



HyperCard™
Reference

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About This Book

HyperCard™ is a Macintosh™ software environment that allows you to create your own ways of doing things on your 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 Macintosh 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 Macintosh, 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 command keys
- 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 Macintosh 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* and the HyperCard Tour before using this book. (*Getting Started With HyperCard* tells you how to start the HyperCard 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 HyperCard Tour stack and the book *Getting Started With HyperCard*, 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 table of 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 Macintosh, 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 together 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, “Adding Graphics and Paint Text,” 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.
- The Appendix, “What’s New in HyperCard,” briefly describes the features of HyperCard that are new in version 2.0. It also gives cross-references to sections that describe the new features in detail.

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

The Quick Reference Card gives keyboard shortcuts for HyperCard operations.

Where to get HyperCard stacks

A HyperCard stack can be as simple as a collection of information, or as complex as any Macintosh 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 Macintosh 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 Macintosh 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:

About HyperCard: A booklet that describes the documentation in the HyperCard Package. It also gives instructions for experienced Macintosh users who prefer to learn by exploring on their own.



Using HyperCard Without a Hard Disk: A booklet that describes how to learn and use HyperCard without a hard disk.



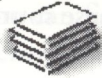
Getting Started With HyperCard: A book that tells you how to install HyperCard, teaches the basic skills you need to get going, and shows you how to start creating and modifying stacks.



HyperCard Tour: A stack that introduces basic HyperCard concepts by showing you what HyperCard can do.



HyperCard 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 Reference: 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 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. Check with your favorite bookseller to see what titles are currently available.

- 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 icon in the title bar of the window "User Levels and Options" in this chapter explains how to set your user level.

User groups Macintosh user groups can be a great source of information about HyperCard, and about Macintosh 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 Macintosh user group nearest you, or call (800) 538-9696. For information about starting your own user group, contact one of the following:

- The Boston Computer Society
One Center Plaza
Boston, MA 02108
U.S.A.
(617) 367-8080
- Berkeley Macintosh User's Group
1442-A Walnut Street, #62
Berkeley, CA 94709
U.S.A.
(415) 549-BMUG (415-549-2684)

Using HyperCard Stacks

This chapter begins with a brief summary of what HyperCard™ 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 keep track of your expenses, 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 reading the *HyperTalk Beginner's Guide*.)

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:

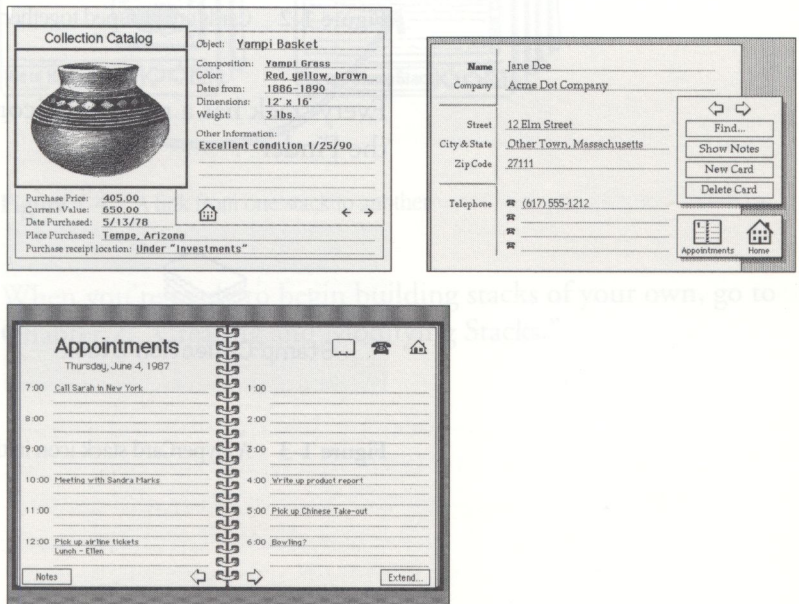


Figure 1-1 Cards—HyperCard's fundamental units of information

Cards are grouped together 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.

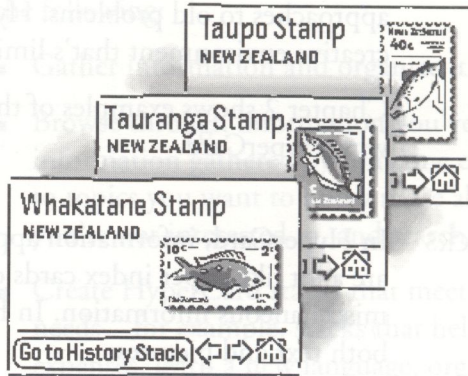


Figure 1-2 Cards are grouped together into stacks

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

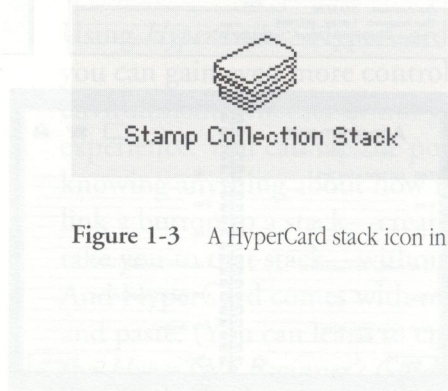


Figure 1-3 A HyperCard stack icon in the Finder

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.

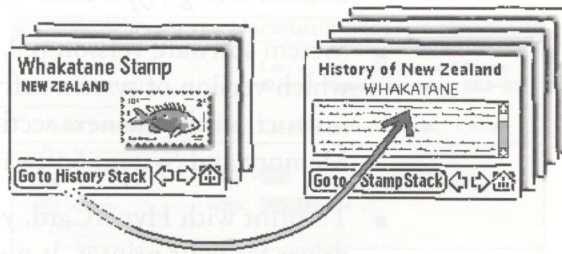


Figure 1-4 A link from one stack to another

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™ Macintosh™ computer with 1 megabyte (MB) of memory or more. To use HyperCard under MultiFinder™, your system should have at least 2 MB of memory. (You can find out how much memory your computer has by following the instructions in the next section, “Checking Your Computer’s Memory and System Software Version.”)
- HyperCard works best in systems with a hard disk. However, you can also use it with two floppy disk drives. If you use HyperCard without a hard disk, you’ll need to be aware of some special considerations, which are described in the booklet *Using HyperCard Without a Hard Disk*.
- System software version 6.0.5 or later. (You can find out which version of system software you have by following the instructions in the next section, “Checking Your Computer’s Memory and System Software Version.”)
- To print with HyperCard, you need the appropriate printer driver for your printer. It must be the version that comes with system software version 6.0.5 (or later). The printer driver must be in your System Folder when you start your computer. The documentation that came with your Macintosh discusses printer drivers (also called printing resources) and how to install them.

Checking your computer's memory and system software version

Once your computer is set up, you can easily find out whether you have enough memory and the appropriate version of system software to run HyperCard. Just follow these steps:

1. Go to the Finder (if you're not already there).

If MultiFinder is turned on, you can get to the Finder by choosing Finder from the Apple menu.

If MultiFinder is turned off, you can get to the Finder by quitting the current application.

2. Choose About the Finder from the Apple menu.

A window like this appears.

Make sure this version number is 6.0.5 or higher

This number should be at least 1,024—or, to use HyperCard with MultiFinder, this number should be at least 2,048.

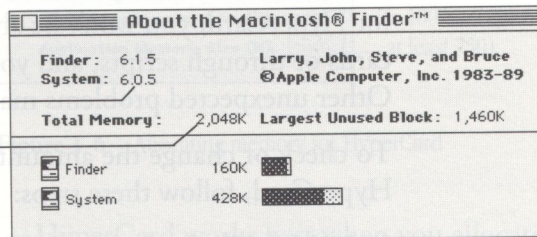


Figure 1-5 Checking your computer's memory and system software version

Your authorized Apple dealer can help you add memory to your computer or upgrade your system software to a later version.

Installing HyperCard

Before using HyperCard, you should install it on your hard disk, or (if you don't have a hard disk) create a HyperCard floppy startup disk. See the book *Getting Started With HyperCard* for hard disk installation instructions, or the booklet *Using HyperCard Without a Hard Disk* for floppy disk installation instructions.

Using HyperCard with MultiFinder

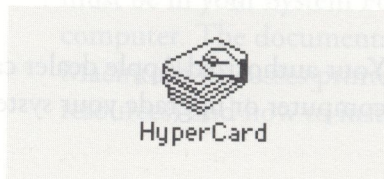
MultiFinder is an operating system for the Macintosh that makes it possible to have several applications open at the same time. (For more information about MultiFinder, see the documentation that came with your Macintosh.)

To use HyperCard under MultiFinder, your system should have at least 2 megabytes of memory. If you use HyperCard with MultiFinder, you can change the amount of memory allocated for HyperCard before you begin. (Instructions are given in the numbered steps that follow.)

HyperCard works well with MultiFinder when you set aside at least 1000K of memory for it. HyperCard takes advantage of all the memory you allocate for it—the more memory you give it, the better it works. If you set aside less than 750K of memory for HyperCard, you won't be able to use the Paint tools on large cards or through scripts, and you won't be able to paste graphics. Other unexpected problems may also occur.

To check or change the amount of memory allocated for HyperCard, follow these steps:

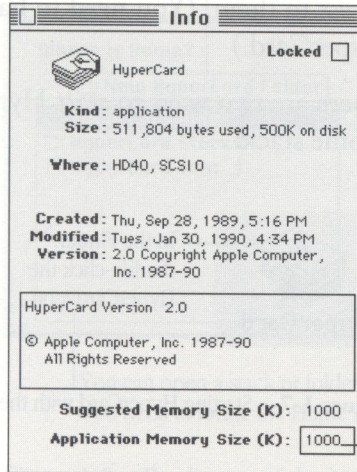
1. In MultiFinder (or in the Finder), click the HyperCard icon once to select it.



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

2. Choose Get Info from the File menu.

3. Set the Application Memory Size (as shown in the following figure) to allocate memory for HyperCard.



You can change the Application Memory Size by double-clicking this number to select it and typing a new number. HyperCard works best when this number is 1000 or higher (it must be at least 750).

Figure 1-6 Allocating memory for HyperCard

HyperCard works best when you allocate it 1000K of memory or more.

4. When you're finished, click the close box.

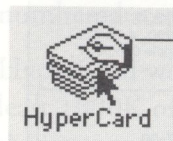
Starting HyperCard

Before you start 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 Macintosh.) 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.

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.)

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.

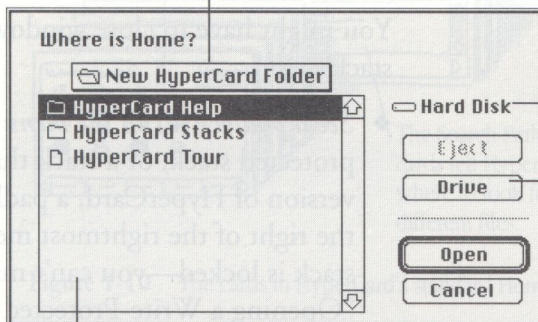
Figure 1-7 Starting HyperCard with the Home stack

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

- ❖ *Where is Home?* When you start HyperCard by double-clicking its icon, it looks for the Home stack in the System Folder, in the folder that contains HyperCard, and in any folder named HyperCard Stacks that's at the same directory level as HyperCard. Then it looks on the top level of your disk directory—that is, on the current disk among the files that aren't in any folders. 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 higher levels in your disk directory (if there are any) by pressing and holding the mouse button here; then you can drag down to select a higher-level folder.

You can move up one level in your disk directory by clicking here.



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

Click here to switch to another disk, if Home isn't on the current disk.

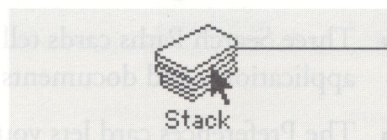
Figure 1-8 The directory dialog box for finding a file

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

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's icon

Figure 1-9 Starting HyperCard with a stack other than home

△ **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. △

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



❖ *See a padlock (🔒) in the menu bar?* When you open a protected stack, or a stack that was created in an earlier version of HyperCard, 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 sections “Opening a Write-Protected Stack” and “Opening a Stack Built in an Earlier Version of HyperCard,” later in this chapter, give information about working with such stacks. ❖

The Home stack

Home is HyperCard's central stack. You can return to it easily from any other stack at any time. Most people use the Home stack as their base of operations, a jumping-off point for their 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.
- Three Search Paths cards tell HyperCard where to find stacks, applications, and documents that you use frequently.
- The Preferences card lets you customize the way you interact with HyperCard.

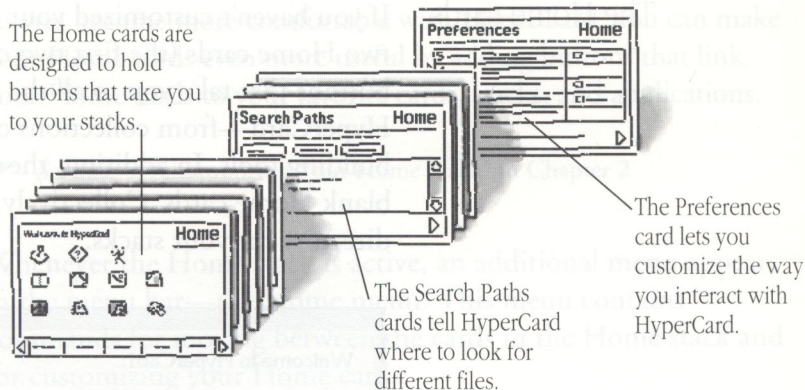


Figure 1-10 The cards in HyperCard's standard Home stack

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

- ❖ *Alternate Home stacks:* HyperCard includes two alternate Home stacks in addition to the standard Home stack. The section “Customizing Your Home Stack” in Chapter 2 describes these stacks and tells you how to use one of them as your home base instead of the standard Home stack that’s described in this chapter. ❖

The Home cards

If you haven't customized your standard Home stack, the first two Home cards (the first two 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 three blank Home cards. Collectively, the Home cards provide a visual directory for your stacks.

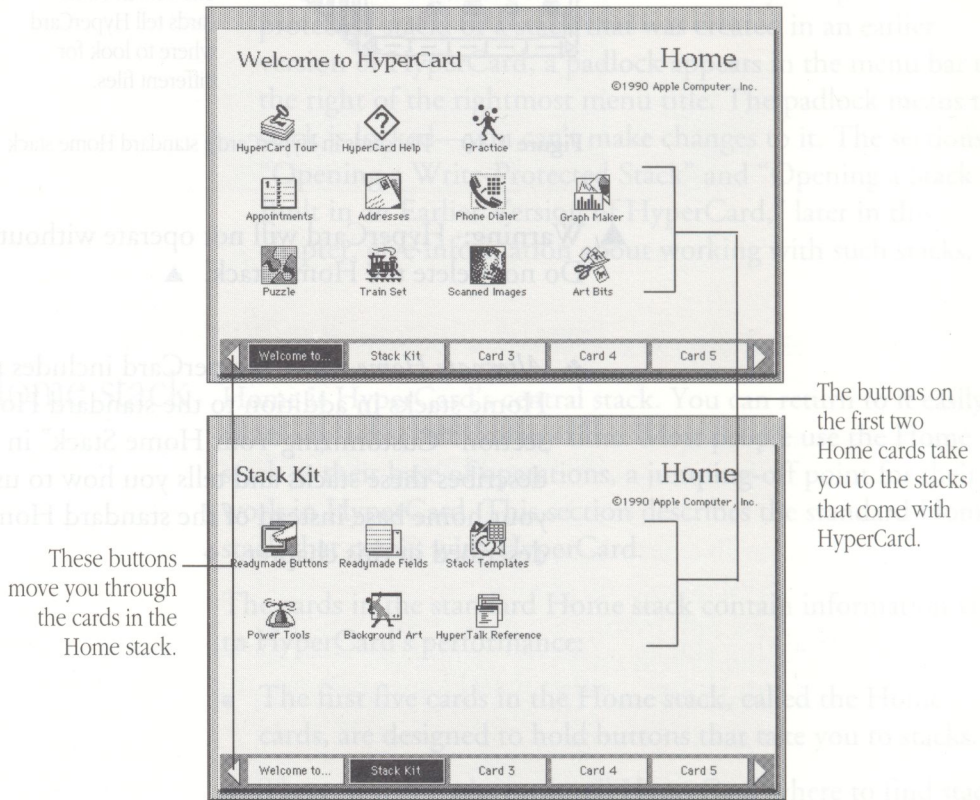


Figure 1-11 The first two Home cards

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

The Home menu

Whenever the Home stack is active, an additional menu appears in the menu bar—the Home menu. This menu contains commands for moving between the cards in the Home stack and for customizing your Home cards.

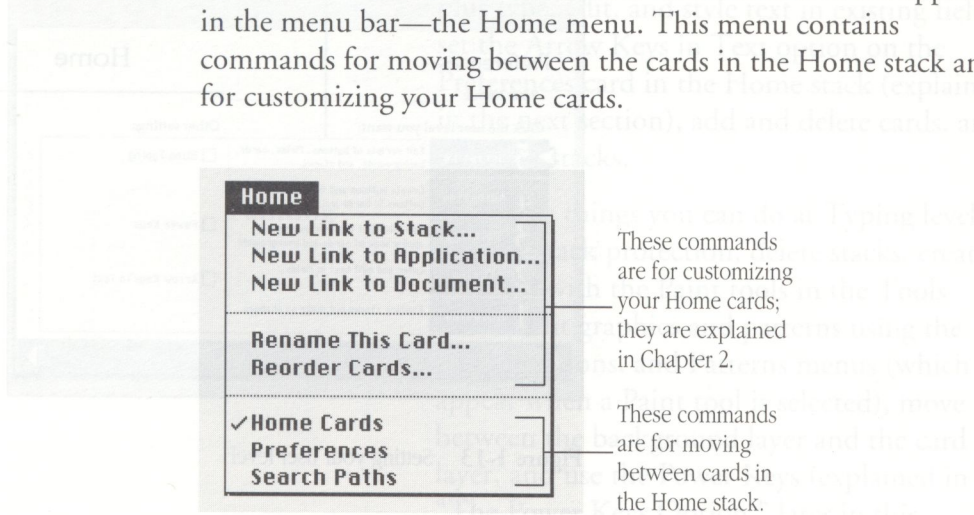


Figure 1-12 The Home menu

User levels and options

You can adjust the settings on the Preferences card to customize the way you interact with HyperCard. To get to the 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 choose Preferences from the Home menu. (The Home menu appears only when the Home stack is active.)

Setting your user level

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

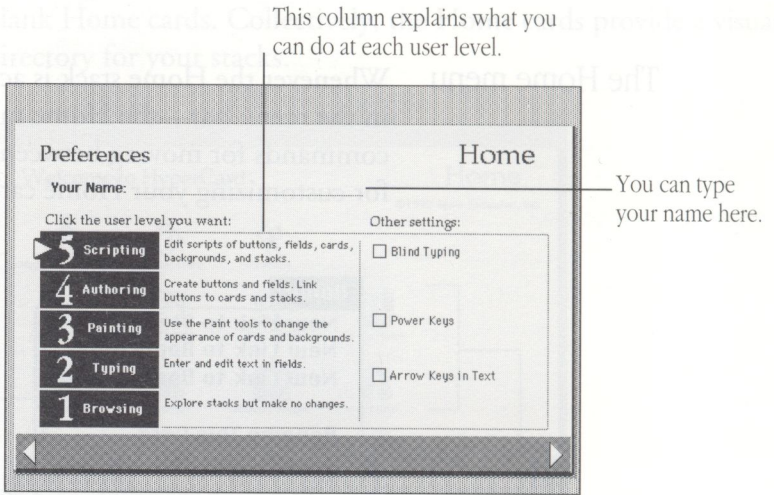


Figure 1-13 Setting your user level

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, edit, and style text in existing fields, set the Arrow Keys in Text option on the Preferences card in the Home stack (explained in the next section), add and delete cards, and compact stacks.

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
Close Stack	⌘W
Save a Copy...	
Compact Stack	
Page Setup...	
Print Field...	
Print Card	⌘P
Print Stack...	
Print Report...	
Quit HyperCard	
Quit HyperCard	⌘Q

Edit	
Undo	⌘Z
Cut Text	
Cut Text	⌘H
Copy Text	⌘C
Paste Text	⌘U
Clear Text	
New Card	
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
Close Stack	⌘W
Save a Copy...	
Compact Stack	
Protect Stack...	
Delete Stack...	
Page Setup...	
Print Field...	
Print Card	⌘P
Print Stack...	
Print Report...	
Quit HyperCard	
Quit HyperCard	⌘Q

Edit	
Undo	⌘Z
Cut	
Cut	⌘H
Copy	⌘C
Paste	⌘U
Clear	
New Card	
New Card	⌘N
Delete Card	
Cut Card	
Copy Card	
Text Style...	
Text Style...	⌘T
Background	⌘B
Icon...	⌘I

Figure 1-14 Short and full File and Edit menus

- ❖ **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 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 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 Arrow Keys in Text option

When you click any user level button except Browsing on the Preferences card, a check box labeled Arrow Keys in Text appears (see Figure 1-13). 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 and the insertion point is blinking in a field or in the Message box, 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.)

