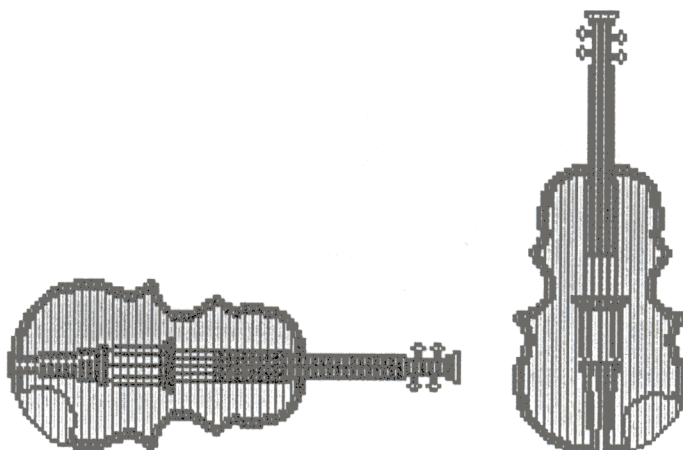
Figure 6-55   Rotating a graphic to the left 90°
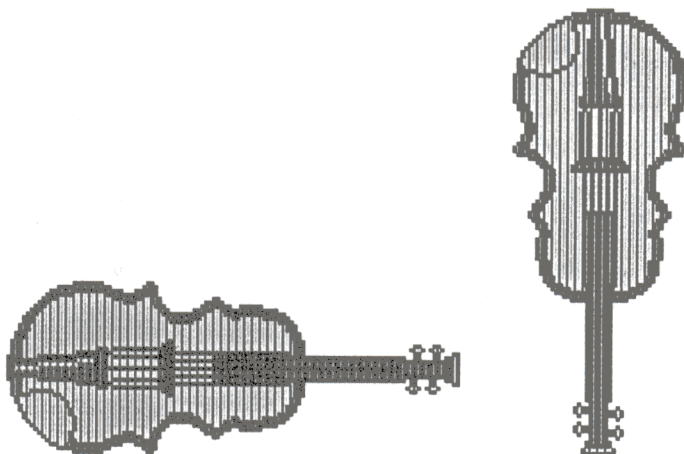
Figure 6-56   Rotating a graphic to the right 90°

If you've just created a graphic element and you haven't clicked *anywhere*, the Rotate Left and Rotate Right commands work on the new element (that is, just the element you've created since you last pressed the mouse button) if you haven't selected anything else.

If the Power Keys option is turned on, you can press [(the left bracket key) instead of choosing Rotate Left, or] (the right bracket key) instead of choosing Rotate Right. If you press and hold one of these power keys, the graphic keeps rotating. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Flipping a graphic vertically or horizontally

To flip a graphic vertically or horizontally, follow these steps:

1. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

2. **Choose Flip Vertical from the Paint menu to flip the selected graphic vertically, or choose Flip Horizontal to flip it horizontally.**

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Figure 6-57   Flipping a graphic vertically

Figure 6-58   Flipping a graphic horizontally

If you've just created a graphic element and you haven't clicked *anywhere,* the Flip Vertical and Flip Horizontal commands work on the new element (that is, just the element you've created since you last pressed the mouse button) if you haven't selected anything else.

If the Power Keys option is turned on, you can type V instead of choosing Flip Vertical, or type H instead of choosing Flip Horizontal. If you press and hold one of these power keys, the graphic keeps flipping. ("Using Power Keys," later in this chapter, explains the Power Keys option.)

Working with Paint tools when memory is low

If your computer has close to the minimum amount of memory you need to run HyperCard, you may find that HyperCard's Paint tools sometimes behave differently than you expect. (If you're not sure how much memory is installed in your computer, see "Checking Your Computer's Memory" in Chapter 1.) This is most likely to happen if your computer is part of an AppleShare network. When you're using any of the Paint tools, the following symptoms indicate that HyperCard is running out of memory:

- Fields and buttons in the card layer disappear when you're using the Paint tools in the card layer.

- Fields and buttons in the background layer disappear when you're using the Paint tools in the background layer.

- You can't choose Undo from the Edit menu to undo any actions that involve selecting a graphic first, such as filling, rotating, or moving it. (Undo still works for other actions, such as drawing a line or shape.)

- When you add or alter paint on a card or background and then choose Keep from the Paint menu, switch to a different layer, go to another card or background, or choose one of the General tools, the changes you made disappear and the message "Failed to save new picture" appears.

HyperCard's use of memory depends on many factors, including the number of desk accessories you have installed in your system, the network software you're using, and the complexity of the card or stack you're currently working with. The symptoms listed above may not occur consistently, since the total amount of memory available for HyperCard's use can vary from moment to moment.

The best way to avoid low-memory conditions and to improve HyperCard's speed and general performance is to install additional RAM in your computer. However, it may help to remove some of the desk accessories you have installed in your system; avoid using a RAM disk; and lower the RAM cache to 32K (or, if all else fails, to 0K).

If you can't obtain additional memory and you still want to use the Paint tools, you can usually work around low-memory conditions by following these guidelines:

- Work slowly and carefully. Remember that you can't choose Undo to undo individual actions that first involve selecting a graphic.

- If you need to correct a mistake, use the Revert command. Choosing Revert from the Paint menu restores the version of the graphics you had on the current card or background before you last saved them (by using the Keep command, leaving the card, or switching to or from the background layer.)

➤ *See also:* • "HyperCard and Your Computer's Memory" in Chapter 1
• "Reverting to the Last Version of a Graphic" in this chapter

Using power keys

The Power Keys option lets you use specific keys on the keyboard to modify the selected graphic or turn options on and off—pressing a single key does the work of choosing a menu command.

To turn on the Power Keys option, click the Power Keys check box on the User Preferences card in the Home stack. (The Power Keys option is available at the Painting level and higher user levels.) You can also turn on Power Keys by choosing it from the Options menu, which is visible whenever a Paint tool is selected.

When Power Keys is turned on, a check mark appears next to it in the menu. To turn off Power Keys, choose it again. You'll find examples of the use of the power keys in earlier sections of this chapter. All the power keys and their effects are shown in the following table:

Command	Power key	Menu
Black pattern	B	Patterns
Draw Centered (on/off)	C	Options
Draw Multiple (on/off)	M	Options
Fill	F	Paint
Flip Horizontal	H	Paint
Flip Vertical	V	Paint
Grid (on/off)	G	Options
Invert	I	Paint
Line Size	1–4, 6, 8*	Options
Opaque	O	Paint
Pickup	P	Paint
Revert	R	Paint
Rotate Left	[	Paint
Rotate Right	]	Paint
Select	S	Paint
Select All	A	Paint
Trace Edges	E	Paint
Transparent	T	Paint
White pattern	W	Patterns

*Press these keys to choose thinner or thicker line widths.

❖ *Note:* When you're using the Paint Text tool, the power keys are temporarily disabled. ❖

Using modifier keys with Paint tools

When you hold down modifier keys—Command, Shift, or Option—while you drag with different Paint tools, you alter the effects of some of the tools, as shown in the following table.

Tool	Modifier key		
	Shift		Option
Selection	Select tightly	Move selection horizontally or vertically*	Select like Lasso
			Duplicate selection*
Lasso	Lasso all adjacent dots of the same color as the dot you click	Move selection horizontally or vertically*	Duplicate selection*
Line	No effect	Draw at 15° angles	No effect
Eraser	Draw in white	Erase straight horizontally or vertically	No effect
Pencil	Enter/leave FatBits	Draw straight horizontally or vertically	No effect
Rectangle	Reposition rectangle	Draw an approximate square (equal number of pixels on each side)	Patterned border
Curve	No effect	No effect	Patterned border
Brush	Erase what you paint over	Paint straight horizontally or vertically	No effect
Spray	Erase what you spray over	Spray straight horizontally or vertically	No effect
Rounded Rectangle	Reposition rectangle	Draw an approximate rounded square (equal number of pixels on each side)	Patterned border
Polygon	No effect	Draw at 15° angles	Patterned border
Oval	Reposition oval	Draw an approximate circle (equal number of pixels vertically and horizontally)	Patterned border
Regular Polygon	Reposition polygon	Rotate in 15° increments	Patterned border

*These effects occur only when you drag a selected object or graphic with the tool.

Double-clicking Paint tools, patterns, and colors

You can double-click certain Paint tools on the Tools palette (and patterns on the Patterns palette) as a shortcut for choosing menu commands. The following table shows the effects of double-clicking Paint tools and the colors and patterns in the Patterns palette.

Double-click . . .	To do this
Any pattern	Bring up Edit Pattern dialog box
Any solid color	Bring up Colors dialog box for current card/background
Brush	Bring up Brush Shape dialog box
Bucket	Hide/show Patterns menu
Curve tool	Turn on/off Draw Filled option
Eraser	Erase entire picture
Lasso	Lasso every element on current card/background
Line tool	Bring up Line Size dialog box
Oval tool	Turn on/off Draw Filled option
Paint Text tool	Bring up Text Style dialog box
Pencil	Turn on/off FatBits
Polygon tool	Turn on/off Draw Filled option
Regular Polygon tool	Bring up Polygon Sides dialog box
Rectangle tool	Turn on/off Draw Filled option
Rounded Rectangle tool	Turn on/off Draw Filled option
Selection tool	Select entire picture

Saving the graphics on a card or background

While you're working on the graphics on a particular card or background, the changes you make to the graphics are stored in a temporary location—they're not automatically saved on your disk, as are your other changes. (HyperCard assumes that you might decide to throw away your graphics changes, so it doesn't save them automatically along with everything else. This gives you the freedom to experiment with the Paint tools and then get back your original graphics.)

To save all the graphics on the current card or background, choose Keep from the Paint menu (or press ⌘-K).

There are two other ways to save all the graphics on the current card or background:

- Switch to or from the background layer by pressing ⌘-B.

- Go to another card.

When you leave the card or switch to or from the background layer, HyperCard saves the graphics on the card or background you're leaving.

Reverting to the last version of a graphic

While you're working with graphics, you can get back the last saved version of the graphics on the current card or background by choosing Revert from the Paint menu. Choosing Revert restores the version of the graphics you had on the current card or background before you last saved them (by using the Keep command, leaving the card, or switching to or from the background layer, as explained in the preceding section, "Saving the Graphics on a Card or Background").

❖ *Revert is different from Undo:* Revert undoes all the changes you've made to the graphics on the current card or background since they were last saved, whereas Undo undoes only the most recent unsaved change. ❖

You can also restore a portion of the last saved version of the picture on the current card or background by selecting the part you want to restore and choosing Revert. ("Selecting a Graphic," earlier in this chapter, includes instructions for selecting part of a picture.)

The Revert command is most useful when you're creating graphics in stages. Once you complete a stage and it's just the way you want it, you can "freeze" it with the Keep command. Then you can begin work on the next stage, confident that your last stage is saved and that you can start over from that point, if necessary.

If the Power Keys option is turned on (and the Message box is hidden), you can press R instead of choosing Revert. ("Using Power Keys," earlier in this chapter, explains the Power Keys option.)

Copying a graphic

This section explains how to duplicate a graphic on the same card and how to copy a graphic to another card, background, or stack.

Copying a graphic on the same card

To make a copy of a graphic on the same card or background, follow these steps:

1. **Go to the card or background that has the graphic you want to duplicate.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphic you want to copy while you're in the background layer, the graphic is in the card layer.

2. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

3. **Position the pointer over the selected graphic so that it becomes the arrow pointer.**

4. **Press and hold the Option key while you drag the selected graphic.**

   As you drag, you create an exact duplicate of the graphic. To move the copy straight horizontally or vertically, press and hold Shift while you drag.

   ❖ *Can't drag the graphic?* If you think you've selected a graphic but you can't drag it, you might be trying to duplicate a background graphic from the card layer. Press ⌘-B and try again. If you still can't drag it, it's either a button or a field. (Chapters 4 and 5 explain how to move buttons and fields.) ❖

Copying a graphic to another card or background

To copy a graphic to a different card or background, follow these steps:

1. **Go to the card or background that has the graphic you want to copy.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphic you want while you're in the background layer, the graphic is in the card layer.

2. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

3. **Choose Copy Picture from the Edit menu, or press ⌘-C.**

   This puts a copy of the selected graphic on the Clipboard.

4. **Go to the card or background where you want to put the graphic.**

   Use the arrow keys, the Go palette, or commands in the Go menu to navigate between cards while the Selection tool or the Lasso is selected.

   If you're not sure whether to put the graphic in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

5. **Choose Paste Picture from the Edit menu, or press ⌘-V.**

   This takes a copy of the graphic that's on the Clipboard, puts it on the current card or background, and selects it.

   The graphic is pasted in the same position it was copied from. If there's a button or field in the same location, the pasted graphic will be hidden behind it (as explained in "When Elements Overlap," earlier in this chapter). You might have to move the button or field to see the graphic.

6. **If you want to reposition the graphic, drag it to where you want it while it's still selected.**

   The graphic becomes opaque after you paste it. If you want to be able to see through the graphic to the elements behind it, select it and choose Transparent from the Paint menu.

   △ **Important:** The most common mistake in copying a graphic is putting it in the card layer when you want it in the background layer. (To find out whether the graphic is in the background layer, press ⌘-B to see just the background elements.) If you put a graphic in the card layer by mistake, see the next section, "Moving a Graphic from the Card to the Background." △

Moving a graphic from the card to the background

It's easy to put a graphic in the card layer by mistake when you intend to put it in the background. If this happens, you can move the graphic from the card layer to the background layer (of the same card) by following these steps:

1. **Go to the card that has the graphic you want to move.**

   You must be in the card layer to move a card graphic. (If you see the word *Background* in the menu bar, you're in the background layer. Press ⌘-B to go to the card layer.)

2. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

3. **Choose Cut Picture from the Edit menu, or press ⌘-X.**

   This removes the graphic from the card and puts it on the Clipboard.

4. **Go to the background layer.**

   Choose Background from the Edit menu, or press ⌘-B.

5. **Choose Paste Picture from the Edit menu, or press ⌘-V.**

   This takes a copy of the graphic that's on the Clipboard, puts it in the current background, and selects it.

   The graphic is pasted in the same position it was copied from. If there's a button or field in the same location on the background layer, the pasted graphic will be hidden behind it (as explained in "When Elements Overlap," earlier in this chapter). You might have to move the button or field to see the graphic.

6. **If you want to reposition the graphic, drag it to where you want it while it's still selected.**

Moving a graphic to another card or background

To move a graphic to a different card or background, follow these steps:

1. **Go to the card or background that has the graphic you want to move.**

   Pressing ⌘-B takes you to the background layer. (When you're in the background layer, the word *Background* appears in the menu bar.) If you press ⌘-B repeatedly, you move back and forth between the card layer and the background layer. If you don't see the graphic you want while you're in the background layer, the graphic is in the card layer.

2. **Select the graphic.**

   "Selecting a Graphic," earlier in this chapter, gives instructions.

3. **Choose Cut Picture from the Edit menu, or press ⌘-X.**

   This removes the graphic from the card and puts it on the Clipboard.

4. **Go to the card or background where you want to put the graphic.**

   Use the arrow keys, the Go palette, or commands in the Go menu to navigate between cards while the Selection tool or the Lasso is selected.

   If you're not sure whether to put the graphic in the card layer or the background layer, see "Adding Graphics to a Card or Background" at the beginning of this chapter.

5. **Choose Paste Picture from the Edit menu, or press ⌘-V.**

   This takes a copy of the graphic that's on the Clipboard, puts it on the current card or background, and selects it.

The graphic is pasted in the same position it was copied from. If there's a button or field in the same location, the pasted graphic will be hidden behind it (as explained in "When Elements Overlap," earlier in this chapter). You might have to move the button or field to see the graphic.

6. **If you want to reposition the graphic, drag it to where you want it while it's still selected.**

The graphic becomes opaque after you paste it. If you want to be able to see through the graphic to the elements behind it, select it and choose Transparent from the Paint menu.

△ **Important:** The most common mistake in moving a graphic is putting it in the card layer when you want it in the background layer. (To find out whether the graphic is in the background layer, press ⌘-B to see just the background elements.) If you put a graphic in the card layer by mistake, see "Moving a Graphic from the Card to the Background," earlier in this chapter. △

Importing a graphic

There are many products you can use to create pictures that are compatible with the Apple Preferred File Format. Some products let you create pictures in this standard Apple IIGS format from scratch; others let you digitize images using a scanner attached directly to your Apple IIGS. However you create it, you can bring any picture in the Apple Preferred File Format into HyperCard by following these steps:

1. **Make sure you have one of the Paint tools selected.**

2. **Choose Import Paint from the File menu.**

   A directory dialog box appears.

3. **Use the directory dialog box to locate and open the file containing the picture you want to import.**

   HyperCard pastes the imported picture onto the current card or background, starting with the upper-left corner of the imported picture.

   ❖ *Preparing to import a picture:* Before you import a picture, make sure the part of the picture you want to paste is in the document's upper-left corner; or make sure the picture is small enough to fit on a HyperCard card, including any blank space that's in the upper-left corner of the picture. ❖

Once you've imported a picture, you can work with it just as if you'd created it in HyperCard.

When you import a picture into HyperCard, you also import the color set used by the original document. The imported color set becomes the sixth color set in the Colors dialog box for the current card (or the current background, if you're working in the background layer).

➤ *See also:* • "Importing a New Color Set for a Card or Background" in this chapter

Exporting a snapshot of a card or background

You can take a snapshot of the current card or background and save it as a document in the Apple Preferred File Format by using the Export Paint command in the File menu. (This command is available only when a Paint tool is selected.) Follow these steps:

1. **Choose Export Paint from the File menu.**

   A directory dialog box for saving a file appears.

2. **Use the directory dialog box to specify where you want the Apple Preferred File Format document saved and type a name for the file.**

3. **Click OK.**

Export Paint creates a document in the Apple Preferred File Format that contains the image of the current card and background (and all their elements) and saves it on a disk under the name you give it. The image of the full-sized card gets saved, even if you're using FatBits.

If you're in the background layer, HyperCard saves only the image of the background.

HyperCard exports only a picture of the card and background information. The saved picture has none of the functional attributes of the card—for example, the scripts aren't saved with the picture. If you have a palette, the Message box, or the FatBits window open on the screen, their images aren't included with the exported picture.

Creating a miniature picture of a card

You can create a miniature picture of a card, like the miniatures you see when you choose Recent from the Go menu. Follow these steps:

1. **Go to the card you want a miniature picture of.**

2. **Choose Copy Card from the Edit menu.**

3. **Go to the card or background where you want to put the miniature picture.**

4. **Press and hold the Shift key while you choose Paste Card from the Edit menu.**

    Or press ⌘-Shift-V.

The miniature appears selected in the center of the card window.

Note that this is just a picture of a card—none of the normal card attributes or scripts from the original card are pasted with the miniature.

Deleting a graphic

To delete a graphic, you can use any of the following techniques:

- To delete a new graphic just after you add it (*before* you click anywhere else), press the Delete key or choose Clear Picture from the Edit menu. This is not reversible; you can't bring back a graphic that was deleted immediately after it was added.

- To delete any graphic, first select it (by using one of the techniques described in "Selecting a Graphic," earlier in this chapter). Then press the Delete key or choose Clear Picture from the Edit menu. If you delete a selected graphic by mistake, you can bring it back by immediately choosing Undo from the Edit menu or pressing ⌘-Z, Tilde, Esc, or Delete.

- To erase any graphic, choose the Eraser (✐) from the Tools menu and drag over the graphic. (To erase a background graphic, you must be working in the background layer. To erase a card graphic, you have to be in the card layer.) To erase in a straight horizontal or vertical line, press Shift while you drag. To erase in white paint, press the ⌘ key while you drag.

  - ❖ *The background revealed:* If you see a picture appearing under the Eraser as you drag it over a card picture, you're exposing a part of the background that was covered by an opaque card picture. If you don't want the background elements to show, you can cover them by pressing the ⌘ key as you drag with the Eraser. (This "erases" with white paint.) Of course, you can go to the background layer and delete the elements, but first check to make sure they aren't needed on the other cards that share the background. ❖

- To erase the entire picture on the current card or background, double-click the Eraser on the Tools palette. This wipes out the picture on the current card or background, then selects the tool you were using just before you double-clicked the Eraser. This technique is useful for cleaning up your screen after you've been experimenting with the Paint tools. (If you double-click the Eraser by accident, choose Undo from the Edit menu immediately, or press ⌘-Z, Tilde, or Esc.)