Arrow Keys in Text



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

Arrow Keys in Text



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 1-15 The effect of the Arrow Keys in Text option

When Arrow Keys in Text is turned on, you can still use the arrow keys on the keyboard to move through a stack unless the insertion point is blinking in a field or in the Message box. Then 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 1-16 Moving through cards when the Arrow Keys in Text option is turned on and the insertion point is blinking in a field or in the Message box

► *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 Preferences card, a check box labeled **Power Keys** appears (see Figure 1-13). 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.

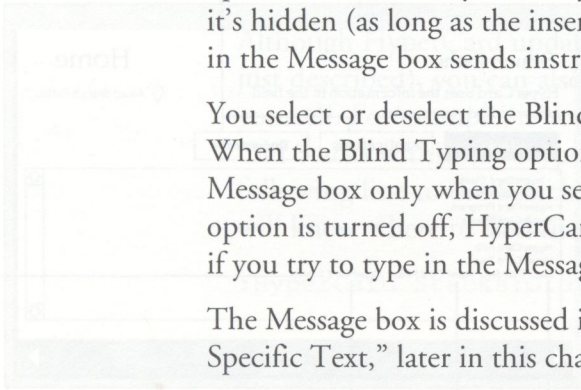
► *See also:* “Using Power Keys” in Chapter 6

The Blind Typing option

When you click **Scripting** on the Preferences card, a check box labeled **Blind Typing** appears (see Figure 1-13). 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 (or the menu bar flashes) 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.

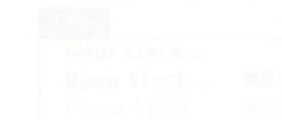


There are three Search Paths cards in the Home stack. One tells HyperCard where (in which folders) to look for stacks, another tells it where to look for documents, and a third tells it where to look for applications. These cards contain lists of *search paths*, or pathways through the folders on your 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 on the appropriate Search Paths card), it displays a directory dialog box and asks you where the file is. (Figure 1-8 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) in which the file resides, and records it on the appropriate Search Paths card in the Home stack. 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 cards for you (as just described), you can also add search paths to these cards yourself. For example, if you move a stack into a folder named Old Stacks within the HyperCard Stacks folder, you can add the following line to the Search Paths card for stacks (so HyperCard will know where to find the stack):

```
:HyperCard Stacks:Old Stacks:
```



To add a line to one of the Search Paths cards, just click and type. When you rename a disk, folder, or file, you can change its name on the appropriate Search Paths card. 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:

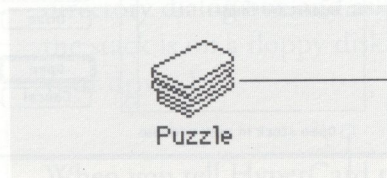
- Choose Home from the Go menu.
- Press ⌘-H (press and hold the ⌘ key while you press H for Home).
- Click the button with a house icon, which appears in many stacks, or another button that's linked to the Home stack.
- Choose Message from the Go menu (or press ⌘-M), type Go "Home", and press Return.

Opening and closing stacks

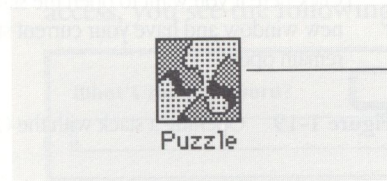
Because HyperCard automatically (without asking) saves any changes you make to stacks as you work, it's a good idea to make sure you have a backup copy of a stack before you open it. That way, if you change the stack (intentionally or otherwise), you can always go back to the original version. ("Saving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

Opening a stack

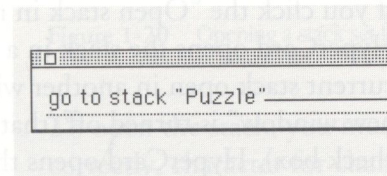
There are several different ways to open a stack:



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



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



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.



Choose Open Stack from the File menu and open the stack.

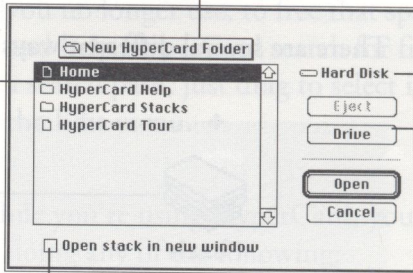
Figure 1-18 Opening a stack

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 higher levels in your disk directory (if there are any) by pressing and holding the mouse button here; then you can drag down to select a higher-level folder.

You can move up one level in your disk directory by clicking here.

Locate the stack you want to open by double-clicking in this list. When you see the stack you want, double-click it to open it.



Click here if the stack you want to open is on another disk.

Click here if you want to open the stack in a new window and have your current stack remain open.

Figure 1-19 Opening a stack with the Open Stack command

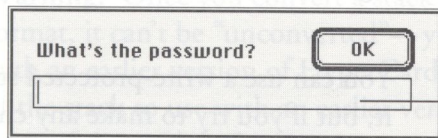
If you click the “Open stack in new window” check box to select a stack, HyperCard opens the stack in a new window, and leaves your current stack open in another window. If the option “Open stack in new window” is turned off (that is, when there’s no mark in the check box), HyperCard opens the stack in the current window.

- ❖ *A shortcut for opening a stack in a new window:* When you open a stack by pressing **⌘-Shift-O** (or by holding down the Shift key while you choose Open from the File menu), the directory dialog box appears with the “Open stack in new window” option already selected. (This shortcut doesn’t work when the insertion point is blinking in a field.) ❖

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.)

Opening a stack protected with a password

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



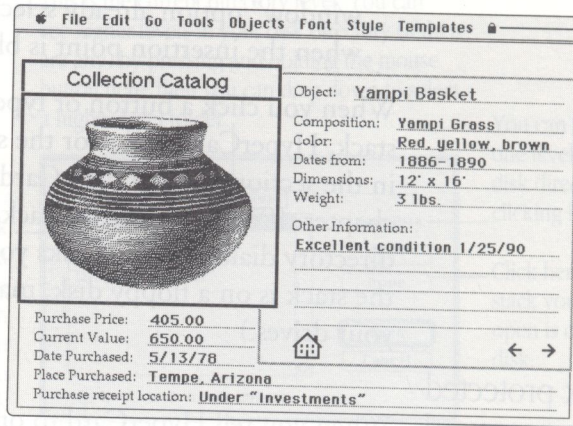
Type the password here and click OK.

Figure 1-20 Opening a stack set for restricted access

To open the stack, you must know the password and type it correctly, character for character (however, capitalization doesn’t matter). Then click OK. If the password you type isn’t correct, HyperCard opens the Home stack instead.

Opening a write-protected stack

When you open a stack that's *write-protected*—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 write-protected—you can't make any changes to it.

Figure 1-21 Working with a write-protected stack

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

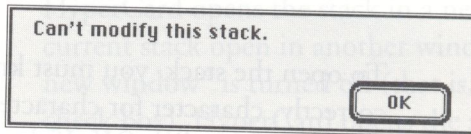


Figure 1-22 Trying to make changes to a protected stack

➤ See also: “Protecting Your Stack” in Chapter 2

Opening a stack built in an earlier version of HyperCard

When you open a stack that was created in a version of HyperCard earlier than 2.0, a small padlock (🔒) appears in the menu bar. You can use such a stack, but you can't make any changes to it (including typing into fields) until you convert it to the new HyperCard file format.

If you try to make any changes to an unconverted stack, you see the following dialog box:

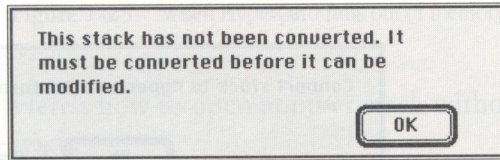


Figure 1-23 Trying to make changes to an unconverted stack

- ▲ **Warning:** Once you convert a stack to the new HyperCard file format, it can't be “unconverted”—you won't be able to use it with an earlier version of HyperCard. If you want to keep a copy of the stack to use with an earlier version of HyperCard, make a copy of the stack before you convert it. (Choose Save a Copy from the File menu to make a copy of the stack.) ▲

If you want to add text (or make any other changes) to a stack built in an earlier version of HyperCard, follow these steps to convert the stack:

1. Choose Convert Stack from the File menu.

(Convert Stack replaces the Compact Stack command when you're working in an unconverted stack.)

The following dialog box appears:

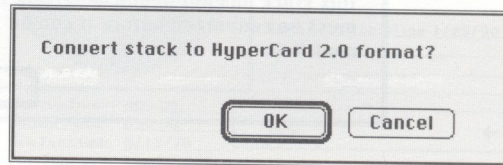


Figure 1-24 Confirmation dialog box for converting a stack

2. Click OK to convert the stack.

Once HyperCard has converted the stack, the padlock disappears from the menu bar, and you can make changes to the stack.

Opening more than one stack at a time

In HyperCard you can have two or more stacks open and visible on the screen at once, if your computer's memory will allow for it. In general, to open multiple stacks in HyperCard, you should have at least 2 megabytes of memory and allocate at least one megabyte (1000K) for HyperCard (as explained in "Using HyperCard With MultiFinder," earlier in this chapter). The more memory that's available for HyperCard, the more stacks you can have open at once.

If you try to open more windows than you have memory for, the following dialog box appears:

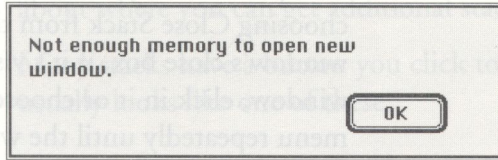


Figure 1-25 When HyperCard runs out of memory

Here's how to open another stack without closing the current stack:

1. Choose Open Stack from the File menu.

The directory dialog box appears.

2. Click the "Open stack in new window" check box to select it.

3. In the directory dialog box, locate and open the additional stack you want to open.

Figure 1-19 shows the techniques for using the directory dialog box to locate and open a stack.

When the stack opens, it appears in a new window, leaving open any other stacks that were already open.

Once you've opened all the stacks you want to see, you can resize their windows and move them around—and place them side by side, if you like. "Moving and Resizing the Card Window," later in this chapter, tells you how.

When you have more than one stack open, you can move between open stacks by choosing Next Window from the Go menu (or pressing ⌘-L). Or you can click in the window of the stack you want to go to, if any part of it is visible.

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

- If you have more than one stack open, you can close any of the open stacks by first activating the stack's window, then choosing Close Stack from the File menu or clicking the window's close box, if it's visible. (To activate a stack's window, click in it or choose Next Window from the Go menu repeatedly until the window is activated. When a stack's window is active, narrow horizontal lines appear in its title bar. If you can't see the window's title bar or close box, see "Moving a Card Window," later in this chapter.)
- If you have only one stack open, you must quit HyperCard to close it.
- No matter how many stacks are open, you can close the current stack by opening another stack in its window. (See "Opening a Stack," earlier in this chapter, for instructions.)
- No matter how many stacks are open, you can close them all by choosing Quit HyperCard from the File menu. As the stacks close, HyperCard saves any changes you've made to them.
- ❖ *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 in any way. 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 available when your user level is Painting or higher. (When you're working with a stack that was created in an earlier version of HyperCard, the Compact Stack command is replaced by Convert Stack. You must convert such a stack before you can compact it. The section "Opening a Stack Built in an Earlier Version of HyperCard," earlier in this chapter, gives instructions for converting a stack.) ❖

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 1-26 Buttons you can click to get information about a 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.

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 Home stack is an example of a stack with its own menu.

Since menus can be customized, you might also encounter stacks in which some of the standard HyperCard menus are missing or contain different commands. If this happens, don't worry—all the normal HyperCard menus will be restored when you return to the standard Home stack (that is, the standard Home stack that comes with HyperCard).

Customizing menus requires a knowledge of HyperTalk. For information about customizing menus, see the HyperTalk Reference stack.

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 Navigator 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 (⌘7).

This is the Browse tool. Use it for clicking buttons to browse through stacks.

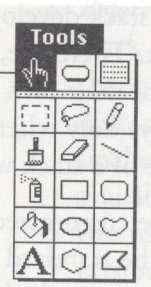


Figure 1-27 Choosing the Browse tool

- ❖ *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.

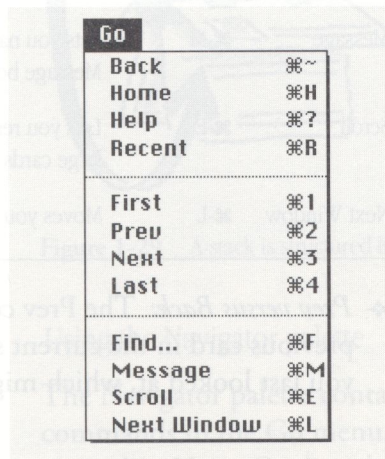


Figure 1-28 The Go menu

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 42 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.
Scroll	⌘-E	Lets you resize card windows and scroll around on large cards.
Next Window	⌘-L	Moves you from one open stack to another.

❖ *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.

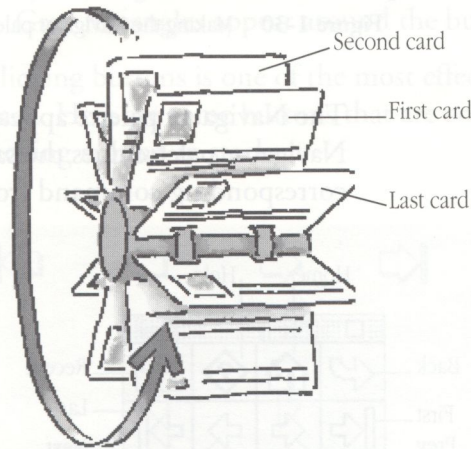


Figure 1-29 A stack is structured like a circular card file

Using the Navigator palette

The Navigator palette contains icons that are equivalent to commands in the Go menu. You can click these icons to move around in HyperCard stacks. You can also leave the Navigator palette open while you work, so you have easy access to all the navigation commands. To make the Navigator palette appear, follow these steps:

1. Open the Message box by choosing Message from the Go menu, or pressing ⌘-M.
2. Type palette "Navigator", then press Return or Enter.

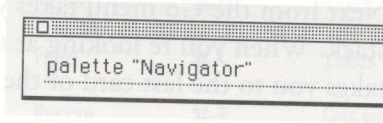


Figure 1-30 Making the Navigator palette appear

The Navigator palette appears. Clicking an icon in the Navigator palette does the same thing as choosing the corresponding command from the Go menu:

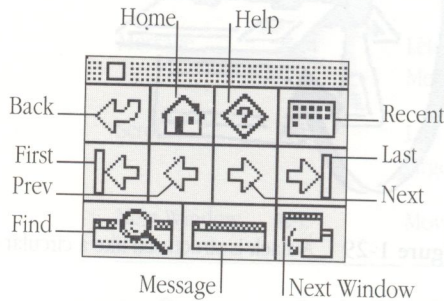


Figure 1-31 The Navigator palette

You can make the Navigator 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 play 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 by holding down the ⌘ and Option keys at the same time. Gray 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:

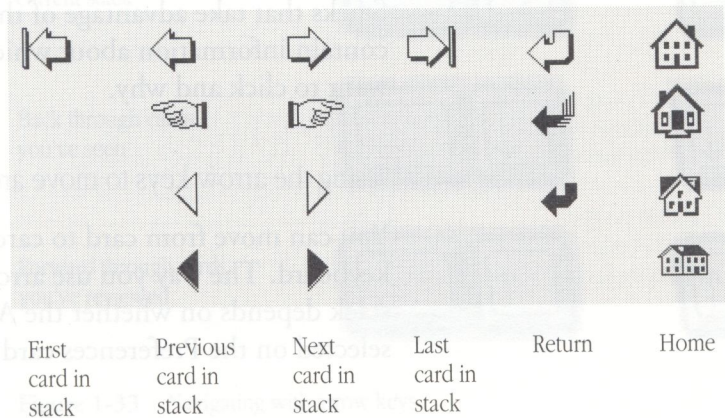


Figure 1-32 Navigating with buttons

- ❖ *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 might click text to see a glossary definition or additional information on a topic, hear a sound, or see something else happen on your screen. 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.

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 Arrow Keys in Text option is selected on the Preferences card in your Home stack.

When the Arrow Keys in Text option is turned off, pressing the arrow keys moves you through cards. However, when Arrow Keys in Text is turned on and the insertion point is blinking in a field or the Message box, you press the Option key along with the arrow keys to move through cards.





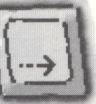







To go . . .	When Arrow Keys in Text is turned on, press	When Arrow Keys in Text is turned off, press
To the previous card in the current stack	 	
To the next card in the current stack	 	
Back through cards you've seen	 	
Forward through cards you've reviewed	 	

Figure 1-33 Navigating with arrow keys

► See also: “The Arrow Keys in Text 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.)

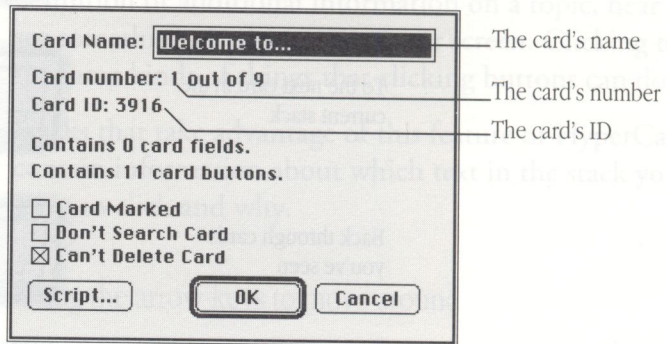


Figure 1-34 The Card Info dialog box

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 \mathbb{A} -M.

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

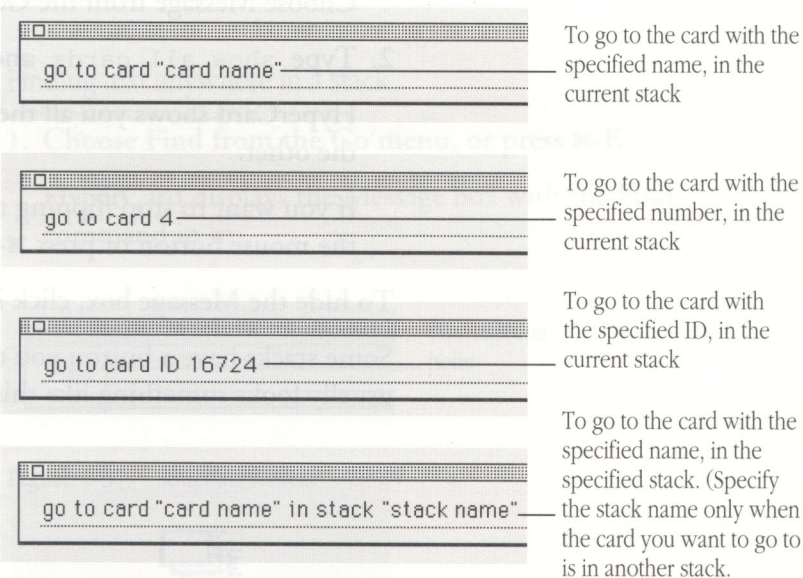


Figure 1-35 Going to a specific card

3. Press Return or Enter.

To hide the Message box, click its close box or press \mathbb{M} -M again.

Seeing all the cards in a stack

You can get a cursory look at a stack by flipping through all of its cards quickly. Follow these steps:

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

Choose Message from the Go menu, or press \mathbb{M} -M.

2. Type show all cards and press Return.

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

If you want to stop flipping through the cards, either press the mouse button or press \mathbb{M} - (\mathbb{M} -period).

To hide the Message box, click its close box or press \mathbb{M} -M again.

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

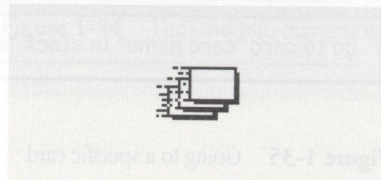


Figure 1-36 A button for flipping through the cards in a stack

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 field.

Finding 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:

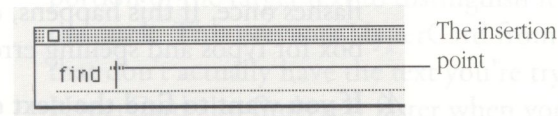


Figure 1-37 Searching for text

2. Type the text you want to find.

Another way to enter text in the Message box is to hold down the ⌘ key while you click on a word. If you hold down the ⌘ key and drag across several words, you can place up to one line of text in the Message box.