Printing

This chapter explains how to print the information in a stack. You can print a single card, a range of cards, an entire stack, or a report that displays the contents of specific background fields. You can also create different templates for a stack and export templates from one stack to another.

If you're familiar with HyperTalk, you have even more printing options—for example, you can print the contents of a specific field or a document from another application. The HyperTalk Help stack describes these options. (They aren't covered in this chapter.)

To do all the tasks in this chapter, you must have your user level set at least to Authoring. However, you can print cards, stacks, and reports no matter what your user level is set to, as long as you don't need to create or change any templates. (For instructions on setting your user level, see "User Levels and Options" in Chapter 1.)

Preparing to print

Before printing with HyperCard, you must have the appropriate printer driver for your printer in the Drivers folder, which in turn must be in your System folder when you start your computer. You must also make sure your printer port and driver are correctly configured in the Control Panel desk accessory. The documentation that came with your computer describes how to install printer drivers and how to use the Control Panel.

Once you have the appropriate printer driver installed and the printer selected, you can give HyperCard information about your paper and printing preferences before you print by using the Page Setup command.

❖ *Note:* You don't need to use the Page Setup command each time you print. If the settings in the Page Setup dialog box reflect your paper size and printing preferences, you don't need to use the Page Setup command until you want to change the settings. ❖

To change the settings in the Page Setup dialog box, follow these steps:

1. **Make sure you have one of the General tools selected.**

   The Browse tool (☞), the Button tool (○), or the Field tool (▤) will work.

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

   The Page Setup dialog box appears. The options in this dialog box vary, depending on the kind of printer and the version of system software you have.

3. Select the options you want in the Page Setup dialog box:

Print horizontally.

Print vertically.

This is a fine-tuning option that can make some text and bit-mapped graphics look better.

Select this option to substitute Times for New York, Helvetica for Geneva, Courier for Monaco, and a special form of Helvetica for Shaston.

Click the option that describes the size of your paper.

These options have no effect on the way HyperCard prints.

Type a percentage here to reduce or enlarge the entire image on each page.

Select this option to make the top margin of your printout as small as possible.

This option has no effect on the way HyperCard prints.

Print vertically.

Press and hold the mouse button here to see the Paper Type pop-up menu. Drag to choose the option that describes the size of your paper.

Print horizontally.

Figure 7-1   Selecting options in the Page Setup dialog box

4. Click OK.

The options you select in the Page Setup dialog box are saved with the current stack (unless the stack is locked). They're in effect when you print the stack (or any part of it) using the Print command.

❖ *If the stack is locked:* Changes you make in the Page Setup dialog box for a locked stack will not be saved after you leave the stack, and may not remain in effect for the entire time you're working in the stack. ❖

You can change the Page Setup settings at any time by repeating this procedure.

Printing a single card

To print a single card in a stack, follow these steps:

1. **Go to the card you want to print.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (🖑), the Button tool (⬭), or the Field tool (▦) will work.

3. **Choose Print Card from the File menu, or press ⌘-P.**

   HyperCard prints the current card.

Printing the cards in a stack

HyperCard allows you to prepare card templates that allow you to print out all the cards or a range of cards in the current stack in a variety of ways. You can create and save up to 32 templates for a stack (including both card templates and report templates). For example, you could create one card template that prints out the cards at full size, just the way they appear on the screen, and another that prints eight reduced card images on a page—both for the same stack. You can also export card templates from one stack to another. For more information about templates, see "Creating Templates," later in this chapter.

To print all the cards or a range of cards in the current stack, follow these steps:

1. Make sure you have one of the General tools selected.

The Browse tool (🖑), the Button tool (⊂⊃), or the Field tool (▦) will work.

2. Choose Print from the File menu.

The Print Stack dialog box appears.

3. If a card template is not already selected, select one in the Print dialog box:
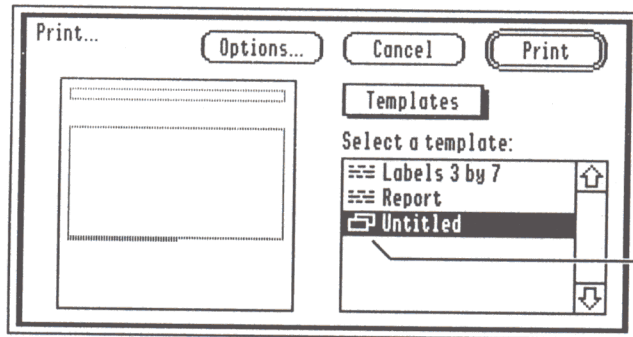
Before you can print the cards in the current stack, you must select a template with this icon. To select a template, click it.

Figure 7-2 Selecting a card template

If you want to create your own card template now, click Cancel and go to the section "Creating a Card Template," later in this chapter. If you want to print a report that displays the contents of specific background fields, click Cancel and go to the next section, "Printing a Report."

4. **Press and hold the mouse button over the pop-up Templates menu and choose Edit Template.**

You can also double-click the name of the template or press Enter to edit it. The Template dialog box appears.

❖ *If you can't see the pop-up Templates menu:* The pop-up Templates menu appears only if your user level is set to Authoring (4) or higher. If you can't see it, you must either click Cancel and change your user level, or skip to step 7. (For instructions on setting your user level, see "User Levels and Options" in Chapter 1.) ❖

5. **To print all the cards in the stack, click All.**

Or, to print only a specific range of cards, click From and type the range of cards you want to print.

To print all the cards in the stack, click here.

To print a range of cards, click here and type in the card numbers for the range of cards you want to print.

```
╒═ Template "Untitled"              ( Cancel )  (   OK   )

   ┌─────────────────┐   Cards: ◉ All
   │                 │          ○ From: [    ] To: [    ]
   │                 │
   │                 │   Layout: [ Spread out        ]
   │                 │           ☒ Card Names
   │                 │   Scaling: [ Full size cards    ]
   └─────────────────┘   Order: [ Left to right      ]

                              Gray scale:
   ( Header... ) ( Footer... )  ☒ Fields    ☒ Pictures
```
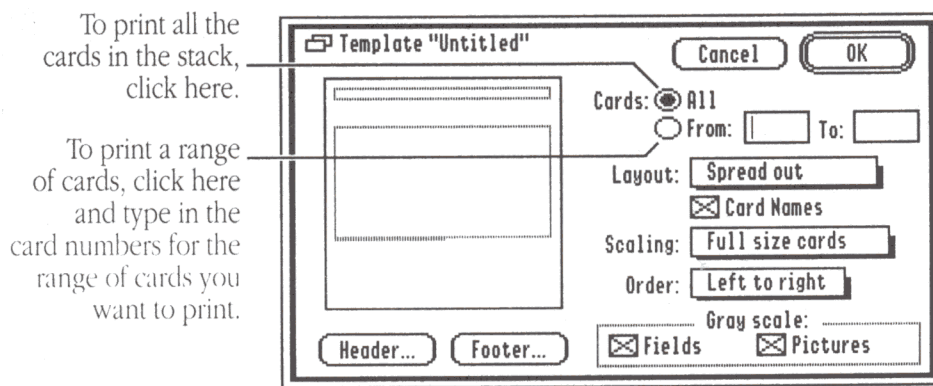
Figure 7-3   Indicating which cards you want to print

6. **Click OK, or press Return or Enter.**

The Template dialog box disappears, and you see the Print dialog box again.

7. **If you want to adjust any of the standard print options, click Options.**

The standard Options dialog box for your printer appears. The options in this dialog box vary, depending on what kind of printer and which version of system software you have. These options are described in the documentation that came with your computer.

```
┌─────────────────────────────────────────┐
│ ┌─────────────────────────────────────┐ │
│ │ LaserWriter                   v3.0  │ │
│ │ Pages:      ⦿ All                   │ │
│ │             ○ From: [   ]  To: [   ]│ │
│ │ Copies: [1]                         │ │
│ │ Paper Source:                       │ │
│ │             ⦿ Paper Tray            │ │
│ │             ○ Manual Feed           │ │
│ │             ( Cancel ) ( OK )       │ │
│ └─────────────────────────────────────┘ │
└─────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────┐
│ ┌─────────────────────────────────────┐ │
│ │ ImageWriter/AppleTalk         v4.0  │ │
│ │                                     │ │
│ │ Copies:    [1    ]                  │ │
│ │                                     │ │
│ │ Pages:     ⦿ All   ○ Range          │ │
│ │      From  [      ]                 │ │
│ │      To    [      ]                 │ │
│ │                                     │ │
│ │ Quality:  [ Standard  ▾ ]           │ │
│ │ Chroma:   [ Black/White ▾ ]         │ │
│ │                                     │ │
│ │ Sheet Feed: [ Automatic ▾ ] (Cancel)│ │
│ │                             ( OK )  │ │
│ └─────────────────────────────────────┘ │
└─────────────────────────────────────────┘
```
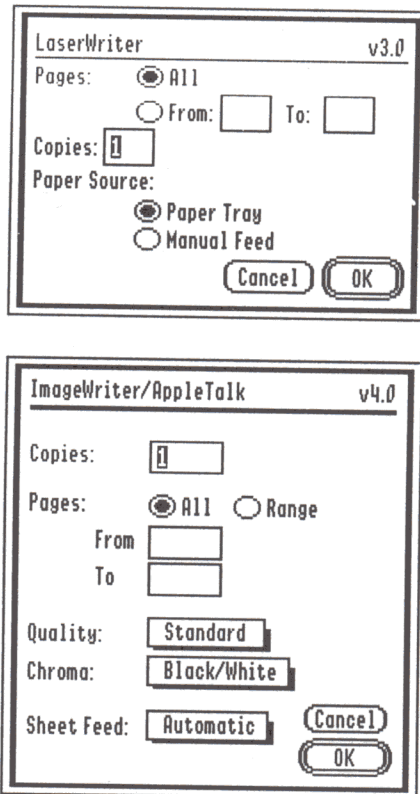
Figure 7-4   Examples of the Options dialog box for different printers

8. **Select the options you want in the Options dialog box and click OK.**

The Options dialog box disappears, and you see the Print dialog box again.