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 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, or the menu bar flashes once. 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 background fields that belong to backgrounds for which the Don't Search Background option is selected in the Bkgnd Info dialog box, and all fields on cards that have Don't Search Card 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. This prevents HyperCard from displaying cards that don't actually have the text you're trying to find. HyperCard also finds text faster when you specify the target text in strings of 3 characters (or multiples of 3 characters—for example, 6 or 9 character strings), not counting spaces. ❖

Finding text in a specific field

If you want to search for text only in a specific 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.)

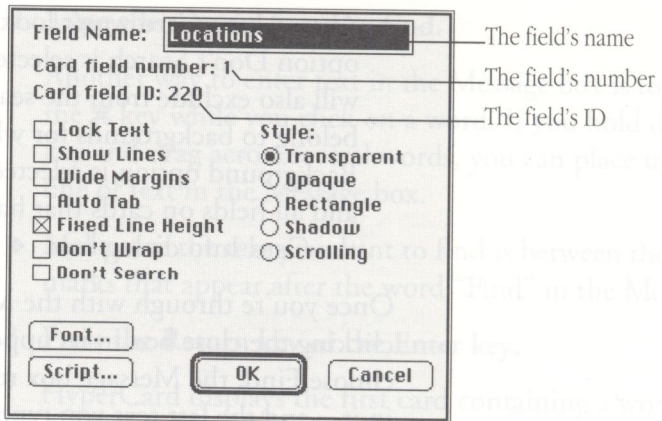


Figure 1-38 Finding out a field's name and number

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.

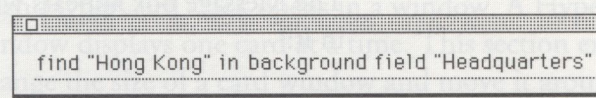


Figure 1-39 Searching for text in a specific field

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 or flashes once. 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 background fields that belong to backgrounds for which the Don't Search Background 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 anywhere in a stack, follow these steps:

1. Press **⌘-Shift-F**.

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

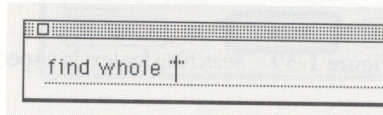


Figure 1-40 Searching for a whole word or phrase

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” on them—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 Reference stack describes other ways to search for text in stacks.

Moving and resizing the card window

Each HyperCard stack opens in a window. A HyperCard window displays one card at a time. This section explains how to change the size of a card window and move it around on the screen.

A HyperCard window is different from a standard Macintosh window in two ways—it has neither scroll bars nor a visible size box. And although each HyperCard window has a title bar, you might not be able to see the title bar.

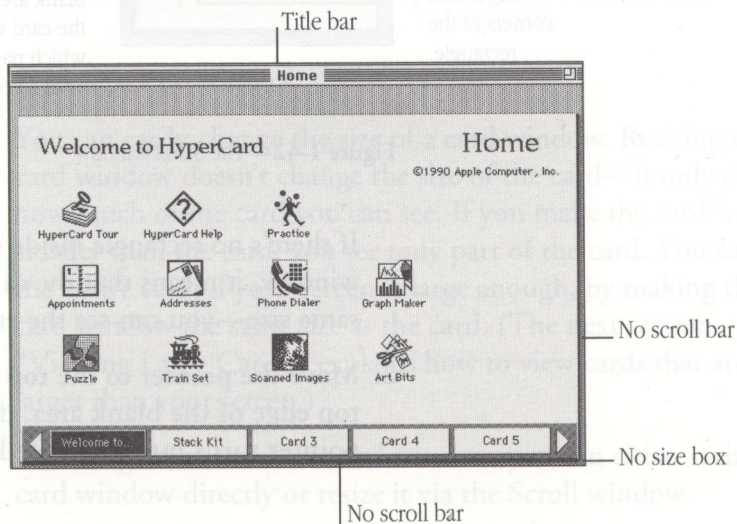


Figure 1-41 How a card window looks when its title bar is visible

Moving a card window

You move a HyperCard window around on the screen the same way you move any Macintosh window—by dragging its title bar. If the title bar isn't visible, you can make it appear by following these steps:

1. **Choose Scroll from the Go menu, or press ⌘-E.**

The Scroll window appears on top of the current card:

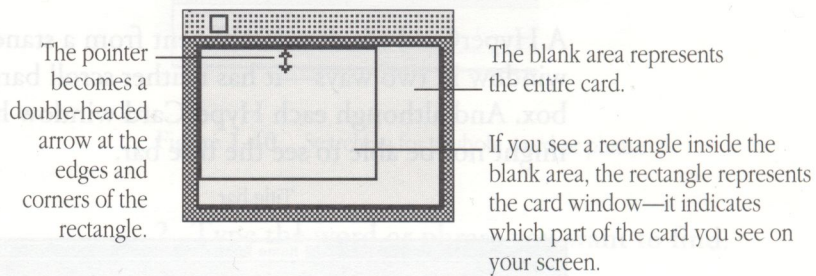
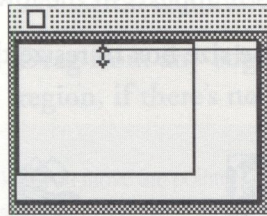


Figure 1-42 The Scroll window

If there's no rectangle inside the blank area of the Scroll window, it means that the card and the card window are the same size—you can see the entire card on your screen.

2. **Move the pointer to the top edge of the rectangle (or to the top edge of the blank area, if there's no rectangle) until the pointer turns into a double-headed arrow.**

3. Drag down from the top edge of the rectangle about one-eighth of an inch.



To make the title bar of the card window appear, drag down from the top edge of the rectangle about one-eighth of an inch.

Figure 1-43 Using the Scroll window to make the title bar appear

If the title bar of the card window still isn't visible after you do this, repeat this step until you can see the title bar.

Resizing a card window

You can easily change the size of a card window. Resizing the card window doesn't change the size of the card—it only changes how much of the card you can see. If you make the card window smaller than the card, you see only part of the card. You can see the entire card, if your screen is large enough, by making the card window the same size as the card. (The next section, "Viewing Large Cards," explains how to view cards that are larger than your screen.)

To change the size of the card window, you can either resize the card window directly or resize it via the Scroll window.

To resize a card window directly, follow these steps:

1. Press \mathbb{A} -Shift-E.

A size box appears in the lower-right corner of the window.

2. Drag the size box to resize the window:

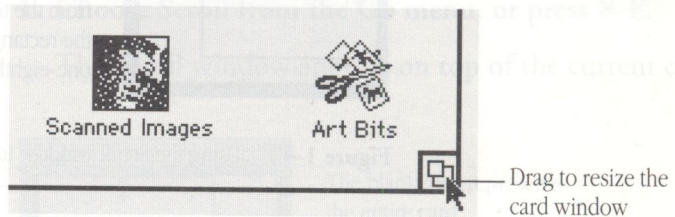


Figure 1-44 Resizing the card window

When you release the mouse button, the size box will disappear unless you press the \mathbb{A} key before releasing the mouse button. If you want to resize the window several times in succession, press and hold the \mathbb{A} key while you drag the size box, until the window is the size you want it.

- ❖ *Note:* You can't make the card window larger than the card itself. ❖

To resize a card window via the Scroll window, follow these steps:

1. Choose Scroll from the Go menu, or press ⌘-E.

The Scroll window appears.

2. Drag from any edge or corner of the rectangle (or the blank region, if there's no rectangle) inside the Scroll window:

When you move the pointer over the edges and corners of the rectangle, it becomes a double-headed arrow. Drag with the double-headed arrow to resize the card window.

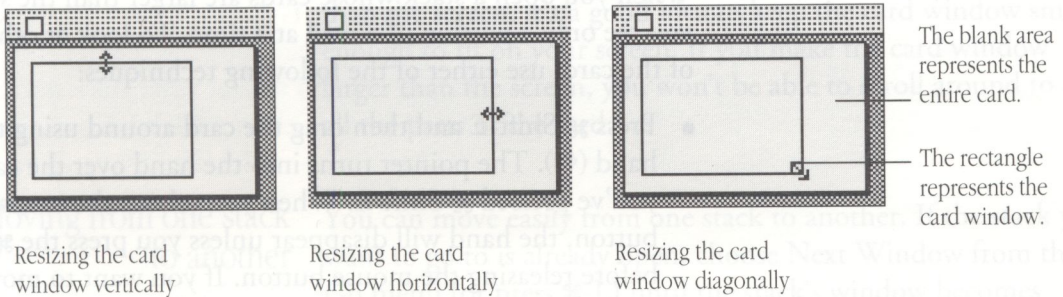


Figure 1-45 Using the Scroll window to resize the card window

When you resize this rectangle, the card window is resized.

To make the card window the same size as the card, you can either double-click inside the Scroll window, or click the zoom box of the card window. (If the card is larger than your screen, these actions make the card window about the same size as the screen.)

- ❖ *Clicking the zoom box:* As with any Macintosh window, you can enlarge (or shrink) the card window by clicking the zoom box in the window's upper-right corner once. If you can't see the zoom box, follow the instructions in the preceding section, "Moving a Card Window," to make the title bar appear (the zoom box is in the title bar). ❖

To hide the Scroll window, click its close box, or press ⌘-E again.

Viewing large cards

When you open a stack whose cards are larger than the screen, you see only a portion of a card at a time. To look at other parts of the card, use either of the following techniques:

- Press ⌘-Shift-E and then drag the card around using the hand (☞). The pointer turns into the hand over the card after you've pressed ⌘-Shift-E. When you release the mouse button, the hand will disappear unless you press the ⌘ key before releasing the mouse button. If you want to move around on the card several times in succession, press and hold the ⌘ key until you're finished.
- Open the Scroll window by choosing Scroll from the Go menu, or pressing ⌘-E. Then use the Scroll window to scroll to other parts of the card:

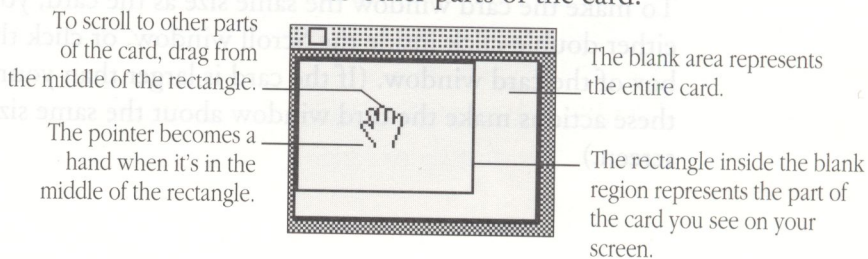


Figure 1-46 Scrolling to see other parts of a large card

❖ *Note:* You can also use either of these techniques to view any card when the window is smaller than the card. ❖

When you scroll to see other parts of the card (using either of the methods just described), you can constrain the scrolling to either horizontal or vertical movement by holding down the Shift key while you drag.

To hide the Scroll window, click its close box or press ⌘-E again.

△ **Important:** When you're using a stack whose cards are larger than the screen, it's a good idea to keep the card window small enough to fit on your screen. If you make the card window larger than the screen, you won't be able to scroll around to see all the parts of the card. △

Moving from one stack to another

You can move easily from one stack to another. If the stack you want to go to is already open, choose Next Window from the Go menu (or press ⌘-L) until the stack's window becomes active—that is, until the window is visible and narrow horizontal lines appear in its title bar (if the title bar is visible).

❖ Or you can simply click in the stack's window, if you can see any part of it.

Whether or not the stack is already open, you can get to it by doing any of the following:

- Choose Message from the Go menu, type `go "stack name"`, and press Return. (Replace *stack name* with the name of the stack).
- Click a button that's linked to the stack (if there is such a button).

- 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 an icon 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 icon and click the icon.

Looking through cards you've seen

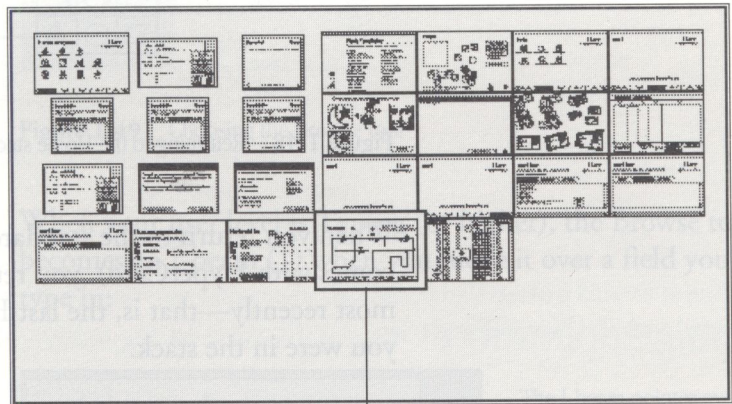
As you go from card to card and stack to stack, HyperCard automatically keeps a record of where you've been. When you want to back up and review the cards you've seen, you can do either of the following:

- Choose Back from the Go menu, or press Tilde (-) or Esc, to go to the last card you saw, 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 viewed, 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 saw. (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 Arrow Keys in Text is selected on your Preferences card).

- Choose Recent from the Go menu to see miniature versions of the cards you've seen most recently—up to the last 42 cards you looked at (as shown in the following figure). A card miniature appears just once, even if you've gone to the card more than once. (If your computer's memory is low, you may only see one card miniature.) Click a miniature to go to the card it represents:

Click any miniature to go to the card it represents.

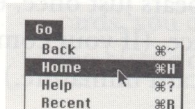


This is the card you were looking at when you chose Recent.

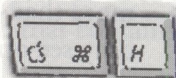
Figure 1-47 Using Recent to go back to cards you've seen

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

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:



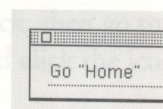
Choose Home from the Go menu.



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 1-48 Returning to the Home stack

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

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. ❖

To type text in fields, you must first choose the Browse tool (⌘) from the Tools menu, if it isn't already selected.

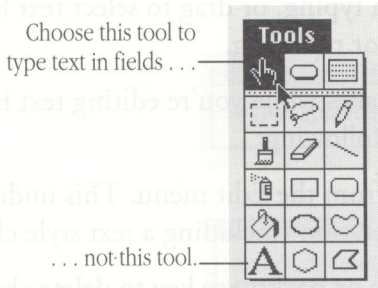


Figure 1-49 Choosing the Browse tool

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:

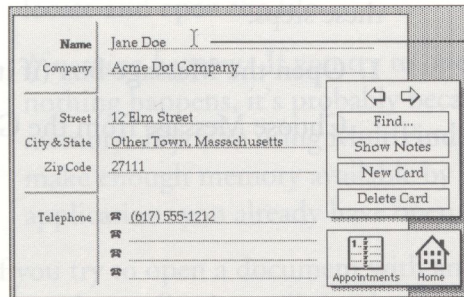


Figure 1-50 The I-beam pointer for typing and editing text

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 Macintosh text—you can click anywhere in the field and begin typing, or drag to select text for copying, moving, deleting, or replacing.

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

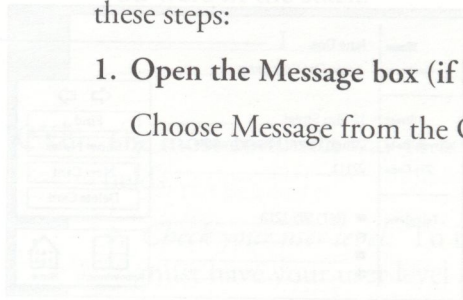
- Choose Undo from the Edit menu. This undoes your last text editing operation (including a text style change).
- Press the Delete or Backspace key to delete characters to the left of the insertion point, one character at a time.
- Drag the I-beam over the incorrect text to select it, and then retype or delete it.

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:

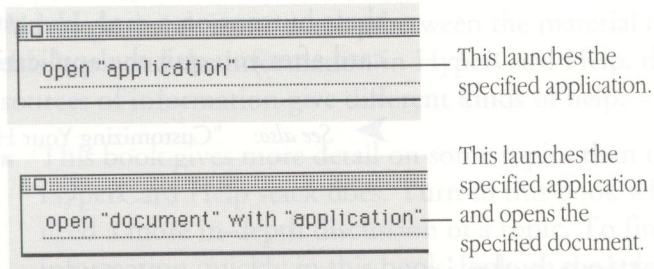


Figure 1-51 Opening an application

3. Press Return or Enter.

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

- ❖ *If nothing happens:* If you try to open an application and nothing happens, it's probably because there's not enough memory. If you're using MultiFinder, you might be able to make enough memory available by quitting one of the other applications you already have open. ❖

If you try to open a document with an application that's already open, the application will simply come to the front, displaying its current document. If you want to open a document other than the current one, you'll have to open it from within the application—it won't open automatically.

When you quit the application you've opened, HyperCard takes you back to the card 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, HyperCard takes you back to the same card 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 Reference stacks. These stacks provide the following types of information:

- HyperCard Help covers HyperCard tasks through the Authoring level.
- HyperTalk Reference 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 \mathbb{H} -?.
- Type `Help` in the Message box and press Return.
- Click the HyperCard Help icon on the Home card called Welcome to HyperCard (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, you can get to the HyperTalk Reference stack easily from HyperCard Help, or you can click the HyperCard Reference button on the Stack Kit card in the standard Home stack.

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

- This book gives more detail on some topics than the HyperCard Help stack does. Turn to this book when you need a more in-depth discussion of a topic. To find information quickly in this book, look up the subject in the index or table of 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.
- ❖ *If you're using HyperCard without a hard disk:* You'll have to do some disk swapping to use the HyperCard Help or HyperTalk Reference stacks. (See the booklet *Using HyperCard Without a Hard Disk* for instructions.) ❖

Using a stack on a file server

If your Macintosh 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 Get 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 are prevented from opening the stack while it's in use.

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 cards 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 stacks 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 (if you're not using MultiFinder), 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.

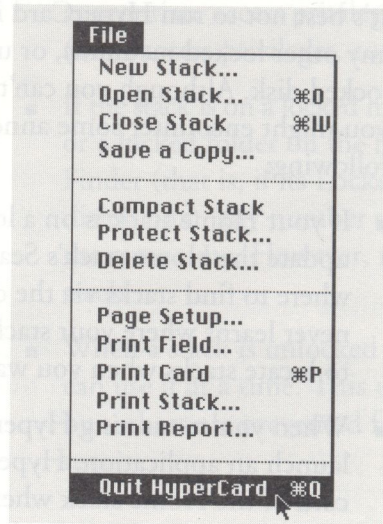


Figure 1-52 Quitting HyperCard

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.

Name	Jane Doe
Company	Acme Dot Company
Street	12 Elm Street
City & State	Other Town, Massachusetts
Zip Code	27111
Telephone	(617) 555-1212

← →

Find...

Show Notes

New Card

Delete Card

📅

🏠

Appointments Home

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

This button takes you to the Home stack.

This button dials the phone number shown to the right.

This button takes you to the Appointments stack.

Figure 2-1 A stack that helps you keep track of phone numbers and addresses

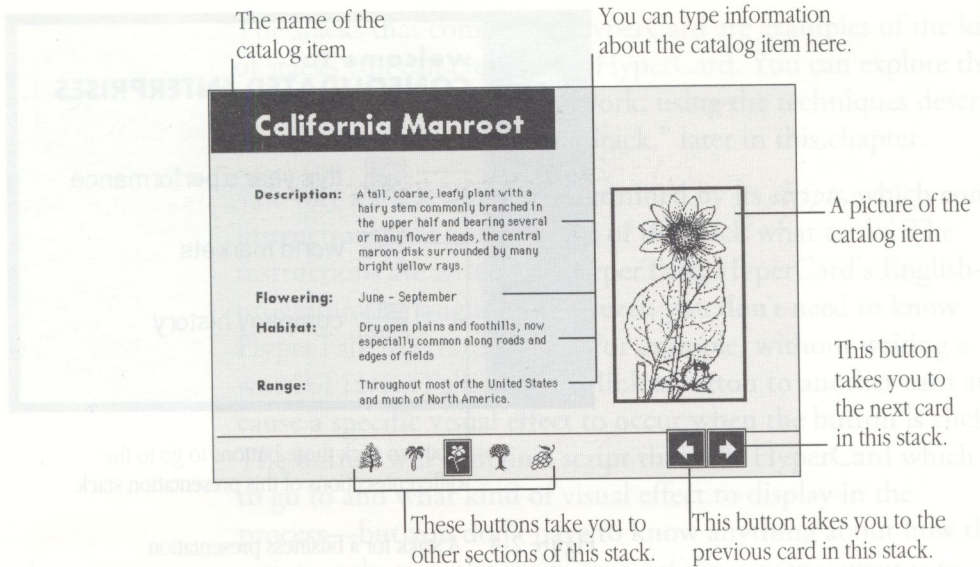


Figure 2-2 A stack that catalogs information about plants

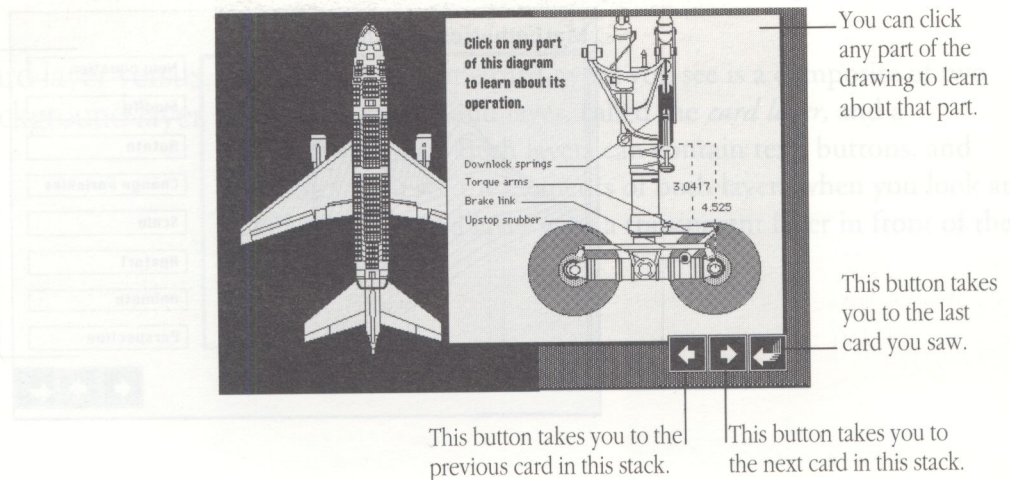
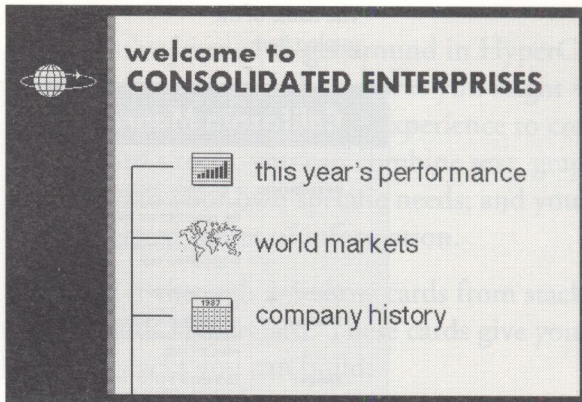


Figure 2-3 A stack that teaches airplane maintenance



You can click these buttons to go to the different sections of this presentation stack.

Figure 2-4 A stack for a business presentation



You can click these buttons to manipulate the mathematical function shown

Figure 2-5 A stack that plots mathematical functions

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, 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, without writing a word of HyperTalk, you can link a button to another card and cause a specific visual effect to occur when the button is clicked. The button will contain a script that tells HyperCard which card to go to and what kind of visual effect to display in the process—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, read 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.

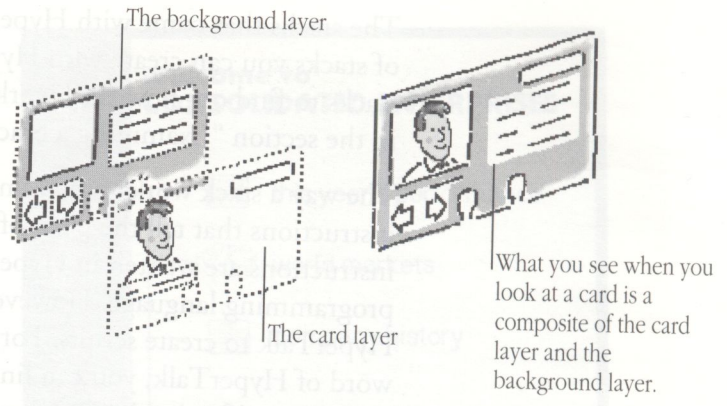
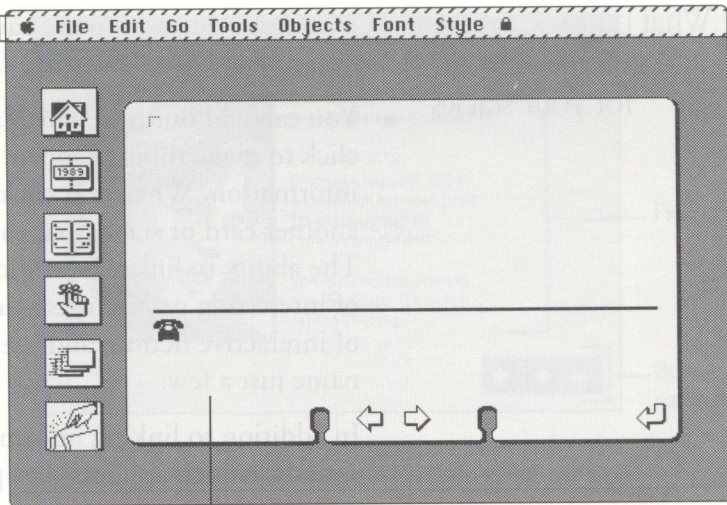


Figure 2-6 The background layer and the card layer

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 \mathbb{A} -B to go to the background layer. (This is equivalent to choosing Background from the Edit menu.) Pressing \mathbb{A} -B repeatedly moves you back and forth between the card layer and the background layer.

When you're in the background layer, the menu bar has diagonal stripes.

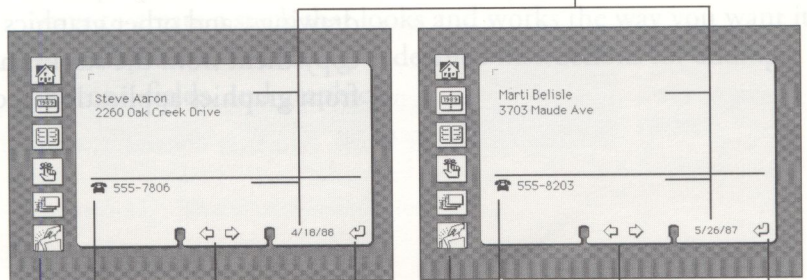


When you're in the background layer, you see just the elements that are in the background—the elements on the card layer disappear temporarily.

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—including stacks that teach, stacks of interactive fiction, and user-controlled presentations, to name just a few.

In addition to linking information, buttons can also play sounds, launch applications, perform calculations, play animated sequences, 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 Macintosh word-processing program. You can also search for specific text in 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.

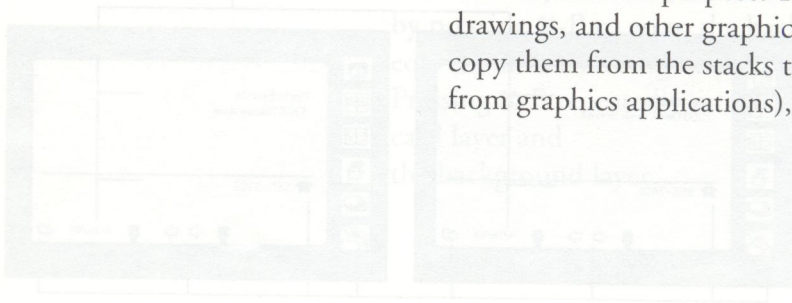


Figure 2-8: Adding text and graphics to stacks



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

HyperCard comes with stacks that contain readymade elements—buttons, fields, and graphics—you can copy and paste into your stacks. The readymade buttons and fields contain pre-programmed scripts that can make your stacks more useful. You don't need to know HyperTalk to make these elements 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.

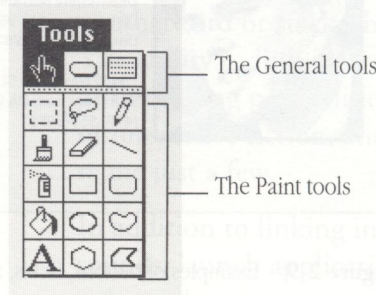


Figure 2-10 HyperCard's tools

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 a Macintosh 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 non-rectangular graphics.



The Pencil draws thin, free-form lines.



The Brush paints with the current pattern.



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



The Line tool draws straight lines.



The Spray tool is for spritzing paint onto the screen in the current pattern.



The Rectangle tool draws rectangles.



The Rounded Rectangle tool draws rectangles with rounded corners.



The Bucket fills enclosed areas and solid black areas with the current pattern.



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.



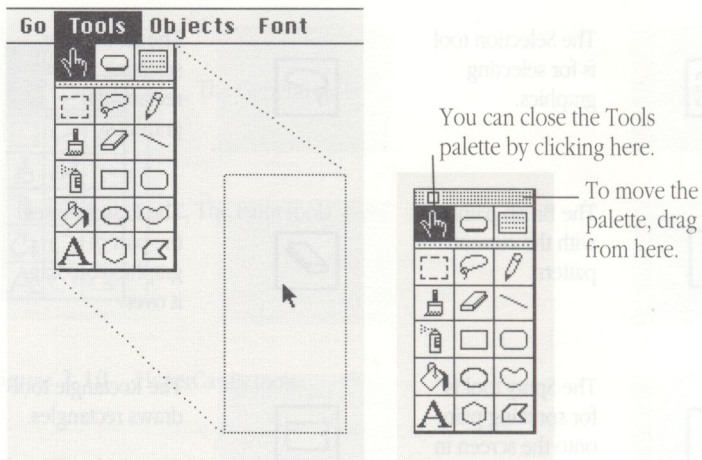
The Regular Polygon tool creates polygons with regular sides.



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.



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.

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 selection. 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, Font, and Style menus disappear while you're using a Paint tool. They reappear (and the Paint, Options, and Patterns menus all go away again) when you choose any of the General tools.

These three menus appear when you have one of the Paint tools selected.

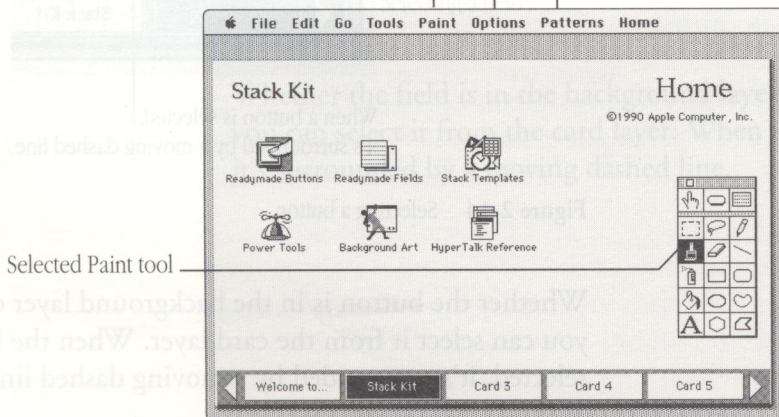


Figure 2-13 Menus that accompany the Paint tools

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:

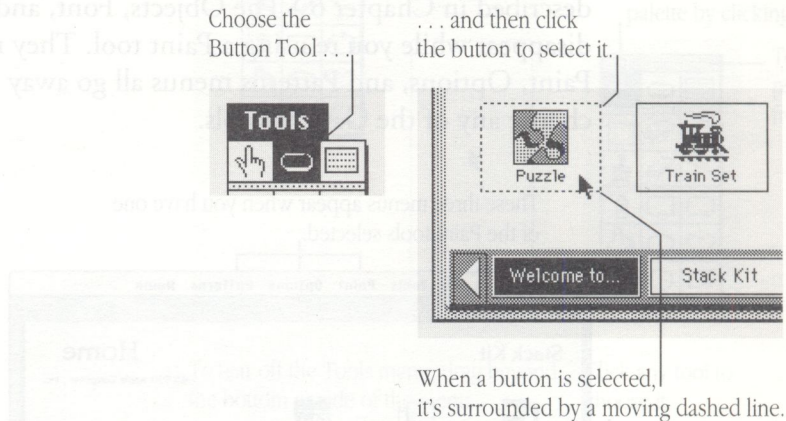


Figure 2-14 Selecting a button

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:

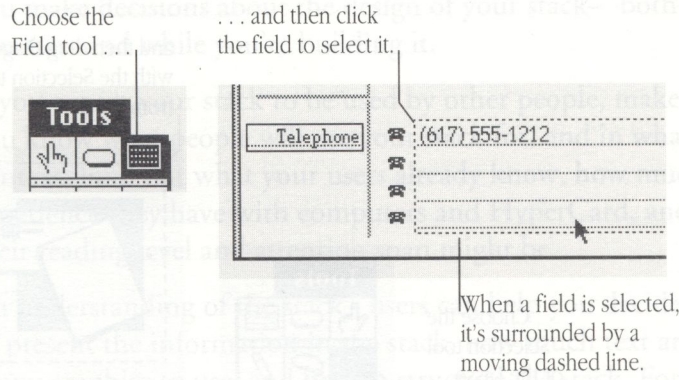


Figure 2-15 Selecting a field

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 (⌘) from the Tools menu and drag to select the graphic:

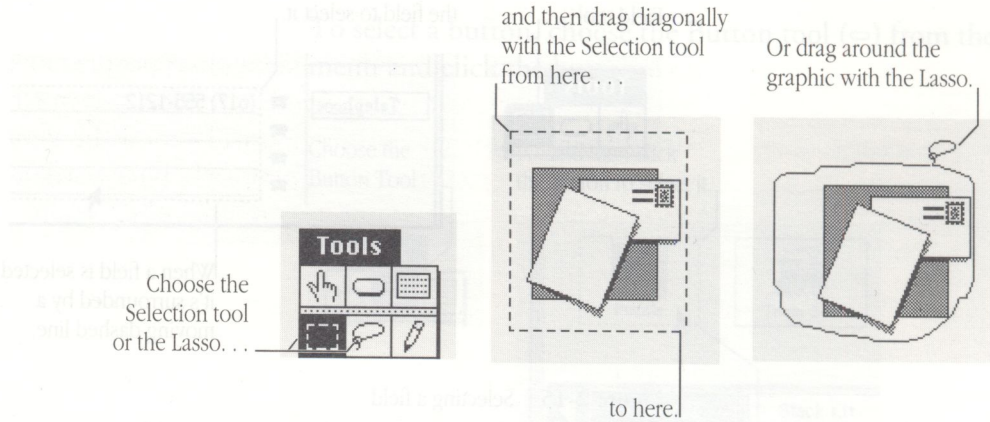


Figure 2-16 Selecting a graphic

► 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 people 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, and an animated movie.

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, 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 Reference stack describes how to set the user level through a script.)

Periodic evaluation and feedback from typical users are important parts of shaping 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, which you can use for gathering preliminary feedback from users. Be prepared to make changes to the stack to fix problems and incorporate ideas that come 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.

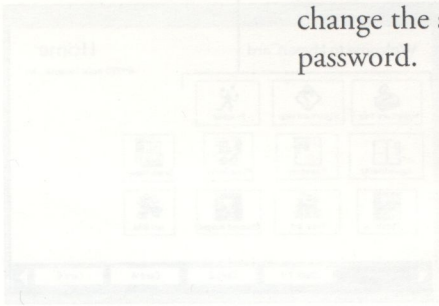
This chapter includes the basic information you need to create and modify stacks. Chapter 3 describes how to create and manipulate cards and backgrounds. Chapters 4, 5, and 6 give details about working with buttons, fields, and graphics, respectively.

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.

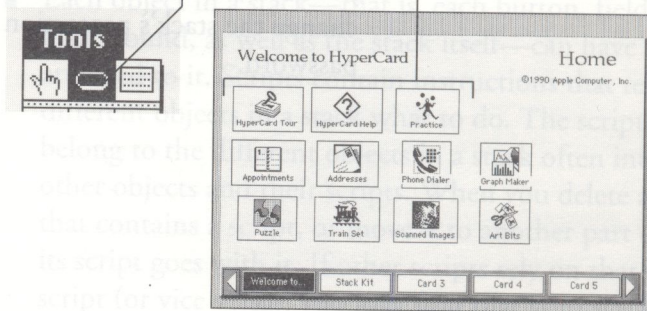


Figure 2-17 Choosing the Button tool

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:

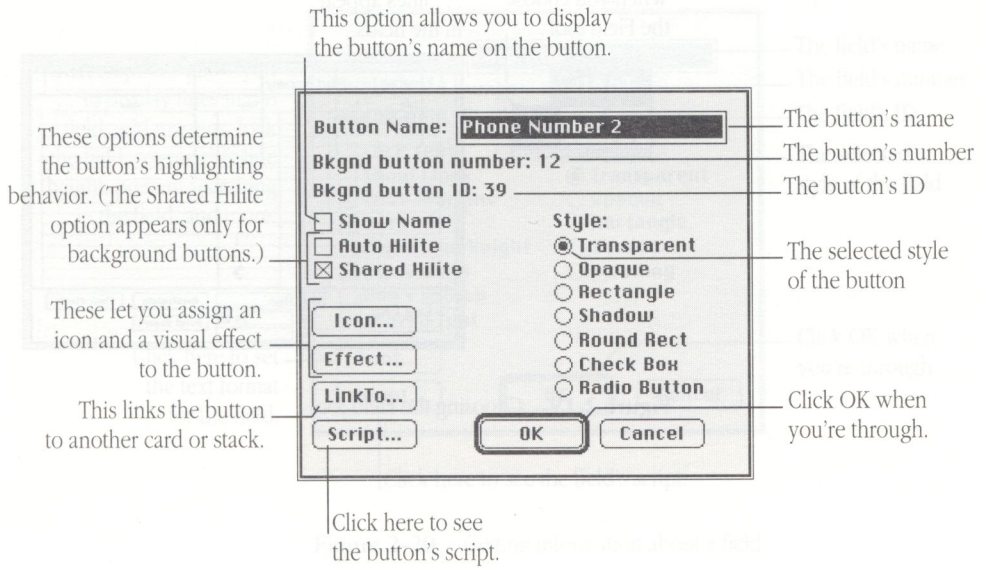


Figure 2-18 Getting information about a button

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 except the scrolling fields:

When you choose the Field tool . . .

. . . lines appear in the fields.