9. **Click Print.**

   HyperCard prints the cards in the current stack according to the settings in the Page Setup dialog box, the Template dialog box for the template selected in the Print dialog box, and the Options dialog box for your printer.

Printing a report

HyperCard allows you to prepare custom report templates that display a background's field text and card pictures in any way you like. You can create and save up to 32 templates for a stack (including both card templates and report templates). For example, you can create a table-style report template, a template for printing the results of calculations, and a template for printing labels—all for the same stack. You can also export report templates from one stack to another.

You can control the appearance and placement of each element in a report template—including the font, size, and style of the text. You can also insert pictures into a report. For more information about templates, see "Creating Templates," later in this chapter.

To print a report from the current stack, follow these steps:

1. **Make sure you have one of the General tools selected.**

   The Browse tool (🖑), the Button tool (⊂), or the Field tool (▦) will work.

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

   The Print dialog box appears.

3. **If you've created a report template you want to use, select it in the Print dialog box:**
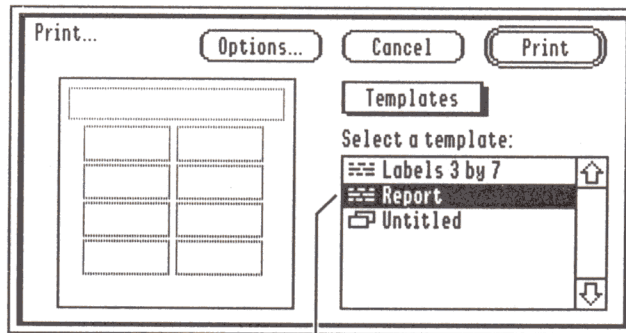
Before you can print a report, you must select a template with this icon. To select a template, click it.

Figure 7-5 Selecting a report template

If you want to create your own report template now, click Cancel and go to the section "Creating a Report Template," later in this chapter.

4. **Press and hold the mouse button over the pop-up Templates menu and choose Edit Template.**

You can also double-click the name of the template or press Enter to edit it. The Template dialog box appears.

❖ *If you can't see the pop-up Templates menu:* The pop-up Templates menu appears only if your user level is set to Authoring (4) or higher. If you can't see it, you must either click Cancel and change your user level, or skip to step 7. (For instructions on setting your user level, see "User Levels and Options" in Chapter 1.) ❖

5. **To print a report based on all the cards in the stack with the selected background, click All.**

   Or, to print only a range of cards with the selected background, click From and type in the range of cards you want.

To print a report based on all the cards with the selected background, click here.

Only cards with the selected background will be included in the report. If a background has no name, its ID number appears in this list instead.

To print a report based on a range of cards with the selected background, click here and type in the card numbers for the range of cards you want to print.
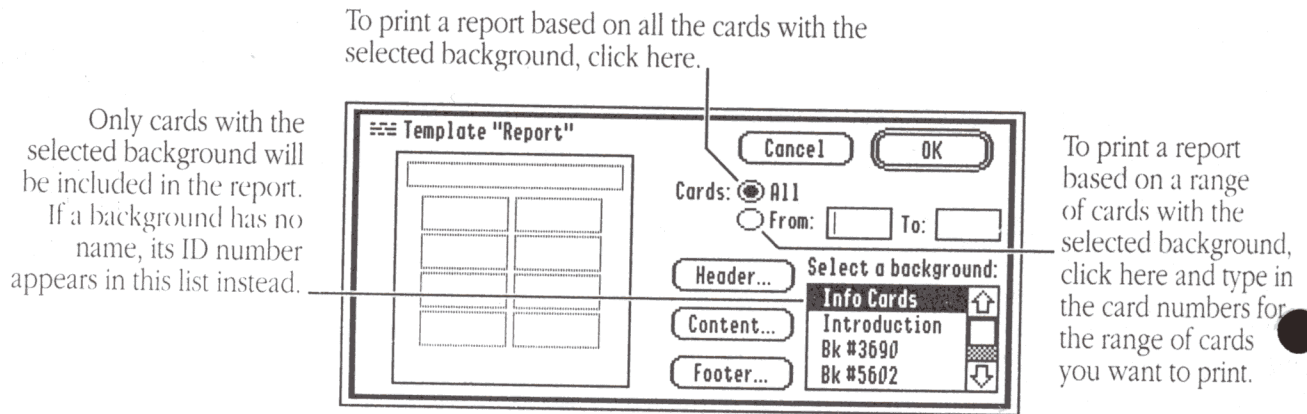
Figure 7-6   Indicating which cards you want to print

6. **Click OK.**

   The Template dialog box disappears, and you see the Print dialog box again.

7. **If you want to adjust any of the standard print options, click Options.**

   The standard Options dialog box for your printer appears (as shown in Figure 7-4). The options in this dialog box vary, depending on what kind of printer and which version of system software you have. These options are described in the documentation that came with your computer.

8. **Select the options you want in the Options dialog box and click OK.**

   The Options dialog box disappears, and you see the Print dialog box again.

9. **Click Print.**

HyperCard prints information from cards in the current stack according to the settings in the Page Setup dialog box, the Template dialog box for the template selected in the Print dialog box, and the Options dialog box for your printer.

Creating templates

You can create two types of templates for printing the information in a stack: *card templates,* which print some or all of the cards in a stack as they appear on the screen; and *report templates,* which print reports that display a background's field text and card pictures. If you want to create a template for printing the cards in a stack, follow the instructions in the next section, "Creating a Card Template." If you want to create a template for printing a report, follow the instructions in the section "Creating a Report Template," later in this chapter.

You can create and save up to 32 templates (including both card templates and report templates) for a stack.

Creating a card template

1. **Make sure you have one of the General tools selected.**

   The Browse tool (☝), the Button tool (○), or the Field tool (▥) will work.

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

   The Print dialog box appears.

3. Choose New Template from the pop-up Templates menu:
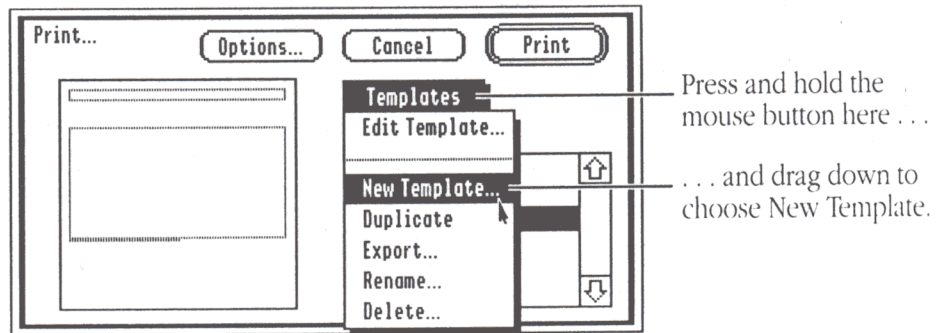
Figure 7-7 Creating a new card template

A dialog box for naming the template appears.

4. Type a name for the new card template:
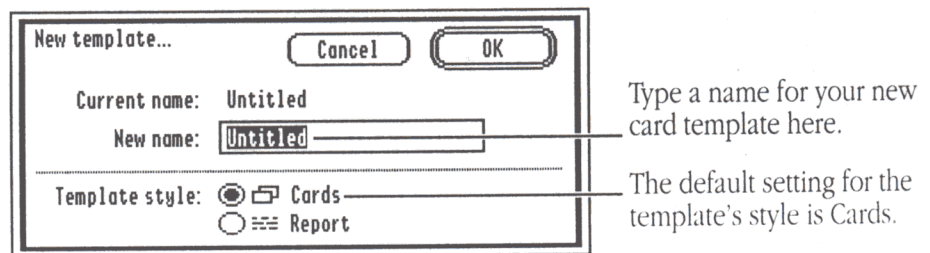
Figure 7-8   Naming a new card template

5. Click OK.

You see the Print dialog box again. The name of your new template appears in the list of templates and is selected.

6. Press and hold the mouse button over the Templates pop-up menu and choose Edit Template.

You can also double-click the name of the new template or press Enter to edit it. The Template dialog box appears.

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7. Select the options you want in the Template dialog box:

This shows you the layout of the printed page.

If you don't want your template to print all the cards in the stack, click this button and enter a range of cards.

Press and hold the mouse button here to see a pop-up menu for choosing the size of the printed cards.

Press and hold the mouse button here to see a pop-up menu for choosing the order in which successive cards will appear on the page.

Press and hold the mouse button here to see a pop-up menu that lets you adjust the space between the cards on a page. "Spread out" leaves space between each card. "Adjacent" butts each card up against the next. "One card per page" prints one card per page, no matter what size you've chosen for the cards.

```
┌─────────────────────────────────────────────────────────────┐
│ ⊡ Template "My Card Template"      ( Cancel )  (   OK   )     │
│  ┌──────────────────────┐                                    │
│  │:........................:│   Cards: ⦿ All                  │
│  │                      │          ○ From: [  ]  To: [    ]   │
│  │                      │   Layout: [ Spread out       ]     │
│  │                      │           ⊠ Card Names             │
│  │:......................:│   Scaling: [ Full size cards ]     │
│  │                      │   Order: [ Left to right ]         │
│  │                      │        ┄┄┄ Gray scale: ┄┄┄         │
│  ( Header... ) ( Footer... )  ⊠ Fields   ⊠ Pictures          │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

When you're printing in black and white with a LaserWriter or ImageWriter, these options allow you to print field text or pictures using a gray scale. If you are using an ImageWriter for which Chroma is set to Color in the Options dialog box (see Figure 7-4), these options allow you to print field text or pictures in color.

Figure 7-9   The Template dialog box for a card template

8. To adjust the header for your card template, click Header in the Template dialog box.

The Header dialog box appears. Even if you don't plan to use a header, you may want to use this dialog box to eliminate the space the header would normally occupy, so that printing can start as high as possible on each page. (If you don't want to adjust the header, go to step 11.)

9. Specify the header you want:

Press and hold the mouse button here to see a pop-up menu for inserting the date, time, page number, or stack name into the header automatically.

To prevent the header from occupying any space at the top of each page, click here to deselect the Show Header option.

If the header contains a graphic, it appears here and prints out just below the header's text.

To add text to the header, type here.