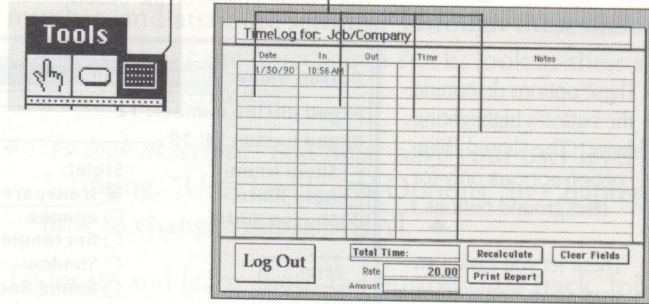


Figure 2-19 Choosing the Field tool

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:

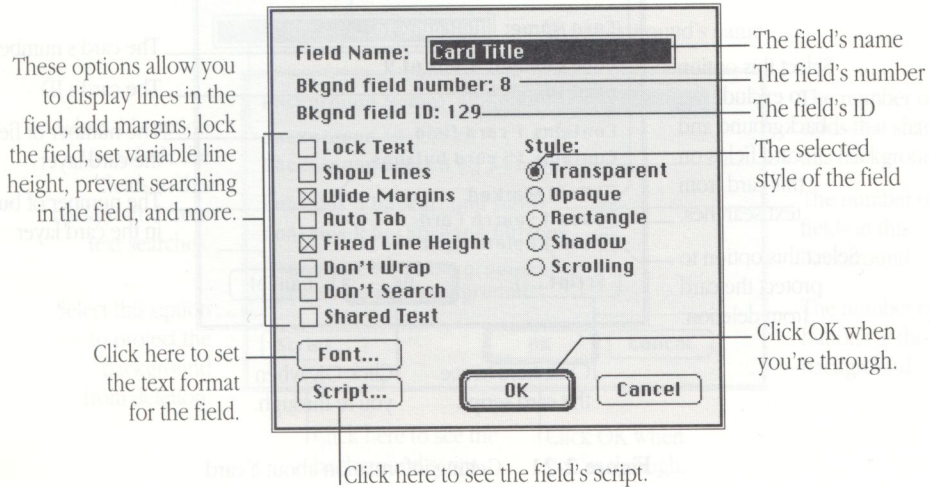


Figure 2-20 Getting information about a field

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

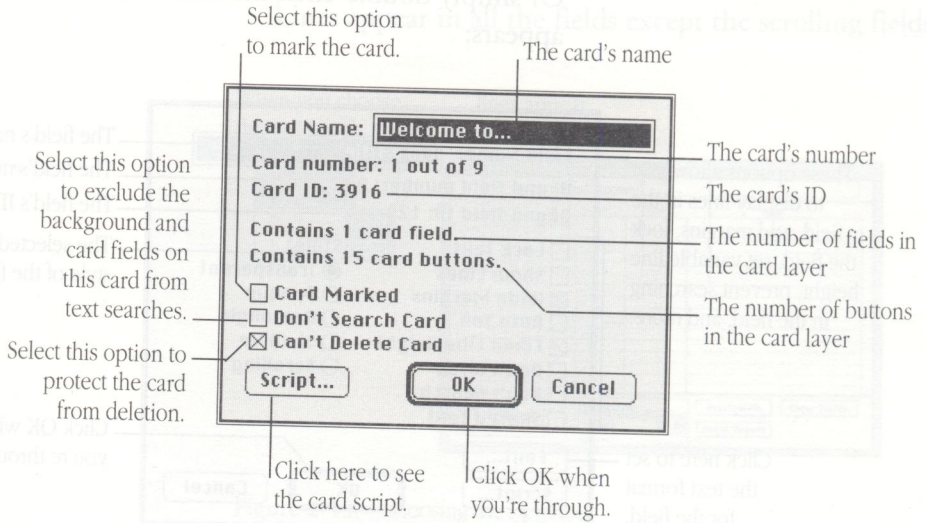


Figure 2-21 Getting information about a card

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:

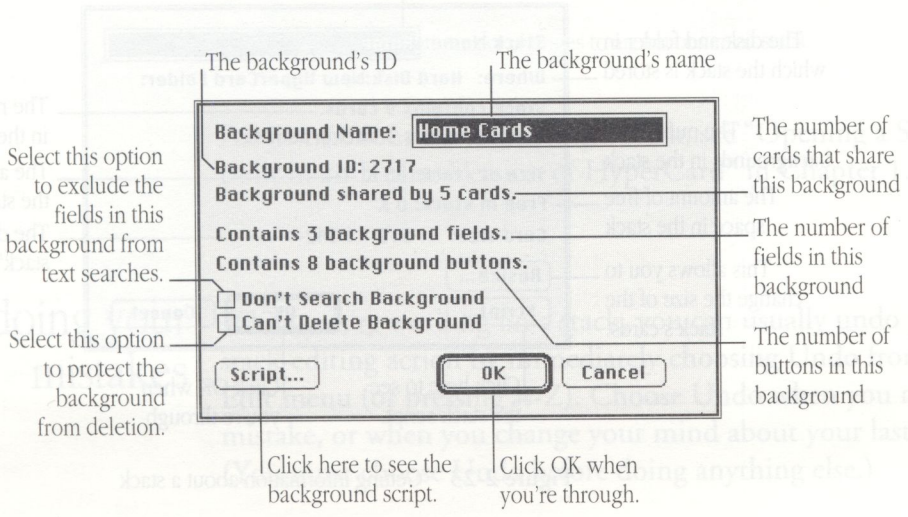


Figure 2-22 Getting information about a background

- Press Delete or ⌘-Backspace 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 press ⌘-Z to undo.

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.)

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

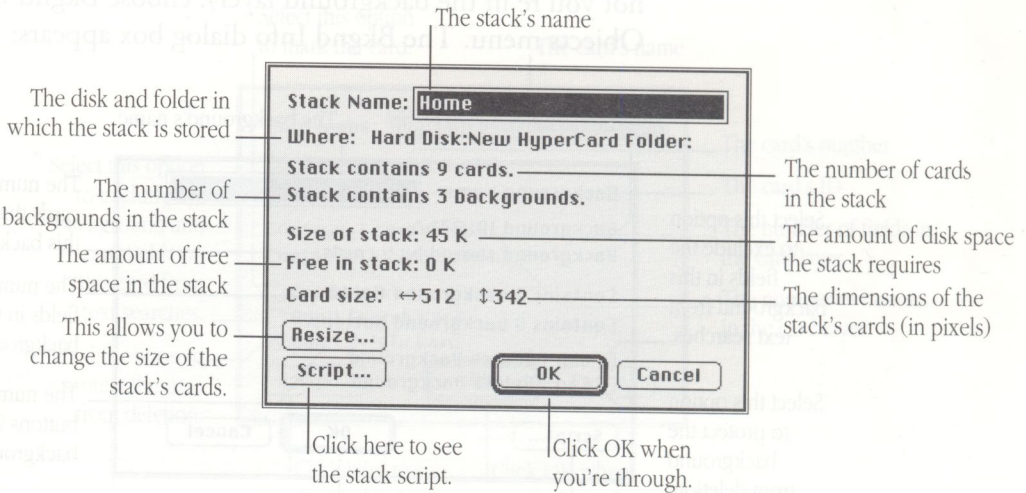


Figure 2-23 Getting information about a stack

Making changes to a stack created with an earlier version of HyperCard

When you open a stack created with a version of HyperCard earlier than 2.0, a small padlock (🔒) appears in the menu bar. You can use such a stack, but you can't make changes to it until you convert it to the new HyperCard file format.

If you try to make any changes to an unconverted stack, the following dialog box appears:

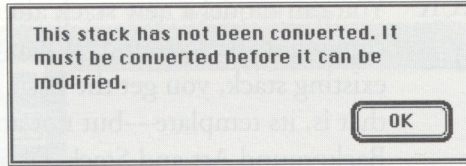


Figure 2-24 Trying to make changes to an unconverted stack

For instructions on converting a stack, see “Opening a Stack Built in an Earlier Version of HyperCard” in Chapter 1.

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, you can do any of the following:

- Choose Undo from the Edit menu. This undoes your last text-editing operation (including a text style change).
- Press Delete or Backspace 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.

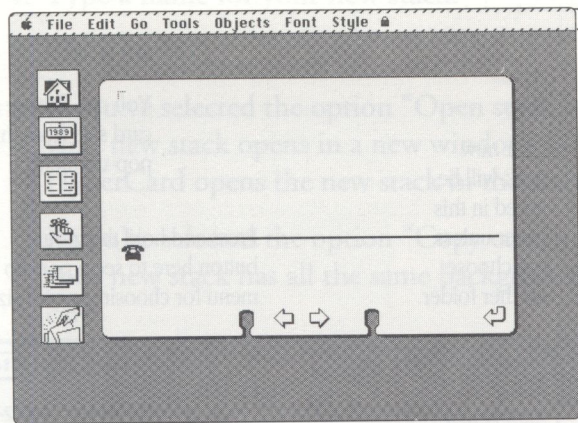
When you’re using one of the Paint tools, pressing the Tilde (~) or Escape key is the same as choosing Undo. (The Paint tools are described in Chapter 6.)

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. The stacks Background Art and Stack Templates, which come with HyperCard, contain some interesting backgrounds you can copy and use in your stacks. 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 stripes in the menu bar?* To make sure you’re looking at the background, check the menu bar. When you’re in the background layer, diagonal stripes appear in the menu bar. ❖



Diagonal stripes tell you that you're looking at the background.

Figure 2-25 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. **Choose from the options in the New Stack dialog box:**

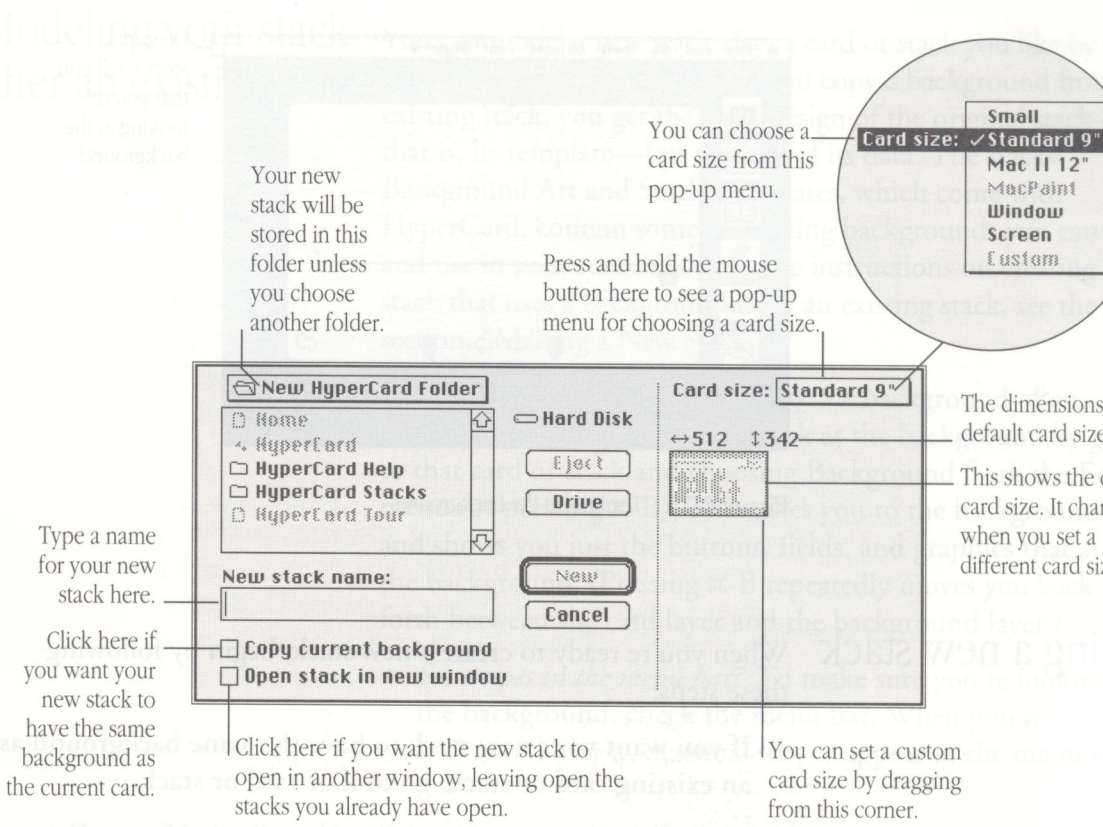


Figure 2-26 Creating a new stack and choosing its card size

△ **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 New.**

If you've selected the option "Open stack in new window," your new stack opens in a new window. Otherwise, HyperCard opens the new stack in the active window.

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.

If you've chosen a card size that's larger than your screen, HyperCard opens the stack in a window that fits on your screen—you see the upper-left part of the first card. For information on working with cards larger than your screen, see "Working With Large Cards" in Chapter 3.

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. Some of the stacks that come with HyperCard (Readymade Buttons, Readymade Fields, Art Bits, Background Art, and Stack Templates) contain readymade parts you can copy and paste in your stacks. These parts are designed to work independently in a variety of stacks—they don't depend on your stack's having any particular characteristics. (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. Otherwise, consider deleting the script (as described next), copying a different object, or creating the object yourself. (The *HyperTalk Beginner's Guide* teaches HyperTalk at an introductory level.)

If you copy a button or a field from another stack and your stack begins acting strangely, it's best to delete the copied object and find or create another one unless you can fix the object's script. (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 and/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 or Backspace 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

Using the Stack Info command, you can 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:

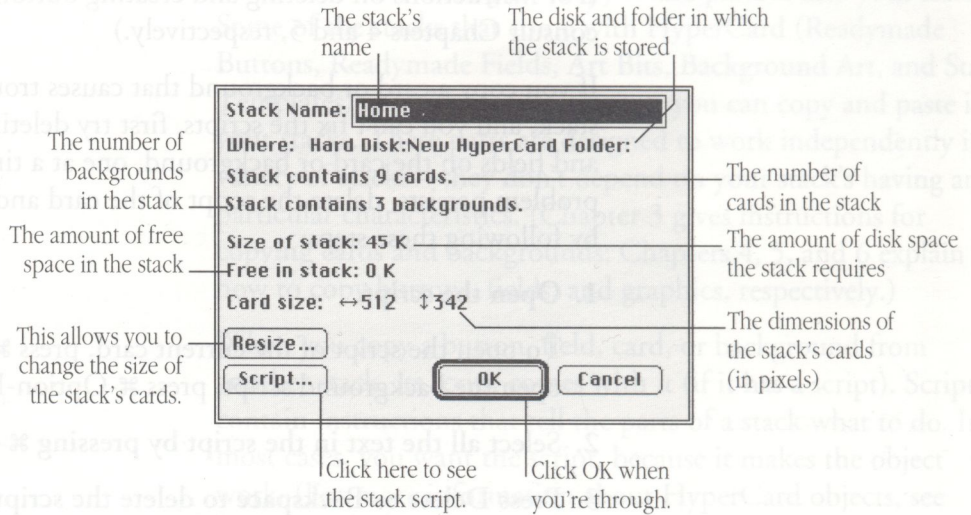


Figure 2-27 Getting information about a stack

3. When you're finished, click OK.

- ❖ *Another way to open the Stack Info dialog box:* If you use one of the Home stacks that come with HyperCard, you can use the following shortcut to open the Stack Info dialog box: While any General tool is selected, press \mathbb{M} -M to open the Message box; then type `s` and press Return. (This shortcut is built into the HyperCard Home stacks.) ❖

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.)

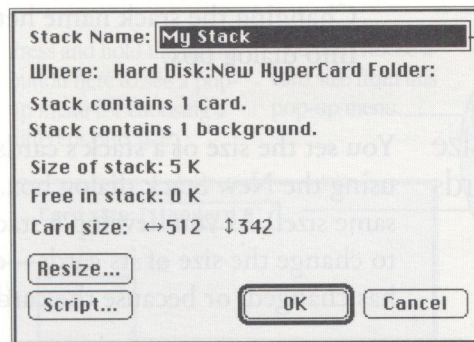
You can change a stack's name at any time. Here's one way:

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.**



Type the stack name here. (This name also appears for the stack in the Finder.)

Figure 2-28 Naming a stack

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.

Changing the size of a stack's cards

You set the size of a stack's cards at the time you create the stack, using the New Stack dialog box. (All the cards in a stack are the same size.) As you develop a stack, you might decide you want to change the size of its cards—either because your design goal has changed, or because the card size is difficult to work with.

It's easy to resize a stack's cards. But you might have to make other changes to the stack to accommodate the new card size. When you change the card size, HyperCard doesn't scale the elements on the cards to accommodate the new card size—if you make the cards smaller, some buttons, fields, and graphics might get cropped. Before you reduce the size of a stack's cards, it's a good idea to reposition or resize the elements first, so that they'll fit on the smaller cards. (Chapters 4, 5, and 6 give instructions for resizing and moving buttons, fields, and graphics.)

△ **Important:** When you reposition background elements, check every card to make sure the card elements don't collide with (or obscure) background elements. △

To resize a stack's cards, 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 Resize.

A dialog box for resizing the cards appears.

4. Choose a new card size:

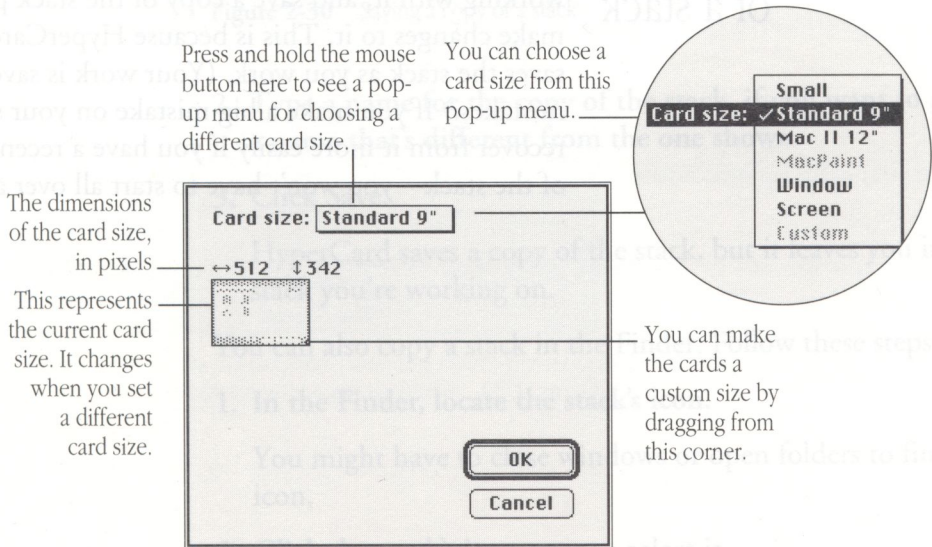


Figure 2-29 Changing the size of a stack's cards

5. Click OK.

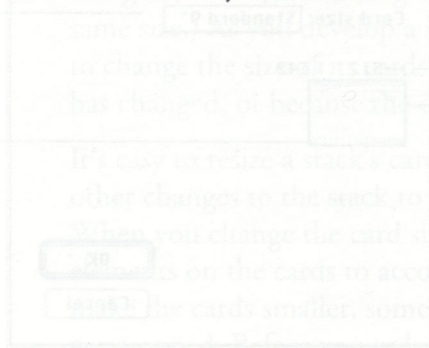
You see your new card size.

If some elements on the card are cropped or have disappeared from view, don't worry—you can restore them by enlarging the card to its former size, using the Resize dialog box (as shown in Figure 2-29).

- ▲ **Warning:** If you reduce the size of your stack's cards and then edit the graphics on a card or background, the graphics that appear on the smaller card permanently replace the graphics that were on the larger card. You can't get the larger graphics back. ▲

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:

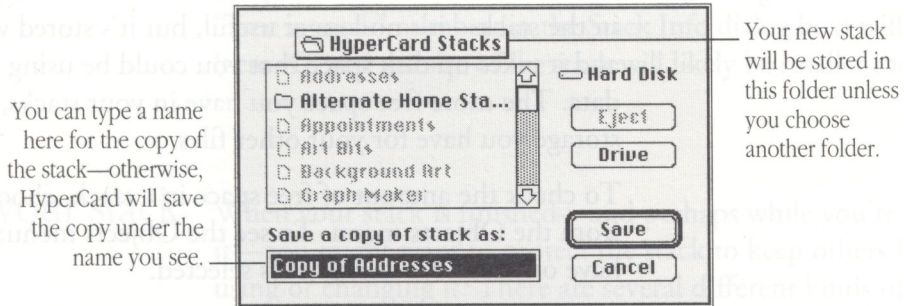


Figure 2-30 Saving a copy of a stack

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.

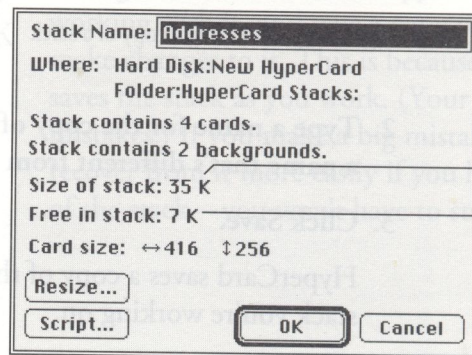
2. Click the stack's icon once to select it.
3. Choose **Duplicate** from the **File** menu, or press **⌘-D**.

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)

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, you must have one of the General tools selected. (When you're working in a stack created with an earlier version of HyperCard, the Compact Stack command is replaced by Convert Stack.)

When you choose Stack Info after compacting the stack, the "Free in stack" number (in the Stack Info dialog box) will be 0 K (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 the way people use and change a stack.
- You can limit access to a stack's protection settings (so that no one else can change them).
- You can prevent users from "peeking" at the buttons and fields in a stack.
- You can prevent users from stopping scripts that are running.

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.**

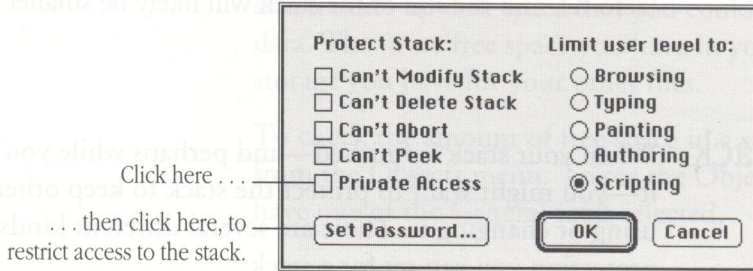


Figure 2-32 Setting protection for a stack

3. **Click Set Password.**

The dialog box for setting a password appears.