```
⊟  Header of template "My Card Template"          ( Cancel )   ( OK )
[ Text Insert ]            ☒ Show Header
[                                                              ]
( Paste Picture )
```

To paste a graphic into the header, click this button. (The button is active only when the Clipboard contains a graphic.)

Drag from this corner to adjust the height of the portion of the header that contains a graphic.

Figure 7-10   The Header dialog box

To reposition a graphic after you've pasted it into the header, drag with the crosshair pointer to select the graphic, then drag with the arrow pointer to move it. (Hold down the Shift key while you drag to move the graphic one pixel at a time.) To duplicate the currently selected graphic, hold down the Option key while you drag the graphic.

10. Click OK.

The Header dialog box disappears, and you see the Template dialog box again. (To return immediately to the Print dialog box without seeing the Template dialog box, hold down the Option key while you click OK or Cancel.)

11. If you want to add a footer to your card template, click Footer in the Template dialog box.

The dialog box for the footer appears. (If you don't want to add a footer, go to step 14.)

12. Specify the footer you want:

To make the footer show up in the printout, click here to select the Show Footer option.

To paste a graphic into the footer, click this button. (The button is active only when the Clipboard contains a graphic.)

If the footer contains a graphic, it appears here and prints out just above the footer's text.

To add text to the footer, type here.

Press and hold the mouse button here to see a pop-up menu for inserting the date, time, page number, or stack name into the footer automatically.

Drag from this corner to adjust the height of the portion of the footer that contains a graphic.

Figure 7-11 The Footer dialog box

To reposition a graphic after you've pasted it into the footer, drag with the crosshair pointer to select the graphic, then drag with the arrow pointer to move it. (Hold down the Shift key while you drag to move the graphic one pixel at a time.) To duplicate the currently selected graphic, hold down the Option key while you drag the graphic.

13. Click OK.

The dialog box for the footer disappears, and you see the Template dialog box again. (To return immediately to the Print dialog box without seeing the Template dialog box, hold down the Option key while you click OK or Cancel.)

14. **In the Template dialog box, click OK.**

The Template dialog box disappears, and you see the Print dialog box again. Your new template is now saved with the stack.

15. **If you want to print the stack now (using the current template), click Print in the Print dialog box.**

Otherwise, click Cancel in the Print dialog box.

HyperCard prints the cards in the current stack (either all the cards or just the range of cards specified in the Template dialog box) according to the settings in the Page Setup dialog box, the Options dialog box for your printer, and the Template, Header, and Footer dialog boxes for your new card template.

Creating a report template

1. **Make sure you have one of the General tools selected.**

The Browse tool (🖑), the Button tool (⌓), or the Field tool (▦) will work.

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

The Print dialog box appears.

3. **Choose New Template from the pop-up Templates menu:**
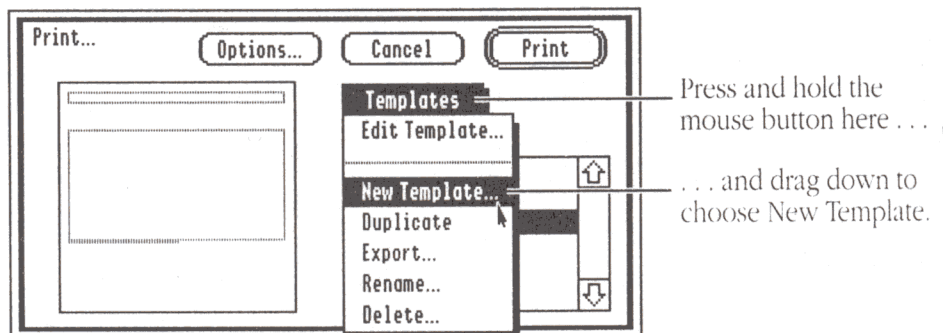
Figure 7-12 Creating a new report template

A dialog box for naming the template appears.

4. **Type a name for the new report template and select the Report style:**
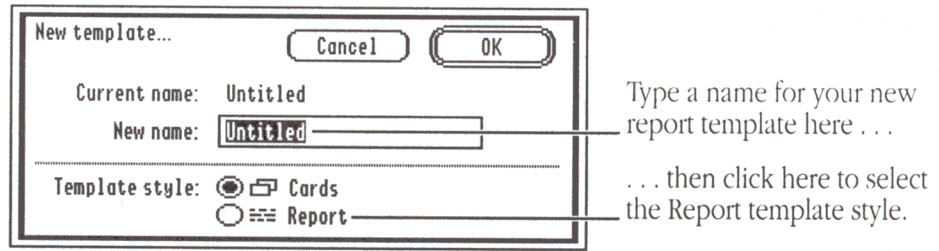
```
┌─────────────────────────────────────────────────┐
│ New template...        ( Cancel )  (    OK    )  │
│                                                   │
│   Current name:  Untitled                         │
│     New name:   [Untitled]─────────────           │
│  ·············································     │
│   Template style: ⦿ ⬚ Cards                       │
│                   ○ ☰ Report──────                │
└─────────────────────────────────────────────────┘
```
Type a name for your new
report template here . . .

. . . then click here to select
the Report template style.

Figure 7-13   Naming a new report template

5. **Click OK.**

   You see the Print dialog box again. Your new template appears in the list of templates and is selected.

6. **Press and hold the mouse button over the Templates pop-up menu and choose Edit Template.**

   You can also double-click the name of the new template or press Enter to edit it. The Template dialog box appears.

7. **In the Template dialog box, select the background on which you want to base your report.**

This shows you the layout
of the printed page.
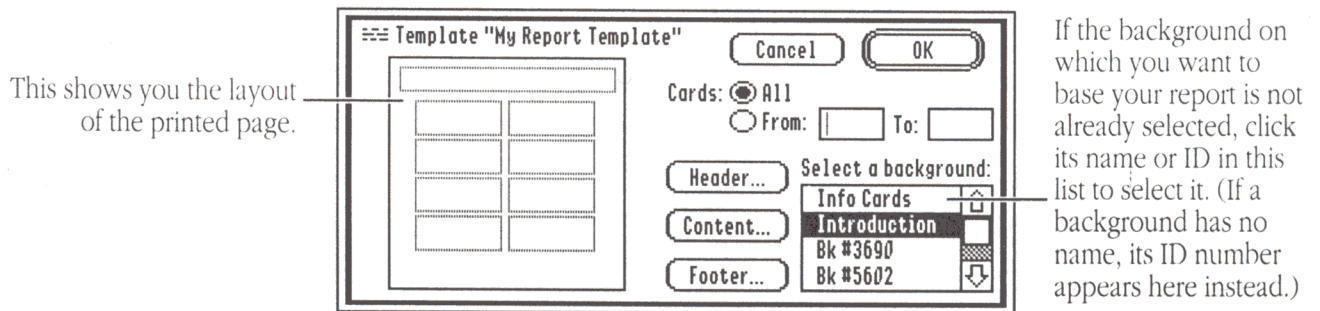
```
┌──────────────────────────────────────────────────────┐
│ ☰ Template "My Report Template"  ( Cancel ) (   OK  ) │
│  ┌────────────────────┐                                │
│  │ ┌─────┐  ┌─────┐   │  Cards: ⦿ All                  │
│  │ └─────┘  └─────┘   │        ○ From: [    ] To: [   ] │
│  │ ┌─────┐  ┌─────┐   │  ( Header... ) Select a background:│
│  │ └─────┘  └─────┘   │               ┌──────────────┐ │
│  │ ┌─────┐  ┌─────┐   │  ( Content... ) │ Info Cards  ⬆│ │
│  │ └─────┘  └─────┘   │               │ Introduction │ │
│  │                    │  ( Footer... ) │ Bk #3690    ▒│ │
│  └────────────────────┘               │ Bk #5602    ⬇│ │
│                                        └──────────────┘ │
└──────────────────────────────────────────────────────┘
```
If the background on
which you want to
base your report is not
already selected, click
its name or ID in this
list to select it. (If a
background has no
name, its ID number
appears here instead.)

Figure 7-14   The Template dialog box for a report template

Only information from cards with the selected background will print.

8. Click Content, or press Enter.

The Content dialog box for the report template appears:

The spaces to the left of and above the cell indicate the left and top margins for the body of your report. The top margin is measured from the bottom of the header.

This represents the area reserved for a cell (the information from one card).

The spaces to the right of and below the cell indicate the amount of space between cells.

These measurements reflect the size and positioning of the cell.

This area lists the picture insert and background fields that are available for the background selected in the Template dialog box. The picture insert consists of the card picture.

Figure 7-15   The Content dialog box

This dialog box allows you to specify what text you want in your report by adding report items to a report cell. You can also add a report item called a *picture insert* that consists of the card picture. The report items you specify will print for each card.

9. Set up the layout for the cells in your report:

When you move the pointer over the cell's lower-right corner or its bottom or right edge, it becomes a double-headed arrow. To adjust the size of the cell in any direction, drag from the corner with this arrow. To adjust the size of the cell only vertically or horizontally, drag from its bottom or right edge.

Any changes you make to the margins, size, and spacing of the cell are reflected here. You can also click the arrows to make fine adjustments.
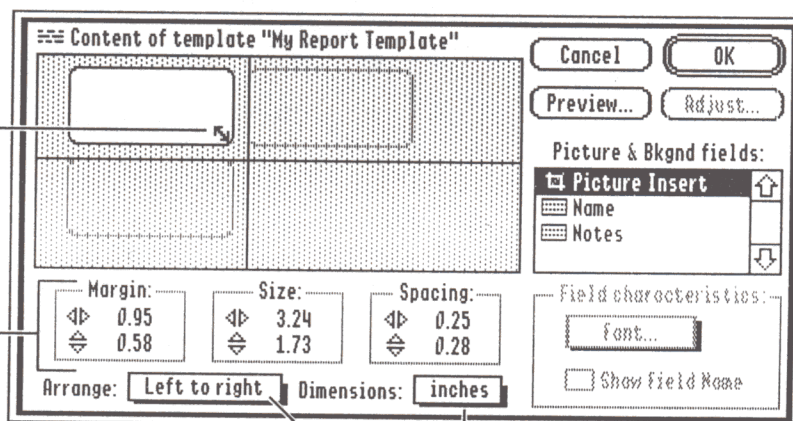
Press and hold the mouse button here to see a menu for choosing the order in which the report will print successive cards. You can also choose Full Width to extend the cell across the entire page.

Press and hold the mouse button here to see a menu for choosing the units of measurement for the dimensions given above.
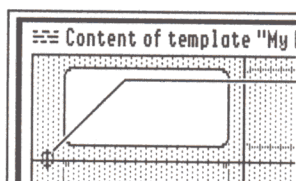
When you move the pointer over this line, it becomes a double-headed arrow. Drag with this arrow to adjust the vertical space between each cell.
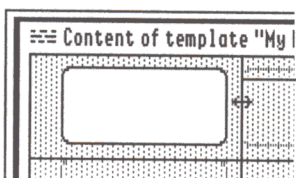
When you move the pointer over this line, it becomes a double-headed arrow. Drag with this arrow to adjust the horizontal space between each cell.
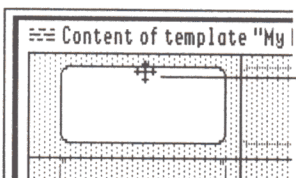
When you move the pointer over the top edge of the cell, it becomes a four-headed arrow. Drag with this arrow to adjust the left and top margins of the body of your report.

Figure 7-16   Adjusting the size, spacing, and margins for the cells in a report

If the lower-right corner of the cell coincides with the intersection of the two lines that control the spacing between cells, you can adjust one of those lines rather than the cell itself by holding down the ⌘ key while you drag from the corner.

10. **Drag the picture insert or background field you want to display in your report into position:**

Press and hold the mouse button over the picture insert or background field in this list that you want to add to your report . . .

. . . and drag it into position inside the cell. To move the item around after you've released the mouse button, drag it from its center. Hold down the Shift key while you drag to align the item to an invisible grid.
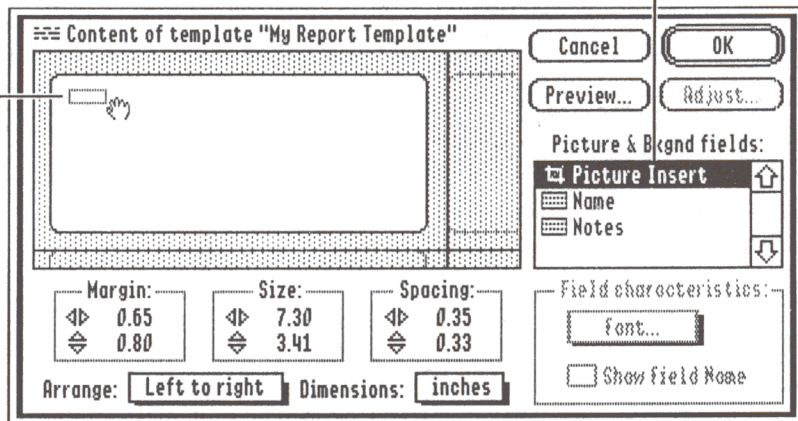
Figure 7-17   Dragging a picture or background field into position

A small rectangle appears in the place where you release the mouse button. This rectangle represents one item in your report. A rectangle filled with a diagonal pattern represents a picture insert, which consists of the portion of the card picture (starting at the upper-right corner of the card) that will fit in the rectangle. A rectangle filled with a crosshatch pattern represents a background field.

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11. Adjust the size of the item as necessary:

To close the Adjust window,
click here or click anywhere
outside the window.

To move the Adjust
window, drag it from here.

To resize an item within a
cell, drag the item from its
lower-right corner . . .

. . . or double-click the item
to see a window like this.
You can then drag the lower-
right corner of the window
to resize the item.

Content of template "My Report Template"

Cancel   OK

Picture Insert

Preview...   Adjust...

Picture & Bkgnd fields:
- Picture Insert
- Name
- Notes

You can
also open
the Adjust
window by
clicking the
Adjust
button or
pressing
Enter while
the item is
selected.

Margin:	Size:	Spacing:
0.65	7.30	0.35
0.80	3.41	0.33

Field characteristics:

Font...

Show field Name

Arrange: Left to right   Dimensions: Inches

Figure 7-18   Adjusting the size of a report item

If the lower-right corner of an item coincides with the lower-
right corner of the cell, you can adjust the item rather than the
cell by holding down the   key while you drag from the corner.

If the item is a picture insert, the pointer turns into a hand when
it's over the Adjust window. To bring the desired portion of the
card picture into view, drag with the hand.

To make the size box in the lower-right corner of the Adjust
window disappear temporarily (so you can see whatever it's
covering), press and hold the mouse button. This works for both
picture inserts and text items.

To save your changes and return immediately to the Print dialog
box, hold down the Option key and press Return. This works
whether or not the Adjust window is open.

12. **If the item represents a background field and you want your report to display its text in a format that's different from the text format used in the stack itself, choose Other from the pop-up Font menu:**

If the item whose text format you want to change is not selected, click it to select it.

Then press and hold the mouse button here . . .

| ▤ Content of template "My Report Template" | | Cancel | OK |

Picture & Bkgnd fields:

📇 Picture Insert ⇧
▦ Name
▦ Notes ⇩

Margin: Size: Spacing: Field characteristics:

◀▷ 0.65   ◀▷ 7.30   ◀▷ 0.35   **Font...**
⬍ 0.80   ⬍ 3.41   ⬍ 0.33   ✓Field Font   Name
    Other...

Arrange: [Left to right]   Dimensions: [inches]
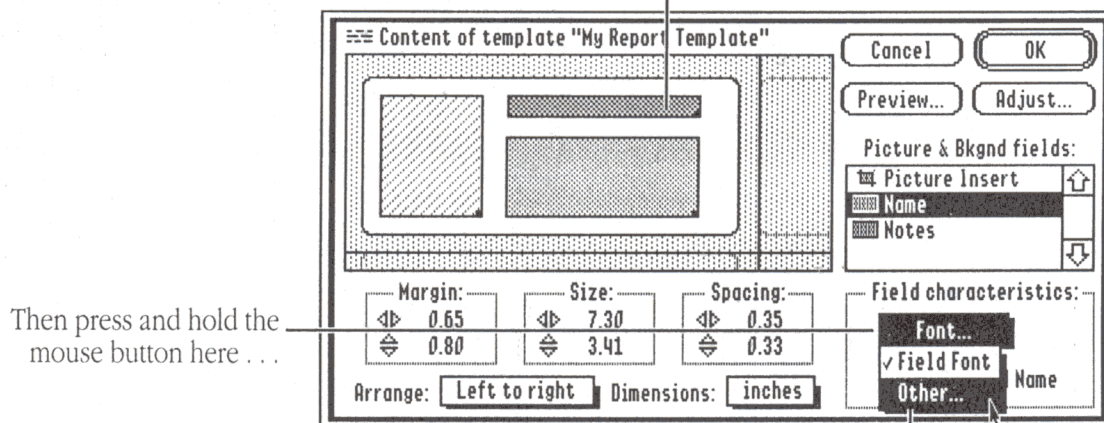
. . . and drag to choose Other from the pop-up menu.
(If you choose Field Font, the item will appear in your report in the same text format selected for the field in the stack itself.)

Figure 7-19   Changing the text format for a report item

The Text Style dialog box appears. (If the Font menu is dimmed, click the item to select it. The Font menu is active only when an item representing a background field is selected.)

13. Specify a text format for the item:

Click to select or deselect one or more text styles. (Select nothing for plain text.) The sample text at the bottom of the dialog box shows the effect of the selected styles.

Press and hold the mouse button here to see a pop-up menu for choosing the alignment for text in the report item.

Click the font you want to select it.

Click to select a font size (measured in points).

To use a font size not listed, type it here. (If you use a size that's different from the sizes listed above for the font, the text may look rough or jagged.)

Click the color you want to use for text in the report item.

This shows what the text will look like.

─ Style:
☐ Bold
☐ Italic
☐ Underline
☐ Outline
☐ Shadow

Courier
Geneva
Helvetica
Shaston
Times
Venice

8
16

OK
Cancel

Font Size: 8

Align Left

The quick brown fox jumps over the lazy dog.

Figure 7-20   Specifying the text format for a report item

14. Click OK.

You return to the Content dialog box.

15. Repeat steps 10 through 14 if you want to add more items to your report.

16. **Click Preview.**

The Preview dialog box appears:

Click these buttons to preview the report cell
for the previous or next card in the report.

Click Done
when you're
finished.
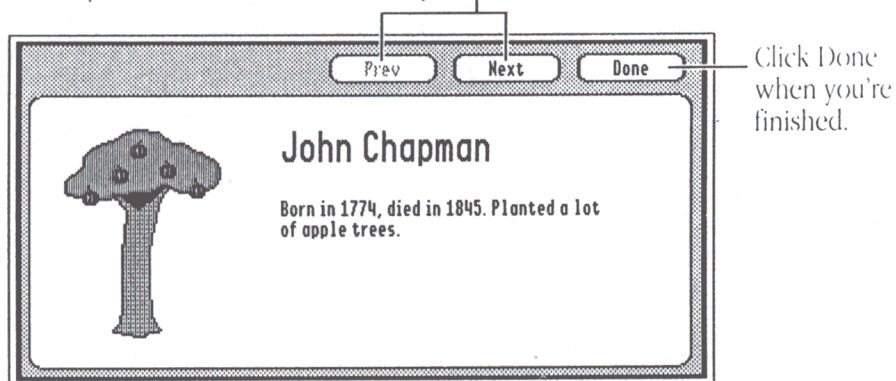
Figure 7-21   The Preview dialog box

17. **When you're finished looking at the preview, click Done to return to the Content dialog box.**

If you're not satisfied with the layout of the report cell, adjust the report items as necessary in the Content dialog box. (To save your changes and return immediately to the Print dialog box from the Preview dialog box, hold down the Option key and press Return or Enter.)

18. **When you're satisfied with the layout of your report items in the Content dialog box, click OK.**

19. **To adjust the header for your report template, click Header in the Template dialog box.**