4. Enter a password.

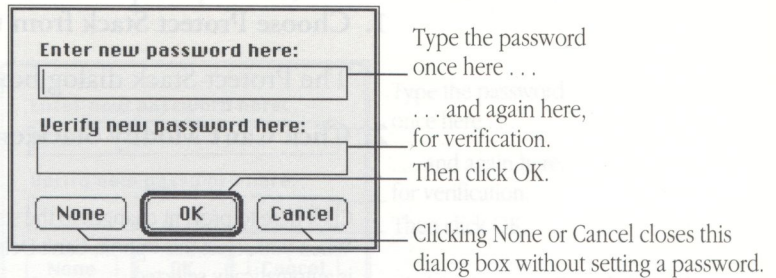


Figure 2-33 Setting a password for a stack

5. Click OK.

The password protection you set for a stack doesn't take effect until you restart HyperCard.

- ▲ **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

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. When you select this option, **Can't Delete Stack** is automatically selected.

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

Protect Stack:	Limit user level to:
<input type="checkbox"/> Can't Modify Stack	<input type="radio"/> Browsing
<input type="checkbox"/> Can't Delete Stack	<input type="radio"/> Typing
<input type="checkbox"/> Can't Abort	<input type="radio"/> Painting
<input type="checkbox"/> Can't Peek	<input type="radio"/> Authoring
<input type="checkbox"/> Private Access	<input checked="" type="radio"/> Scripting

Buttons: Set Password..., OK, Cancel

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 delete the stack or make any changes to it. (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.)

You see the dialog box for setting a password.

4. Enter a password.

(This step is optional.)

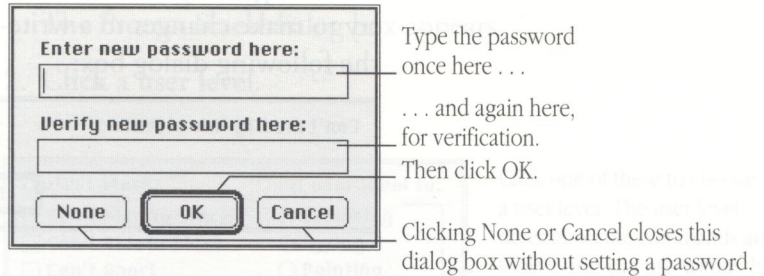


Figure 2-35 Setting a password

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 write-protected 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 write-protected stack, you might see the following dialog box:

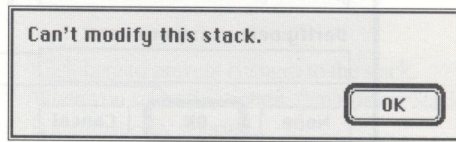


Figure 2-36 Trying to make changes to a protected stack

HyperCard automatically selects the Can't Modify Stack check box when the stack is on a write-protected 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 Get 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. ▲

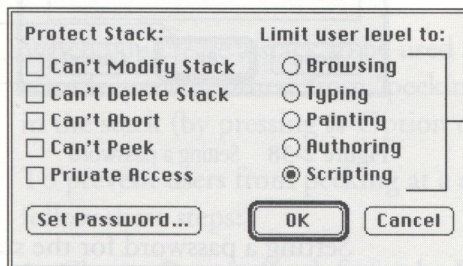
Limiting the user level

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 a user can use within the current stack. When this user level is different from the user level set in the user's 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.)

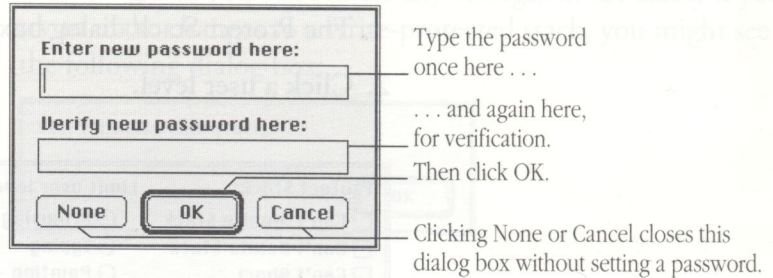


Figure 2-38 Setting a password

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 "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.

△ **Important:** When the user level is set to Browsing or Typing, (either in the Protect Stack dialog box or on the 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. △

Preventing users from peeking at buttons and fields

When you create a stack to be used by many people, you might want to prevent others from “peeking” at the buttons and fields in the stack (by pressing ⌘-Option or ⌘-Shift-Option).

To prevent users from peeking at a stack's buttons and fields, follow these steps:

1. Choose Protect Stack from the File menu.

The Protect Stack dialog box appears.

2. Click the Can't Peek check box to select it:

Click here to prevent users from peeking at the buttons and fields in the stack.

Protect Stack:	Limit user level to:
<input type="checkbox"/> Can't Modify Stack	<input type="radio"/> Browsing
<input type="checkbox"/> Can't Delete Stack	<input type="radio"/> Typing
<input type="checkbox"/> Can't Abort	<input type="radio"/> Painting
<input checked="" type="checkbox"/> Can't Peek	<input type="radio"/> Authoring
<input type="checkbox"/> Private Access	<input checked="" type="radio"/> Scripting
<input type="button" value="Set Password..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

Figure 2-39 Preventing users from peeking at buttons and fields

3. Click OK.

Preventing users from stopping scripts

When you're displaying a stack in a public location—for example, a “kiosk” or advertising stack, or a demonstration stack—you might want to prevent others from stopping the stack's scripts with ⌘-. (⌘-period).

To prevent interruption of a stack's scripts, follow these steps:

1. Choose Protect Stack from the File menu.

The Protect Stack dialog box appears.

2. Click the Can't Abort check box to select it:

Click here to prevent users from stopping any scripts that are running in the stack.

Protect Stack:	Limit user level to:
<input type="checkbox"/> Can't Modify Stack	<input type="radio"/> Browsing
<input type="checkbox"/> Can't Delete Stack	<input type="radio"/> Typing
<input type="checkbox"/> Can't Abort	<input type="radio"/> Painting
<input type="checkbox"/> Can't Peek	<input type="radio"/> Authoring
<input type="checkbox"/> Private Access	<input checked="" type="radio"/> Scripting

Set Password... OK Cancel

Figure 2-40 Protecting a stack from interruption

3. Click OK.

Once this option is turned on, it remains in effect only until you leave the stack (that is, until you close the stack or open or activate another stack) or quit HyperCard. The next time you open the stack, you need to repeat this procedure if you want Can't Abort turned on.

Removing a password

Any password you set in the Protect Stack dialog box remains in effect for the stack until you explicitly remove it, as explained in the following 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:**

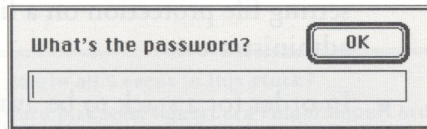


Figure 2-41 Entering a password to open the Protect Stack dialog box

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:**

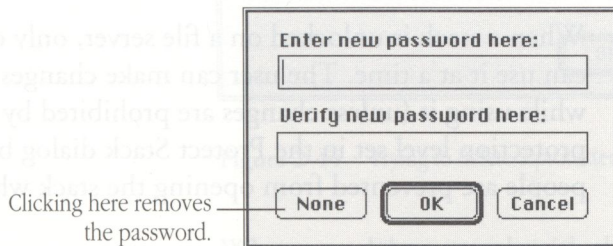


Figure 2-42 Removing a password

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. In addition, you should 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.
- In order 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 Get 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 are prevented from opening 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 available only when one of the General tools is selected, and when your user level is Painting, Authoring, or Scripting.) Unless the stack is protected from deletion, you see a dialog box like the following:

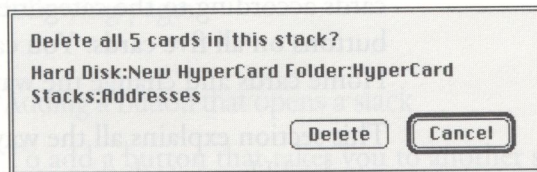


Figure 2-43 Confirmation dialog box for deleting a stack

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

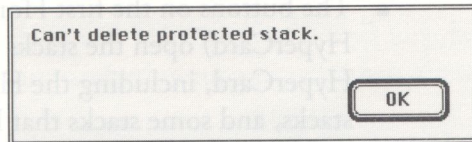


Figure 2-44 Trying to delete a protected stack

When you delete a stack with the Delete Stack command, it's as though you dragged the stack to the Trash in the Finder. If you delete the only open stack, 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 Macintosh—a launching pad for the applications, utilities, documents, and stacks you use regularly.

You can organize your Home cards however you want. 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, and describes the alternate Home stacks.

Adding buttons to your Home cards

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

- The buttons on the first Home card (called Welcome to HyperCard) open the stacks that introduce you to HyperCard, including the HyperCard Help stack, two game stacks, and some stacks that help you with various office tasks.
- The buttons on the second Home card (called Stack Kit) open stacks that contain readymade parts and the HyperTalk Reference stack.

As you become more comfortable with HyperCard, you can make these two 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 three 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. Choose **New Link to Stack** from the **Home** menu.

A directory dialog box appears:

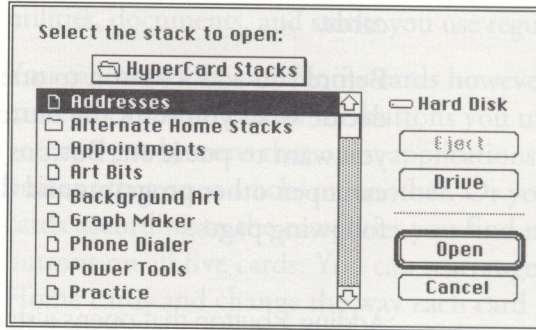


Figure 2-45 Selecting a stack for your button to open

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 will open the specified stack in a new window, if you have enough memory. Otherwise, it opens the stack in the current window.

► *See also:* “Changing the Appearance of a Button” in Chapter 4

Adding a button that opens an application program

To add a button that opens an application program, follow these steps:

1. Go to the Home card on which you want to place the button.
2. Choose New Link to Application from the Home menu.

A directory dialog box appears:

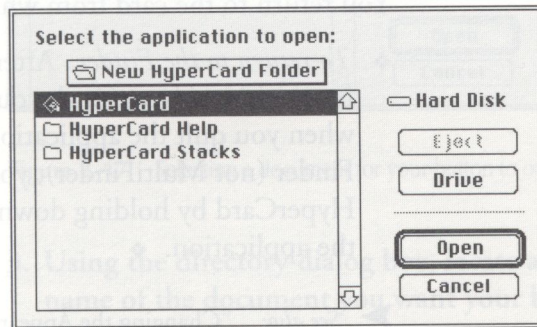


Figure 2-46 Selecting an application for your button to open

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

A flashing button for the selected application 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 linked application with a blank document.

If the application doesn't open when you click the button, it's probably because there's not enough memory. If you're using MultiFinder, you might be able to make enough memory available by quitting one of the other applications you already have open.

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

- ❖ *To return to the Finder:* After you've launched a program from within HyperCard, you normally return to HyperCard when you quit the application. However, if you're using the Finder (not MultiFinder), you can go to the Finder instead of HyperCard by holding down the Option key while you quit the application. ❖

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

Adding a button that opens a document

To add a button that opens a document, follow these steps:

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

2. Choose **New Link to Document** from the **Home** menu.

A directory dialog box appears:

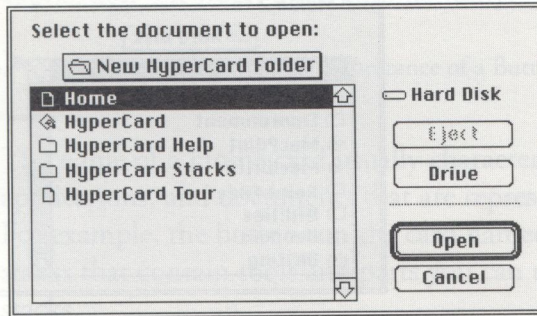


Figure 2-47 Selecting a document for your button to open

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

Be sure you choose a document and not an application. Otherwise, your button won't work.

The following directory dialog box appears:

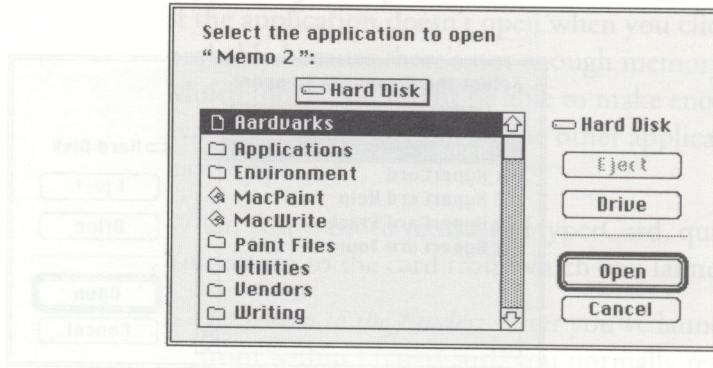


Figure 2-48 Selecting the application to open the document

4. In the directory dialog box, locate and double-click the name of the application with which you want to open the document.

A flashing button for the document appears on the current card.

5. 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.

- ❖ *If nothing happens:* If you click a button to open an application or a document and nothing happens, it's probably because there's not enough memory. If you're using MultiFinder, you might be able to make enough memory available by quitting one of the other applications you already have open. ❖

If you try to open a document with an application that's already open, the application will simply come to the front, displaying its current document. If you want to open a document other than the current one, you'll have to open it from within the application—it won't open automatically.

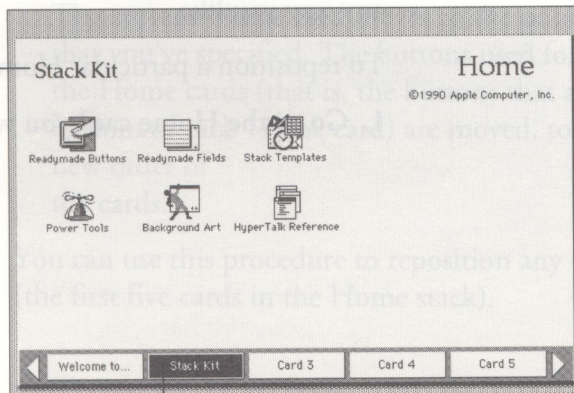
► See also: "Changing the Appearance of a Button" in Chapter 4

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 Stack Kit open stacks that contain tools and parts you can use for building new stacks.

You can rename any of the Home cards at any time. When you rename a Home card, you automatically change both the name that appears in 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 2-49 The name of a Home card appears in the upper-left corner of the card

Follow these steps to rename a Home card:

1. Choose Rename This Card from the Home menu.

The following dialog box appears:

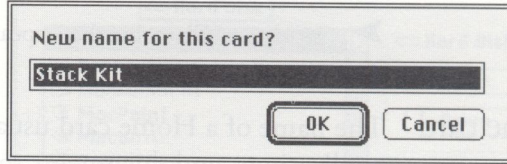


Figure 2-50 Renaming a Home card

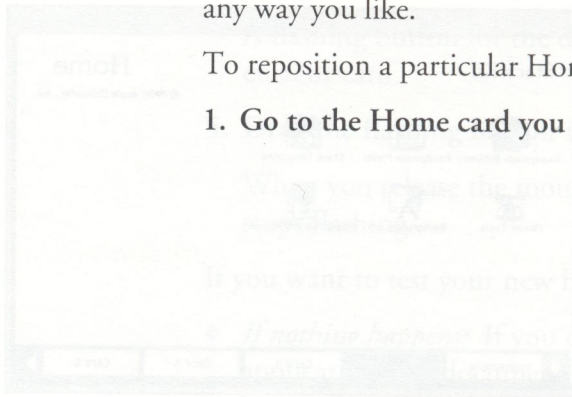
2. Type a new name for the card and click OK.

Reordering the Home cards

The first card of the Home stack is the first card you see when you launch HyperCard. You can easily make any of the Home cards the first card in the stack, or reorder the Home cards in any way you like.

To reposition a particular Home card, follow these steps:

1. Go to the Home card you want to reposition.



2. Choose Reorder Cards from the Home menu.

A dialog box like this appears:

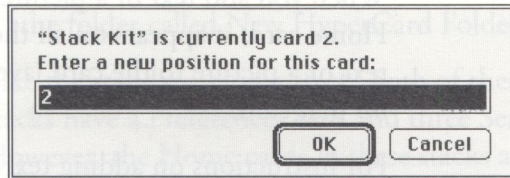


Figure 2-51 Repositioning a Home card

3. Type the number of the new position in the stack you want the card to occupy.

For example, if you want the card to be the first card in the stack, type 1.

4. Click OK.

The current Home card moves to the position in the stack that you've specified. The buttons used for moving between the Home cards (that is, the buttons that appear at the bottom of each Home card) are moved, too, to reflect the new order of the cards.

You can use this procedure to reposition any of the Home cards (the first five cards in the Home stack).

Figure 2-53 The Home stack after repositioning

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 another Home stack

Besides the standard Home stack, there are also two alternate Home stacks that come with HyperCard. They come in separate folders that are inside the Alternate Home Stacks folder.

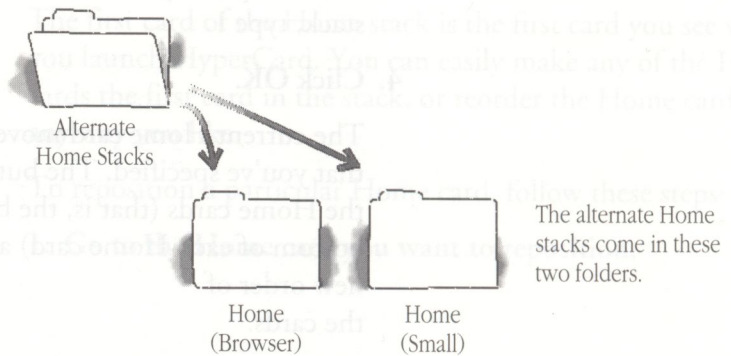


Figure 2-52 Where you'll find the alternate Home stacks

- ❖ *If you have a hard disk:* If you've run the Installer to install HyperCard—and you haven't rearranged your HyperCard files since installation—you'll find the Alternate Home Stacks folder inside your HyperCard Stacks folder (which is inside the folder called New HyperCard Folder). ❖

Like the standard Home stack, both of these alternate Home stacks have a Preferences card and three Search Paths cards. However, the Home cards in these stacks are different. They're shown in Figures 2-53 and 2-54.

Use the Add and Delete buttons to add more stacks, applications, and documents to these lists. (The Add buttons work like the New Link commands in the Home menu of the standard Home stack.)

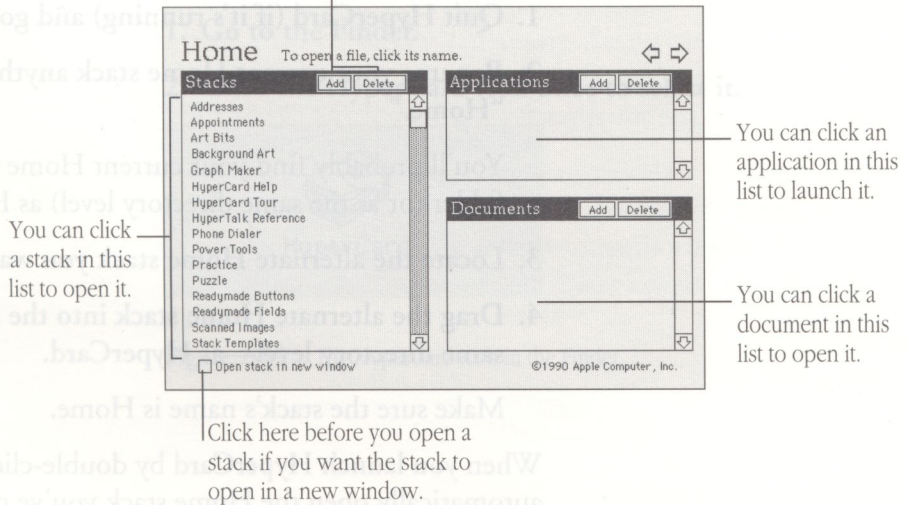
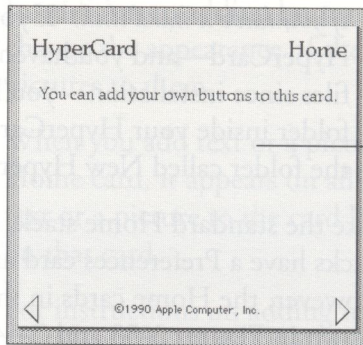


Figure 2-53 The browser-style Home card



This is a Home stack with small cards. It comes with one blank Home card, a Preferences card, and three Search Paths cards. You can use the Home menu to create buttons for the Home card that are linked to stacks, applications, and documents.

Figure 2-54 The small Home card

If you want to use one of the alternate Home stacks instead of the standard Home stack, follow these steps:

1. Quit HyperCard (if it's running) and go to the Finder.
2. Rename your current Home stack anything other than "Home."

You'll probably find your current Home stack in the same folder (or at the same directory level) as HyperCard.