The Header dialog box appears. Even if you don't plan to use a header, you may want to use this dialog box to eliminate the space the header would normally occupy, so that printing can start as high as possible on each page. (If you don't want to adjust the header, go to step 22.)

20. **Specify the header you want:**

To prevent the header from occupying any space at the top of each page, click here to deselect the Show Header option.

Press and hold the mouse button here to see a pop-up menu for inserting the date, time, page number, or stack name into the header automatically.

If the header contains a graphic, it appears here and prints out just below the header's text.

To add text to the header, type here.

To paste a graphic into the header, click this button. (The button is active only when the Clipboard contains a graphic.)

Drag from this corner to adjust the height of the portion of the header that contains a graphic.

Figure 7-22 The Header dialog box

To reposition a graphic after you've pasted it into the header, drag with the crosshair pointer to select the graphic, then drag with the arrow pointer to move it. (Hold down the Shift key while you drag to move the graphic one pixel at a time.) To duplicate the currently selected graphic, hold down the Option key while you drag the graphic.

21. Click OK.

The Header dialog box disappears, and you see the Template dialog box again. (To return immediately to the Print dialog box without seeing the Template dialog box, hold down the Option key while you click OK or Cancel.)

22. If you want to add a footer to your report template, click Footer.

The Footer dialog box appears. (If you don't want to add a footer, go to step 25.)

23. Specify the footer you want:

To make the footer show up in the printout, click here to select the Show Footer option.

To paste a graphic into the footer, click this button. (The button is active only when the Clipboard contains a graphic.)

If the footer contains a graphic, it appears here and prints out just above the footer's text.

To add text to the footer, type here.

≣≣ Footer of template "My Report Template"

Paste Picture   ☐ Show Footer   Cancel   OK

Text Insert

Press and hold the mouse button here to see a pop-up menu for inserting the date, time, page number, or stack name into the footer automatically.

Drag from this corner to adjust the height of the portion of the footer that contains a graphic.

Figure 7-23   The Footer dialog box

To reposition a graphic after you've pasted it into the footer, drag with the crosshair pointer to select the graphic, then drag with the arrow pointer to move it. (Hold down the Shift key while you drag to move the graphic one pixel at a time.) To duplicate the currently selected graphic, hold down the Option key while you drag the graphic.

24. **Click OK.**

The Footer dialog box disappears, and you see the Template dialog box again. (To return immediately to the Print dialog box without seeing the Template dialog box, hold down the Option key while you click OK or Cancel.)

25. **In the Template dialog box, click OK.**

The Template dialog box disappears, and you see the Print dialog box again. Your new template is now saved with the stack.

26. **If you want to print a report now (using the current template), select the standard print options you want (as described earlier in the section "Printing a Report") and click Print in the Print dialog box.**

Otherwise, click Cancel in the Print dialog box.

HyperCard prints information from the cards in the current stack (either all the cards or just the range of cards specified in the Template dialog box) according to the settings in the Page Setup dialog box, the Options dialog box for your printer, and the Template, Content, and Header and Footer dialog boxes for your new report template.

❖ *To print mailing labels:* If you want to print mailing labels, you can use the Labels 3 by 7 template in the Addresses stack (which comes with HyperCard). If you want to print mailing labels from a stack other than the Addresses stack, copy the Labels 3 by 7 template using the procedure described in the next section, "Exporting a Template to Another Stack." If you like, you can customize this template by selecting it in the Print dialog box and following steps 6 through 25 in this section. If you're printing on a LaserWriter, be sure to use *only* labels made especially for LaserWriters or photocopiers. ❖

Exporting a template to another stack

If you have a template for one stack that you think would work well in another stack, you can export it to another stack by following these steps:

1. **Go to the stack that has the template you want to copy.**

2. **Make sure you have one of the General tools selected.**

   The Browse tool (🖑), the Button tool (⬭), or the Field tool (▢) will work.

3. **Choose Print from the File menu.**

   The Print dialog box appears (see Figure 7-2).

4. **Click the template you want to export to select it.**

5. **Press and hold the mouse button over the pop-up Templates menu and drag to choose Export.**

   The directory dialog box for exporting a template appears.

6. **In the directory dialog box, find and select the stack to which you want to export the current template.**

7. **Click Open.**

   Or double-click the name of the stack. You see the Print dialog box again. The template is now saved in the stack you selected in step 6 as well as the current stack.

8. **Click Cancel to close the Print dialog box.**

If you want to print from the stack to which you exported the template, go to that stack and follow the instructions in the section "Printing the Cards in a Stack" or "Printing a Report," earlier in this chapter.

Copying a template within the same stack

You may sometimes find it useful to make a copy of a template within the same stack as the original—for example, so that you can use the template as the basis of a new template without changing the original.

To make a copy of a template within the same stack as the original template, follow these steps:

1. **Go to the stack that has the template you want to copy.**

2. **Make sure you have one of the General tools selected.**

    The Browse tool (🖑), the Button tool (⭕), or the Field tool (▦) will work.

3. **Choose Print from the File menu.**

    The Print dialog box appears (see Figure 7-2).

4. **Click the template you want to copy to select it.**

5. **Press and hold the mouse button over the pop-up Templates menu and drag to choose Duplicate.**

    A copy of the template appears in the list of templates. You can make any changes you want to the copy without changing the original.

Renaming a template

To rename a card or report template, follow these steps:

1. **Go to the stack that has the template you want to rename.**

2. **Make sure you have one of the General tools selected.**

    The Browse tool (🖑), the Button tool (⭕), or the Field tool (▦) will work.

3. **Choose Print from the File menu.**

    The Print dialog box appears (see Figure 7-2).

4. **Click the template you want to rename to select it.**

5. **Press and hold the mouse button over the pop-up Templates menu and drag to choose Rename.**

A dialog box like the following appears:

```
┌─────────────────────────────────────────────────┐
│ Rename template...      ( Cancel )  (   OK   )   │
│                                                  │
│    Current name:   Untitled                      │
│      New name:   [Untitled────────────────]      │
└─────────────────────────────────────────────────┘
```
Type the new name for your template here.
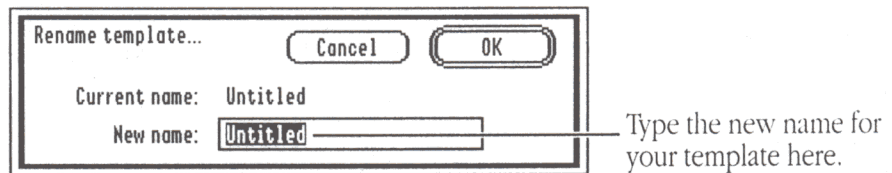
Figure 7-24   Renaming a template

6. **After you've typed a new name for the template, click OK.**

Deleting a template

To delete a template from a stack, follow these steps:

1. **Go to the stack that has the template you want to delete.**

2. **Make sure you have one of the General tools selected.**

The Browse tool (✦), the Button tool (○), or the Field tool (▱) will work.

3. **Choose Print from the File menu.**

The Print dialog box appears (see Figure 7-2).

4. **Click the template you want to delete to select it.**

5. **Press and hold the mouse button over the pop-up Templates menu and drag to choose Delete.**

A confirmation dialog box appears for deleting the report template.

6. **Click Yes to delete the template.**

A

application program   A **program** that helps you perform a specific task, such as word processing, database management, or creating graphics.

authoring   Creating or modifying buttons, links, fields, cards, backgrounds, and stacks using the Button tool, the Field tool, and commands in the Objects menu. Also refers to the **user level** that allows you to use the Button Tool, the Field tool, and the Objects menu.

B

background   A type of HyperCard **object**; a template shared by a number of cards. Each card with the same background has the same background picture, background fields, background buttons, and background script in its **background layer.**

background button   A button that is common to all cards sharing a background. Compare with **card button.**

background field   A field that is common to all cards sharing a background; its size, position, and text format remain constant on all cards associated with that background, but its text can change from card to card. Compare with **card field.**

background layer   The layer behind the **card layer**, containing all the elements of the **background.** You see the elements of both layers when you look at a **card**, as if the card layer were a transparent layer in front of the background layer. The **background button** or **background field** created most recently is the topmost object in the background layer (that is, closest within the background layer to the front of the screen). The **background picture** is behind (farther from the front of the screen) the objects in the background layer.

background picture   The graphics in the **background layer;** the entire picture that is common to all cards sharing a background. You can see and edit the background picture by choosing Background from the Edit menu. Compare with **card picture.**

browse To explore HyperCard stacks by clicking buttons and using the Go menu.

Browse tool (🖑) The tool you use to click buttons and to position the insertion point in fields.

button A type of HyperCard **object**; a "hot spot" on a **card** or **background** that responds when you click it according to the instructions in its **script**. For example, clicking a right arrow button with the Browse tool takes you to the next card.

Button tool (⬭) The tool you use to create, change, and select **buttons.**

C, D, E

card A type of HyperCard **object**; a rectangular area that can hold buttons, fields, and graphics. All cards in a stack are the same size. Each card is a composite of two layers—a foreground layer, called the **card layer**, and a **background layer**. You see the elements of both layers when you look at a card, as if the card layer were a transparent layer in front of the background layer. Each layer can contain its own buttons, fields, and graphics.

card button A button in the **card layer** of a specific card. Compare with **background button**.

card field A field in the **card layer** of a specific card; its size, position, text attributes, and contents are limited to the card on which the field is created. Compare with **background field.**

card layer The layer in front of the **background layer**. You see the elements of both layers when you look at a **card**, as if the card layer were a transparent layer in front of the background layer. The **card button** or **card field** created most recently is the topmost object in the card layer (that is, closest within the card layer to the front of the screen). The **card picture** is behind (farther from the front of the screen) the objects in the card layer and in front of all the elements in the background layer.

card picture The graphics in the card layer of a specific card. Compare with **background picture.**

card template A template for printing the cards in a stack (or a range of cards) as they appear on the screen. You can create your own card templates or use ones that already exist in a stack. Compare with **report template**.

color set A set of 16 colors that appears in the Colors dialog box for a stack, a background, or a card. Color sets are used to specify the colors available to buttons, fields, and graphics in a stack. You can choose from at least five color sets for any stack, background, or card: the standard system color set, a gray color set, and three others. You can also add a sixth color set to the Colors dialog boxes for cards and backgrounds. When you select a different color set, the buttons, fields, and graphics that are affected by it reflect the new colors.

current (adj.) The card, background, or stack you're looking at now. For example, the current card is the one you see on your screen.

F

field   A type of HyperCard **object;** a container in which you type field text. HyperCard has two kinds of fields—**card fields** and **background fields.**

field text   Text that appears in a field. Field text can be edited and searched, while **Paint text** cannot.

Field tool (▭)   The tool you use to create, change, and select fields.

G

General tools   The tools that appear in the top row of the Tools menu: the Browse tool (⌐), the Button tool (▭), and the Field tool (▭).

Go palette   The palette that you can "tear off" the alternate Go menu. To see the alternate Go menu, hold down the ⌘ key while you pull down the Go menu.

H, I, J, K

Home cards   The first five cards in the standard Home stack, designed to hold buttons that take you to stacks, applications, and documents.

HyperTalk   HyperCard's built-in script language for HyperCard users.

L

link   A short script, usually in a button but potentially in any HyperCard **object,** that allows you to move immediately to a specific card in a stack, to an application, or to a document. For example, clicking a button that contains a link to your Addresses stack takes you immediately to the first card of that stack.

locked stack   A stack for which "Can't modify stack" is selected in the Protect Stack dialog box; a stack for which Locked is selected in the stack's Icon Info box in the Finder; or a stack on a locked medium—a locked disk, a CD-ROM, or a locked folder on a file server. A padlock appears after the last menu title in the menu bar of a locked stack.

M, N

message   A string of characters sent to an object from a **script** or the **Message box,** or that HyperCard sends in response to an event. Messages that come from the system—from events such as mouse clicks, keyboard actions, or menu commands—are called **system messages.** Examples of messages are `help` and `mouseUp`.

Message box   A special window that you use to send messages to HyperCard.

O

object   An element of the HyperCard environment that can have a **script** associated with it and that can send and receive **messages.** There are five kinds of HyperCard objects: buttons, fields, cards, backgrounds, and stacks.

P, Q

Paint text   Text you type using the Paint Text tool. Paint text can appear anywhere, while field text must appear in a field created with the Field tool. When you finalize Paint text by clicking, it becomes part of a card or background picture and cannot be edited except by erasing it and starting over. Unlike field text, Paint text can't be searched.

Paint tools Any of the HyperCard tools you use to create graphics. The Paint tools are all the tools below the top row in the Tools menu.

palette A small window that displays icons or patterns you can select by clicking. You can open three of HyperCard's palettes—the Go palette, the Tools palette, and the Patterns palette—by "tearing off" their respective menus. See also **Go palette** and **tear-off menu.**

Patterns palette The palette that you can "tear off" the Patterns menu.

picture Any graphic or part of a graphic, created with a Paint tool or imported from an external file, that is part of a card or background.

picture insert An item in the Content dialog box for a report template that consists of the card picture.

pixel Short for "picture element"; a single dot on the screen.

point The unit of measurement of the height of a text character; one point is approximately equal to one **pixel.** When you select a font, you can also select a point size, such as 10-point, 12-point, and so on. (Note that a point on the Apple IIGS is larger than the point used in typography.)

power key One of a number of keys on the Apple IIGS keyboard that you can press to invoke a menu command when a Paint tool is active and the Message box is closed. To turn on the power keys, choose Power Keys from the Options menu or select the Power Keys option on the **User Preferences card** in the Home stack.

program A set of coded instructions describing actions for a computer to perform. This general term includes programs such as HyperCard and system software files as well as **application programs.**

R

Recent A special dialog box that holds miniature representations of up to the last 18 unique cards viewed. Choose Recent from the Go menu to get the dialog box.

report template A template for printing the contents of specific **background fields** in a stack. You can create your own report templates or ones that already exist in a stack. Compare with **card template.**

resource fork The part of a file that contains resources such as icons and sounds.

S

script A collection of instructions written in HyperTalk and associated with a particular **object.** You use the **script editor** to add to and revise an object's script. Every object has a script, even though some scripts are empty (that is, they contain nothing).

script editor A special dialog box in which you can type and edit a **script.** The title at the top of the script editor describes the object to which the script belongs. You can use keyboard commands to edit text in the script editor. See also **object.**

scripting The act of writing scripts; writing programs in HyperTalk. Also refers to the **user level** that allows you to look at and change objects' scripts.

search path   When you open a file from within
    HyperCard, HyperCard attempts to locate the
    stack, document, or application you want by
    searching the folders listed in the appropriate
    field on the **Search Paths card** in the Home
    stack. Each line in a Search Paths field indicates
    the location of a folder, including the disk name
    (and folder and subfolder names, if any). This
    information is called a search path. Items in a
    search path are separated by colons, like this:
    `:MyDisk:HyperCard:MyStacks:`

Search Paths card   A card in the Home stack used
    to store information about the location of
    stacks, documents, and applications that you
    open while Hypercard is running. See also
    search path.

shared text   Field text that appears on every card
    with the same background. Shared text can be
    edited only from the **card layer.** Text in shared
    text fields can't be searched.

stack   A type of HyperCard **object** that consists of
    one or more **cards**; a HyperCard document.

system message   A message sent by HyperCard to
    an **object** in response to an event such as a
    mouse click, keyboard action, or menu
    command. Examples of HyperCard system
    messages are `mouseUp` and `doMenu`.

tear-off menu   A menu that you can remove from
    the menu bar by dragging the pointer beyond
    the side or bottom edge of the menu.
    HyperCard has three menus that can be torn
    off: the alternate Go menu, the Tools menu, and
    the Patterns menu. When torn off, these menus
    are called **palettes.**

Tools palette   The palette that you can "tear off" the
    Tools menu.

U, V, W, X, Y, Z

user level   A HyperCard setting, ranging from
    1 to 5, that determines which of HyperCard's
    capabilities are available. You can select the user
    level on the **User Preferences card** in the Home
    stack. Each user level makes all the options from
    the lower levels available, and also gives you
    additional capabilities. The five user levels are
    Browsing, Typing, Painting, Authoring, and
    Scripting.

User Preferences card   The last card in the Home
    stack, where you can set your **user level** and
    select or deselect the Blind Typing, Power Keys,
    and Text Arrows options.
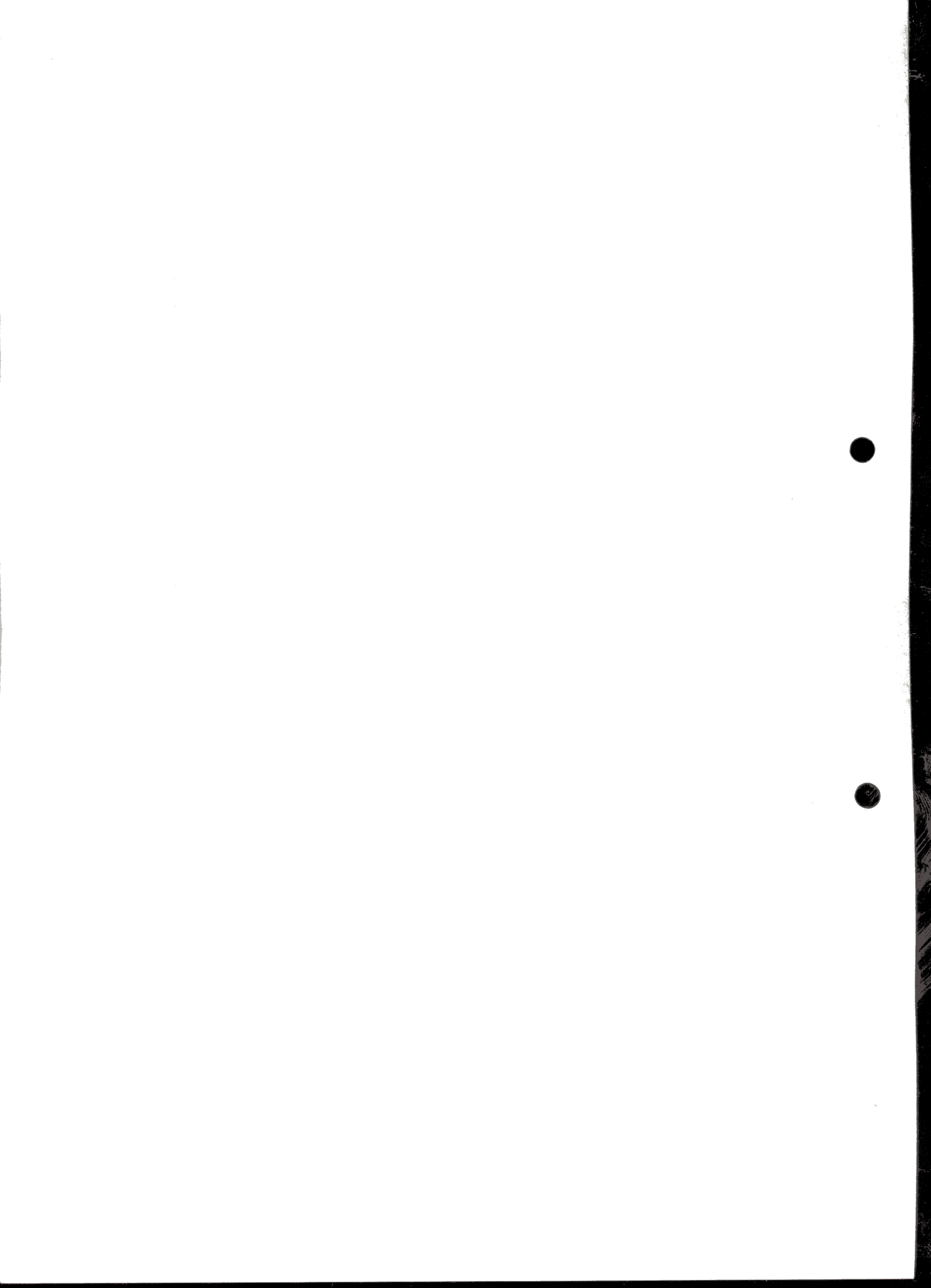
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