3. Locate the alternate Home stack you want to use.
4. Drag the alternate Home stack into the same folder—or the same directory level—as HyperCard.

Make sure the stack's name is Home.

When you launch HyperCard by double-clicking it, it will automatically open the Home stack you've put in its folder (or directory level).

In addition to the alternate Home stacks that come with HyperCard, there are Home stacks developed outside of Apple that work with HyperCard. For information on how to obtain other Home stacks, contact your Apple dealer or a local Macintosh user group. (The Preface tells how you can find a local Macintosh user group.)

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 Macintosh.

To use the Home stack as your control center, you simply tell your computer to launch HyperCard at startup time. Follow these steps:

1. **Go to the Finder.**
2. **Click the HyperCard icon once to select it.**



Figure 2-55 The HyperCard icon in the Finder

3. Choose Set Startup from the Special menu.

The following dialog box appears:

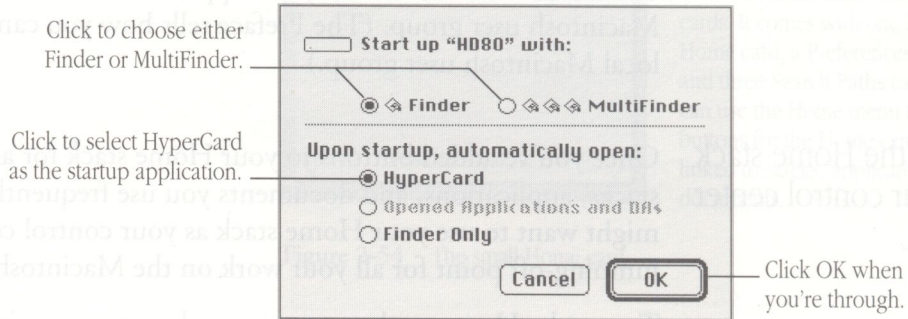


Figure 2-56 Making HyperCard the startup application

4. 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. (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.)

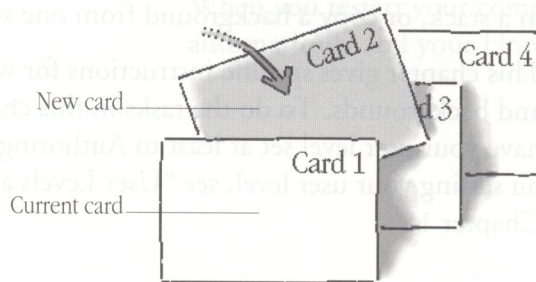


Figure 3-1 Adding a new card to a stack

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 \mathbb{A} -4 or \mathbb{A} -Right Arrow).

2. Choose New Card from the Edit menu, or press \mathbb{A} -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.

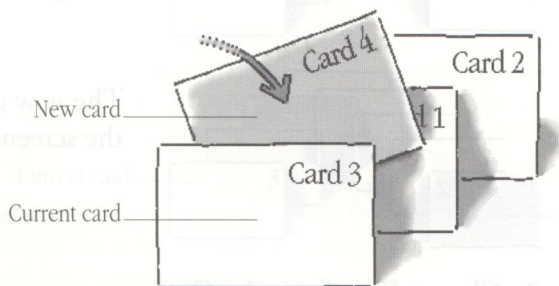
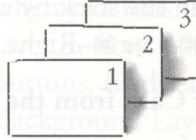


Figure 3-2 Adding a new card at the end of a stack

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

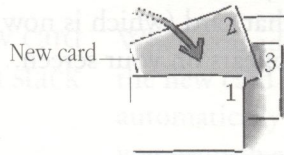
If you want to create a new card as the first card in the stack, follow these steps:

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

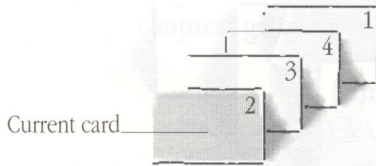


The first card in the stack appears on the screen.

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

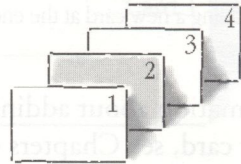


The new card is added after the first card and has the same background as the first card.



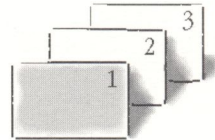
The new card appears on the screen.

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



The first card in the stack appears on the screen again.

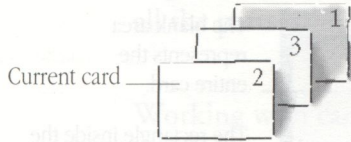
4. Choose Cut Card from the Edit menu.



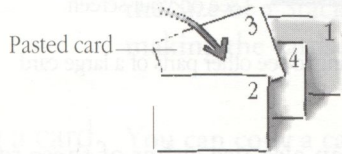
This removes the first card in the stack and puts a copy of it onto the Clipboard. (The card that was second in the stack is now first.)

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:

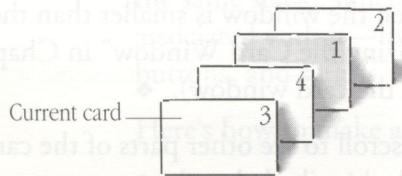
1. Go to the card you want the cut card to follow.



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



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



The Pasted Card appears on the screen.

Working with large cards

When you're working with a stack whose cards are larger than the screen, you can see only a portion of a card at a time. To look at other parts of a card that is larger than the screen, you can use either of the following techniques:

- Press ⌘-Shift-E and then drag the card around using the hand pointer (☞). The pointer turns into the hand over the card after you've pressed ⌘-Shift-E. When you release the mouse button, the hand will disappear unless you press the ⌘ key before releasing the mouse button. If you want to move around the card several times in succession, press and hold the ⌘ key until you're finished.

- Open the Scroll window by choosing Scroll from the Go menu, or pressing ⌘-E. Then use the Scroll window to scroll to other parts of the card:

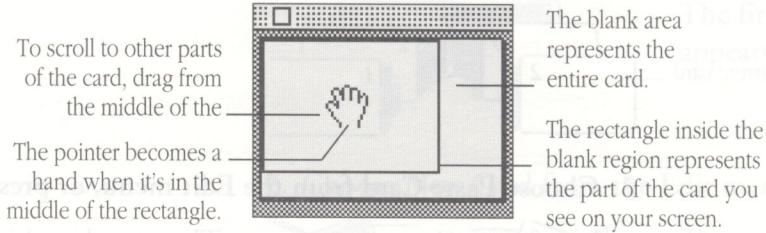


Figure 3-3 Scrolling to see other parts of a large card

- ❖ *Note:* You can also use either of these techniques to view any card when the window is smaller than the card. (“Moving and Resizing the Card Window” in Chapter 1 explains how to resize the card window). ❖

When you scroll to see other parts of the card (using either of the methods described above), you can constrain the scrolling to either horizontal or vertical movement by holding down the Shift key while you drag.

To hide the Scroll window, click its close box or press ⌘-E again.

△ **Important:** When you're working with a stack whose cards are larger than the screen, it's a good idea to keep the card window small enough to fit on the screen. If you make the card window larger than the screen, you won't be able to scroll around to see all the parts of the card. △

Working with cards larger than your screen can be difficult, since you can't see the whole card at once. If you decide you'd rather work with cards that are easier to manage, see "Changing the Size of a Stack's Cards" in Chapter 2 for instructions on making the cards smaller.

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.

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 Stack" in Chapter 2 discusses this problem.

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.

If you've copied the card from a stack whose cards are a different size, HyperCard resizes the card so that it's the same size as the other cards in the current stack.

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've moved the card from a stack whose cards are a different size, HyperCard resizes the card so that it's the same size as the other cards in the current stack.

- △ **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 (\mathcal{H}), the Button tool (\ominus), or the Field tool (■) will work.

2. Choose Card Info from the Objects menu.

The following dialog box appears:

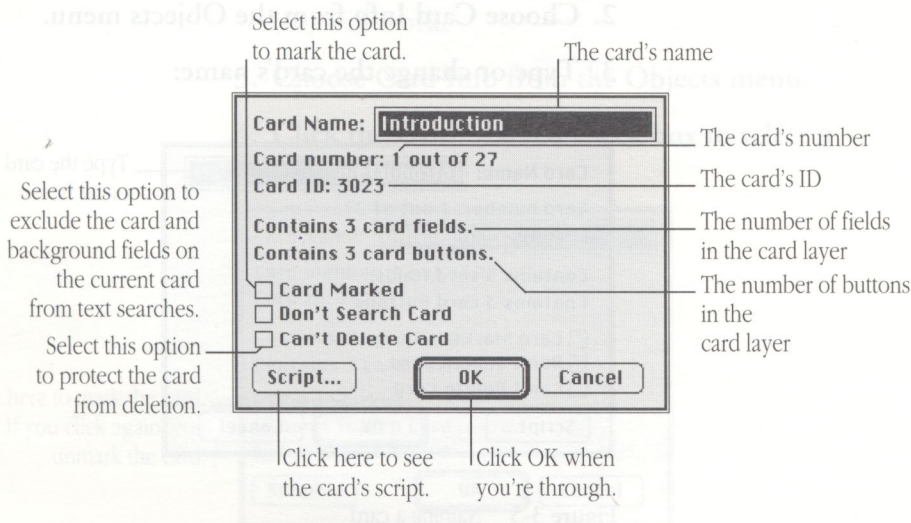


Figure 3-4 Getting information about a card

3. When you're finished, click OK.

- ❖ *Another way to open the Card Info dialog box:* If you use one of the Home stacks that come with HyperCard, you can use the following shortcut to open the Card Info dialog box: While any General tool is selected, press \mathcal{H} -M to open the Message box; then type c and press Return. (This shortcut is built into the HyperCard Home stacks.) ❖

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:**

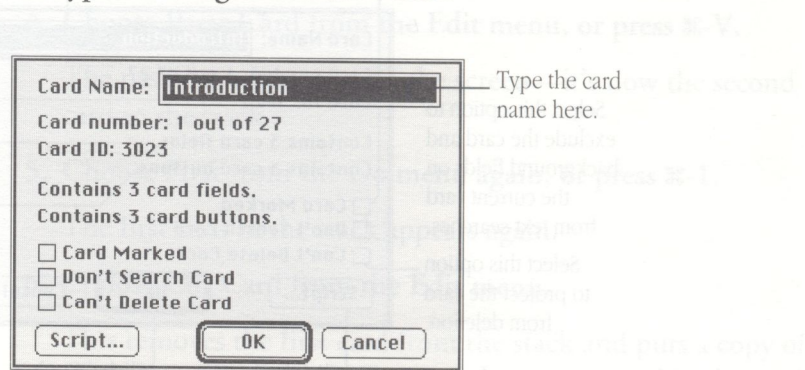


Figure 3-5 Naming a card

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." △

Marking a card

You can mark specific cards in a stack and perform operations on them as a group—for example, you can print all the marked cards, scan all the marked cards, or go from one marked card to the next. (You can mark any of the cards in a stack, whether or not they're adjacent to one another.)

Here's one way to mark a card:

1. Go to the card you want to mark.
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 Card Marked check box to select it:

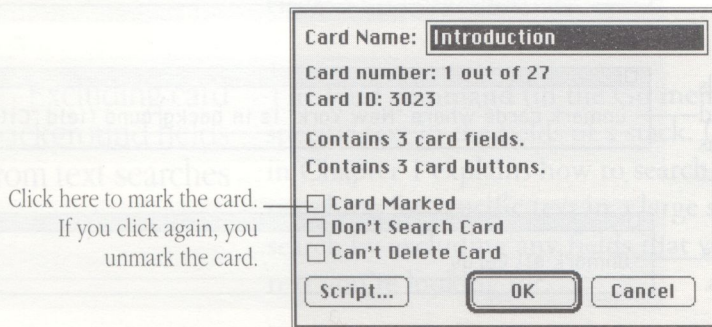


Figure 3-6 Marking a card

5. Click OK.

If you want to unmark a card, simply click Card Marked to deselect it (as shown in Figure 3-6).

3. Choose Card Info from the Objects menu.

You can also mark and unmark cards by typing in the Message box. Here's how:

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 text and the field name, number, or ID you want to use in your criteria for marking cards:

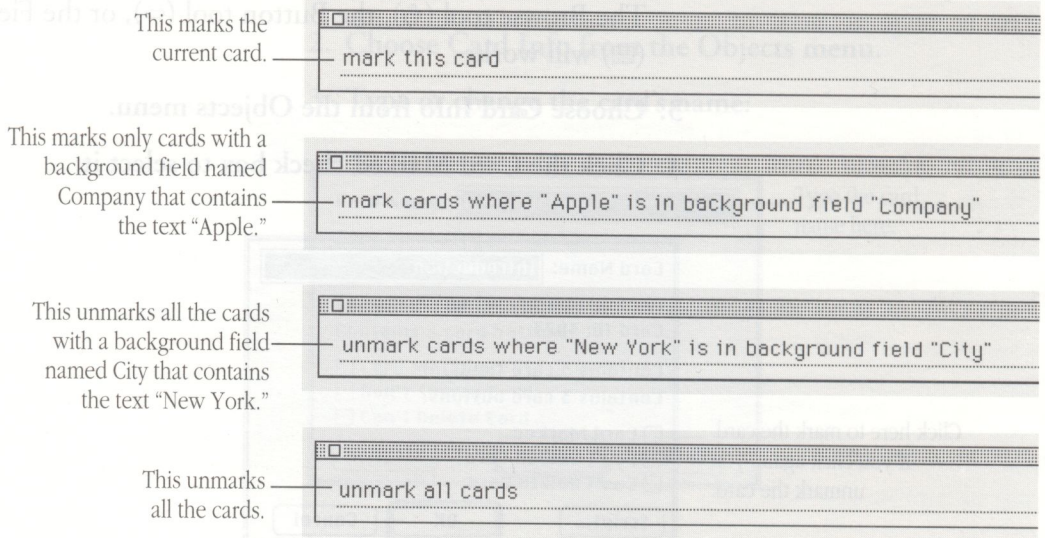


Figure 3-7 Marking and unmarking cards via the Message box

3. Press Return or Enter.

Once you have a set of cards marked, you can perform operations on them by typing messages like the following in the Message box:

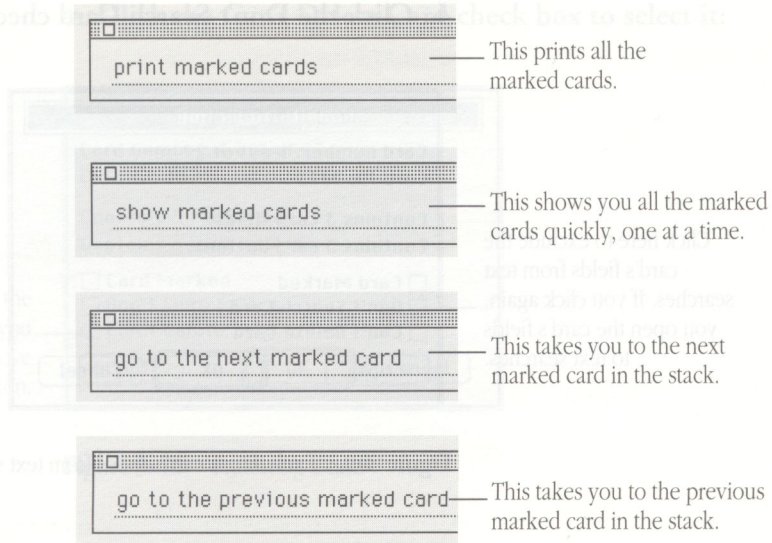


Figure 3-8 Using marked cards

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 fields 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 Card 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.

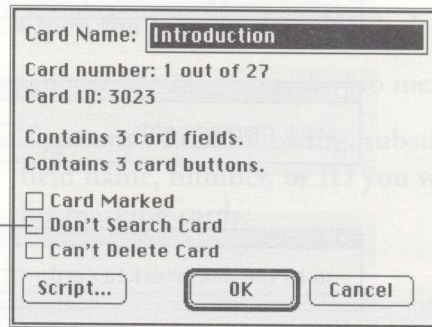


Figure 3-9 Excluding a card's fields from text searches

5. Click OK.

When you want to allow HyperCard to search in the card's fields again, click Don't Search Card to deselect it (as shown in Figure 3-9).

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 Card check box to select it:

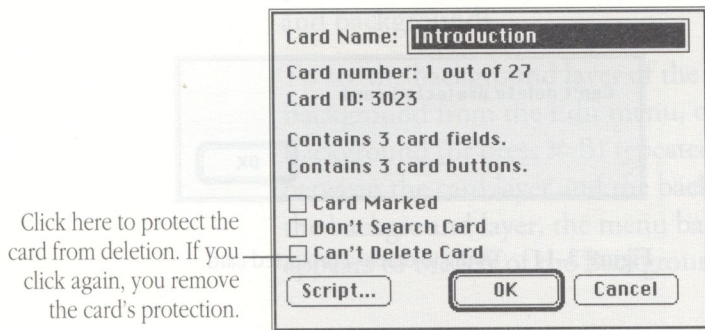


Figure 3-10 Protecting a card

5. Click OK.

You can't remove the card from the stack while the Can't Delete Card 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 Card again in the Card Info dialog box to deselect it (as shown in Figure 3-10).

Deleting a card

To remove the current card from the stack, choose Delete Card from the Edit menu (or press ⌘-Delete or ⌘-Backspace). 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:

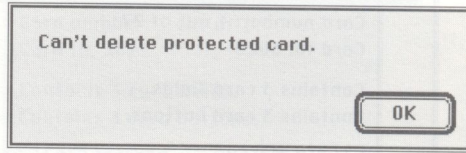


Figure 3-11 Trying to delete a protected card

The previous section, “Protecting a Card,” 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 menu bar is striped, and a check mark appears to the left of the Background command in the Edit menu:

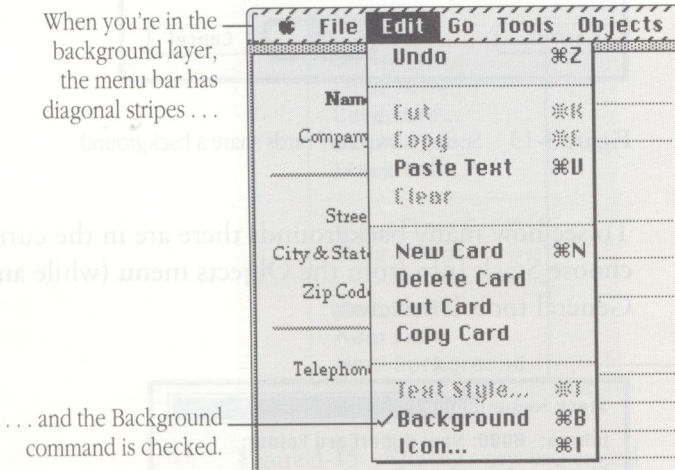
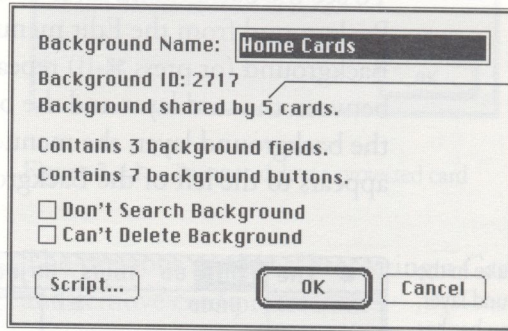


Figure 3-12 The menu bar is striped while you're working in a background

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

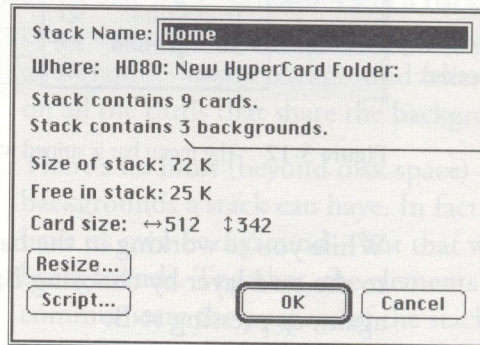
You can find out how many cards share the current background by choosing Bkgnd Info from the Objects menu (while any of the General tools is selected):



This number tells you how many cards in the stack share the current background.

Figure 3-13 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):



This number tells you how many backgrounds are in the current stack.

Figure 3-14 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**.

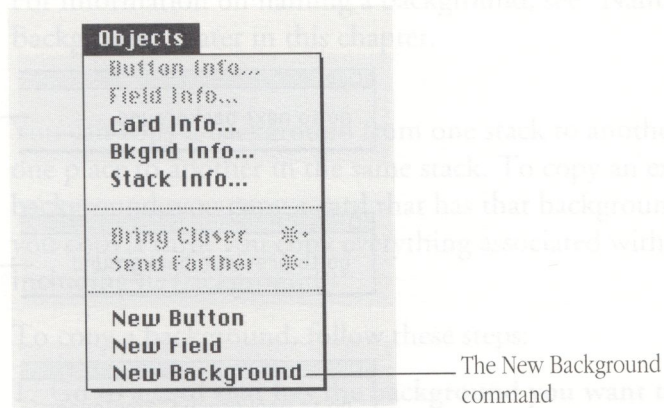


Figure 3-15 Creating a new background

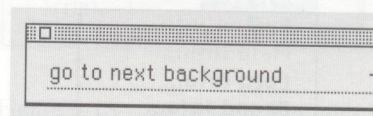
For information about adding buttons, fields, and graphics to your new background, see Chapters 4, 5, and 6, respectively.

Moving between backgrounds

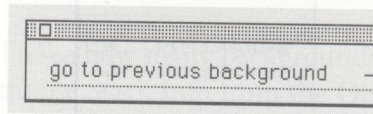
While you're working with a stack that has more than one background, it's useful to be able to move between the backgrounds quickly. This can help you keep an eye on the developing stack, and it makes stack building faster and easier.

When you're in a stack that has more than one background, you can move between the different backgrounds by following these steps:

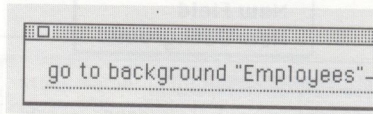
1. Open the Message box.
2. Type any of the following:



— This takes you to the first card of the next background in the stack.



— This takes you to the first card of the previous background in the stack.



— This takes you to the first card of the background named Employees, if there is such a background.

Figure 3-16 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:

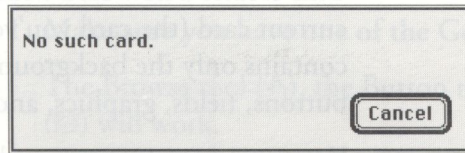


Figure 3-17 When HyperCard can't find a background

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:

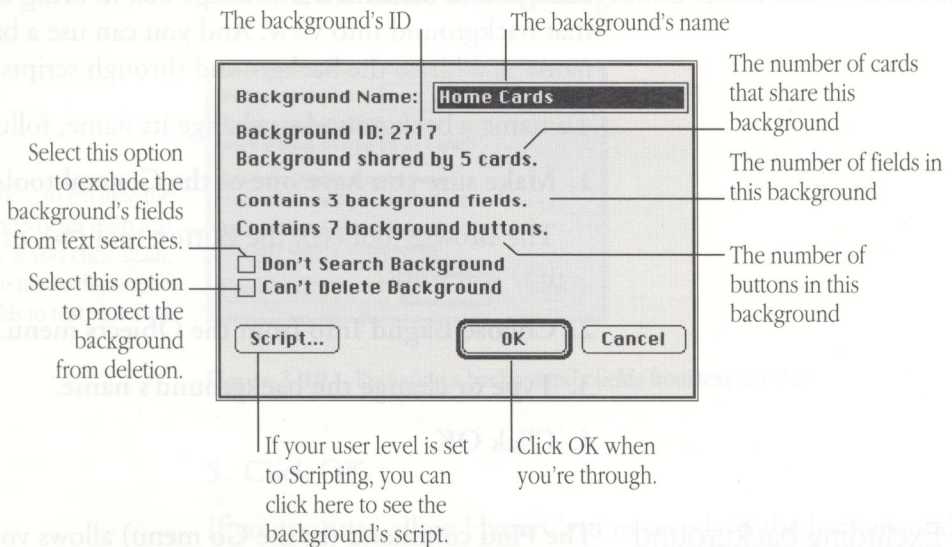


Figure 3-18 Getting information about a background

3. When you're finished, click OK.




- ❖ *Another way to open the Bkgnd Info dialog box:* If you use one of the Home stacks that come with HyperCard, you can use the following shortcut to open the Bkgnd Info dialog box: 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 HyperCard Home stacks.) ❖

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 background 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 Background 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.

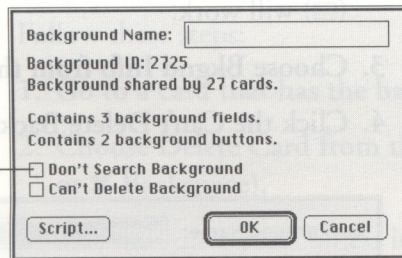


Figure 3-19 Excluding a background's fields from text searches

5. Click OK.

If you want to allow HyperCard to search in the background's fields, click Don't Search Background again to deselect it (as shown in Figure 3-19).

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 Background check box to select it:

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

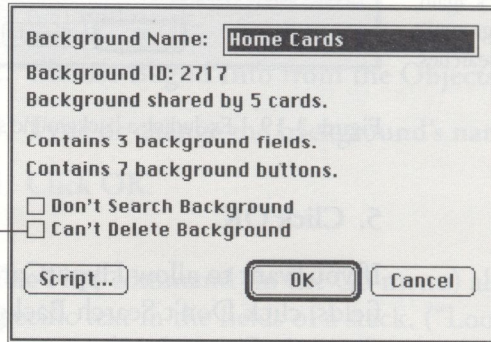


Figure 3-20 Protecting a background

5. Click OK.

As long as the Can't Delete Background 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 Background in the Bkgnd Info dialog box to deselect it (as shown in Figure 3-20).

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.

Follow these steps:

1. Go to a card that has the background you want to delete.
2. Choose Delete Card from the Edit menu (or press ⌘-Delete or ⌘-Backspace).

The card disappears unless it's protected. If the card is protected, the following dialog box appears:

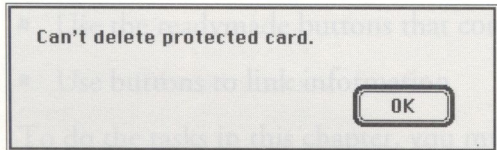


Figure 3-21 Trying to delete a protected card

See "Protecting a Card," earlier in this chapter, for instructions on removing card protection.

△ **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 Background 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.)

The previous section, “Protecting a Background,” gives information on setting and removing a background's protection.

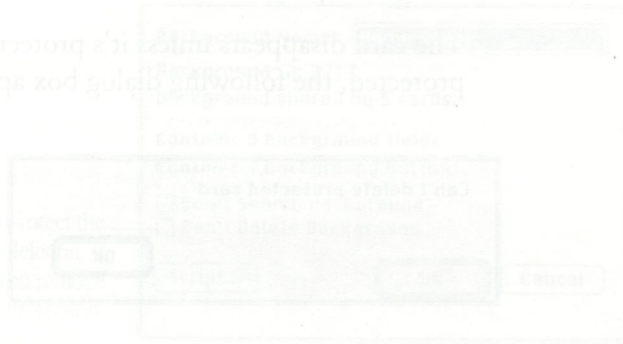


Figure 3-11 Trying to delete a protected card

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 play an animation.

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, or produce interesting visual effects.

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 Readymade Buttons 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, stripes appear 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.

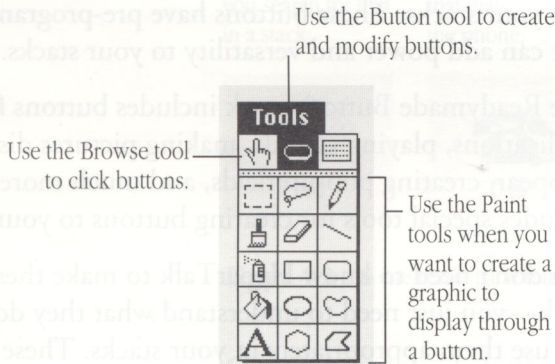


Figure 4-1 The tools for working with buttons

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

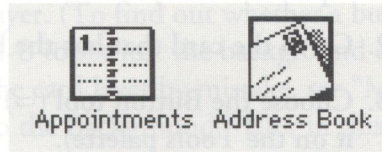
Copying readymade buttons

HyperCard comes with a special stack—called Readymade Buttons—that contains useful buttons you can copy and paste into your stacks. These buttons have pre-programmed scripts that can add power and versatility to your stacks.

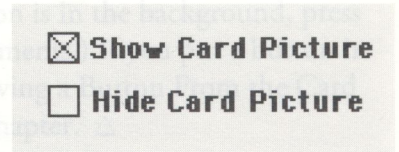
The Readymade Buttons stack includes buttons for launching applications, playing sounds, making pictures disappear and reappear, creating pop-up fields, and much more. It also includes special tools for creating buttons to your specifications.

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. These buttons are designed to work in virtually any stack. They don’t depend on your stack’s structure in any way.

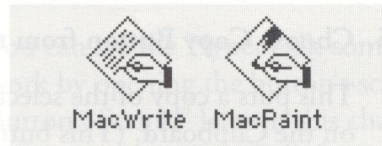
Buttons for opening stacks that come with HyperCard:



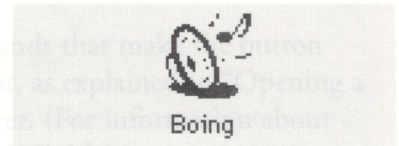
Buttons that hide and show the card picture:



Buttons that open applications:



A button that plays a sound:



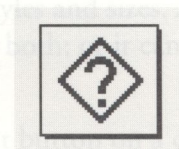
A button that lets you search for text in a stack:



A button that dials the phone:



A button that takes you to the HyperCard Help Stack:



A button that creates a pop-up field, and opens and closes the field after it's created:



Figure 4-2 Some readymade buttons

Copying readymade buttons can make stack building easier and save you a lot of time. If you see a button that does something you like, copy it and paste it into your stack.

Follow these steps to copy one of the readymade buttons:

1. Open the Readymade Buttons stack.
2. Go to the card that has the button you want to copy.
3. Choose the Button tool (\ominus) 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) 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 you want to test the button after you copy it, 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. (For information about scripts, see 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 can display a graphic.

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:

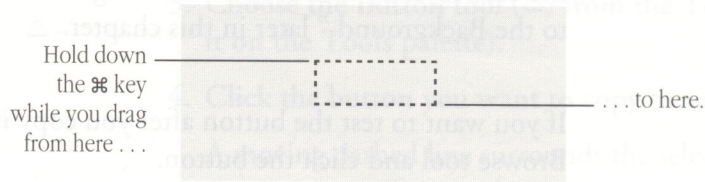


Figure 4-3 Creating a blank button

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 you click here to select Show Name.

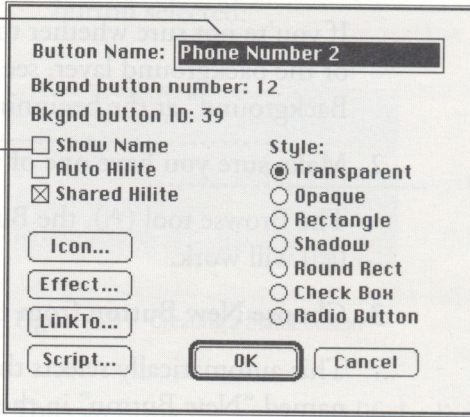
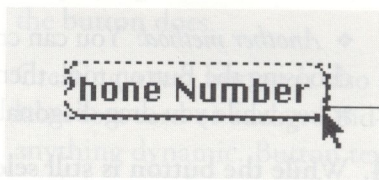


Figure 4-5 Typing the text you want to display on the button

6. Click the Show Name check box to select it.

7. Click OK.

The text you've typed appears on the button. (A button can display one line of text.) To see all the text, you might have to enlarge the button:



To resize the button, drag from any corner.

Figure 4-6 Resizing a button

8. If you want to change the font, style, or size of the button's text, choose from the Font and Style menus while the button is still selected.

If the button is no longer selected, you can select it by choosing the Button tool and then clicking the button.

❖ *Note:* You can't change the style of text that's displayed on a button with an icon. ❖

9. 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. ❖

➤ *See also:*

- “Changing the Appearance of a Button” in this chapter
- “When Elements Overlap” 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 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.

Button Name:

Bkgn button number: 12

Bkgn button ID: 39

Show Name **Style:**

Auto Hilite **Transparent**

Shared Hilite **Opaque**

 Rectangle

 Shadow

 Round Rect

 Check Box

Radio Button

Figure 4-8 The Button Info dialog box

5. Click Icon.

The Icon dialog box appears:

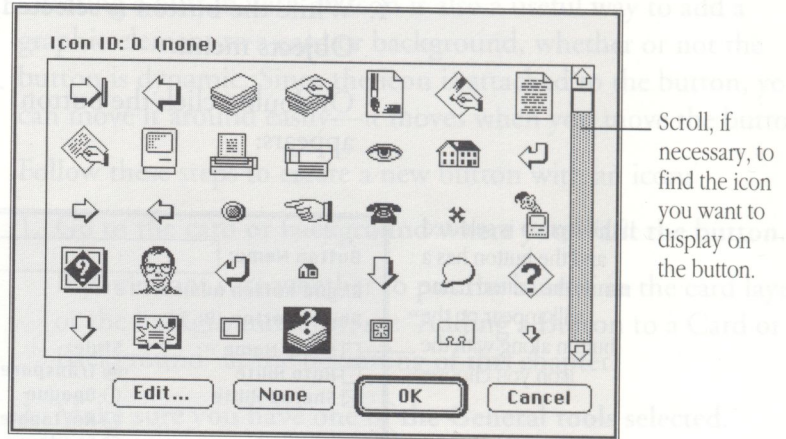


Figure 4-9 Choosing an icon

6. Click the icon you want to display on your button.

7. Click OK.

The icon you've selected appears on the button. To see the whole icon, you might have to enlarge the button:

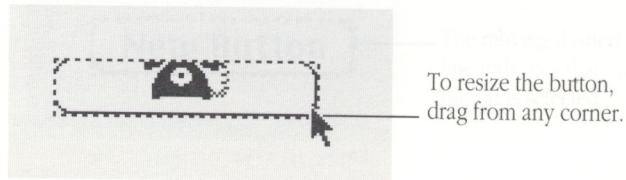


Figure 4-10 Resizing a button

8. 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. △

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:*
- “When Elements Overlap” in this chapter
 - “Changing the Appearance of a Button” in this chapter
 - “Creating and Modifying Icons” 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:

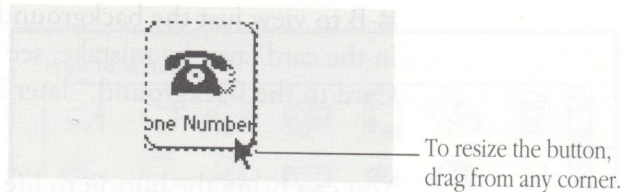


Figure 4-11 An icon with text

- ❖ *Note:* You can't change the style of text that's displayed on a button with an icon. ❖

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 and Paint Text to a Card or Background" in Chapter 6.

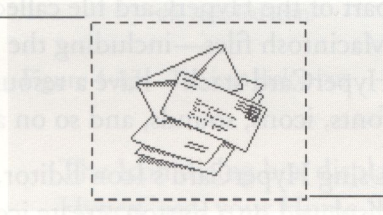
2. Create the graphic.

You can create it with the Paint tools, scan it in, bring it in from a MacPaint®-compatible application, or copy and paste it from another stack. The graphic can also 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*.)

Creating and modifying 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 becomes part of the button. When you select the button and drag it around on the card, the icon moves with it. This makes the icon easy to manage.

The icons you see in the Icon dialog box are stored in a special part of the HyperCard file called the *resource fork*. Most Macintosh files—including the Home stack and any other HyperCard stack—have a resource fork, where resources like fonts, icons, sounds, and so on are stored.

Using HyperCard's Icon Editor, you can modify an icon that's displayed on a button, create icons of your own, add icons to your stacks, and copy and move icons between stacks. This section tells you how.

Modifying a button's icon

To modify the icon of an existing 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.

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

4. Click Icon.

The Icon dialog box appears:

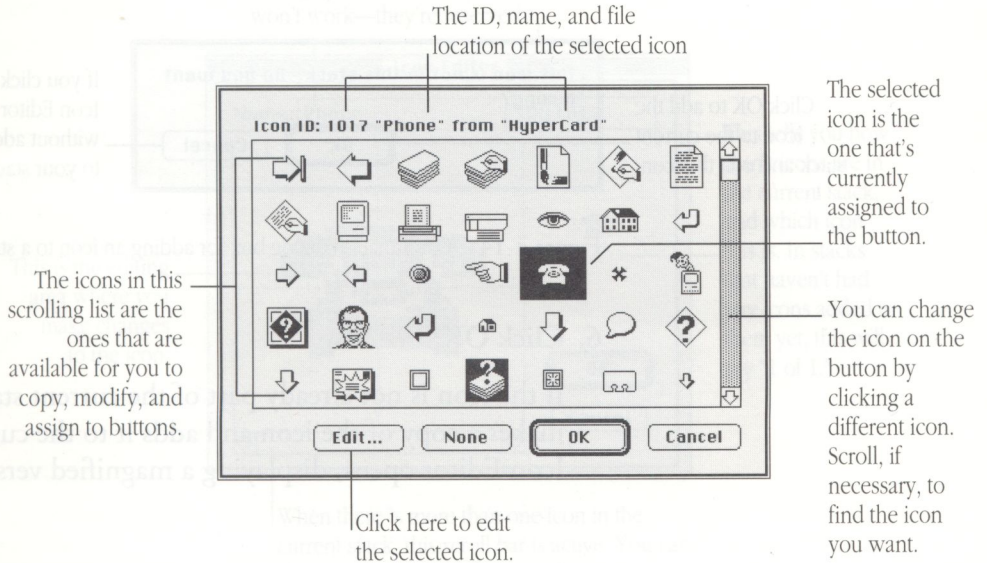


Figure 4-13 The icon dialog box

The Icon dialog box displays icons that are part of HyperCard, your Home Stack, and any stacks or other files you have open that have icons assigned to them.

5. Click Edit.

If the selected icon is not part of the current stack, the following dialog box appears:

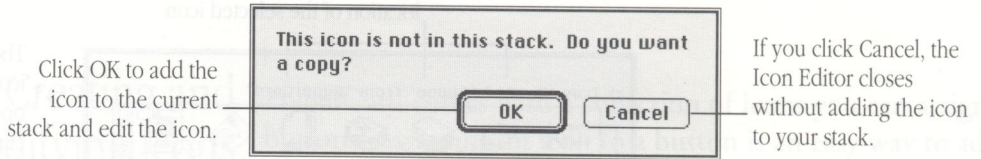


Figure 4-14 Confirmation dialog box for adding an icon to a stack

6. Click OK.

If the icon is not already part of the current stack, HyperCard makes a copy of the icon and adds it to the current stack. The Icon Editor opens, displaying a magnified version of the icon.

You assign or change the icon's name and ID by clicking and typing here. You can use the name or ID to search for the icon in the Icon Editor (using the Find command) and address the icon through scripts. (IDs between -32767 and 127 won't work—they're reserved.)

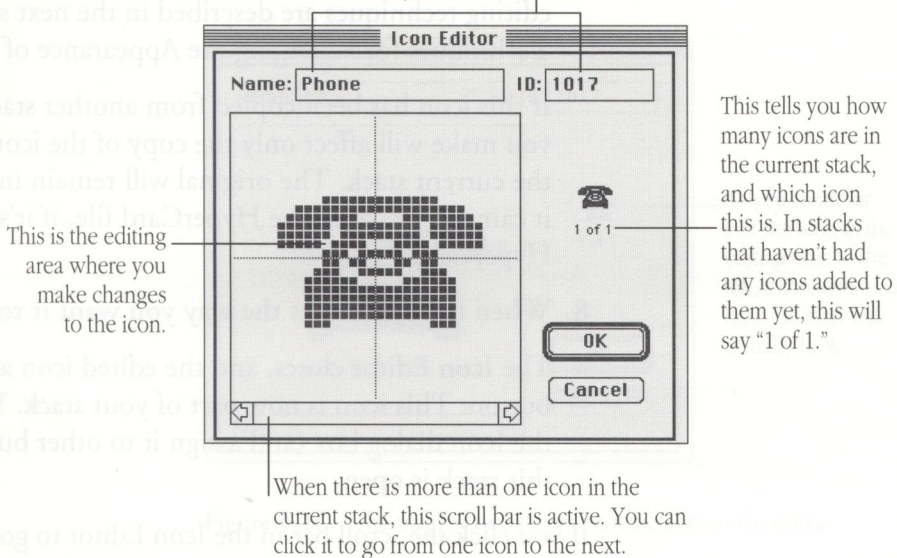


Figure 4-15 The Icon Editor

7. Edit the icon.

When you move the pointer over the editing area in the Icon Editor, it becomes a pencil you can use to edit the icon. You click to add and delete the little squares that make up the icon. When you click an empty space, a square appears. When you click an existing square, it disappears. If you drag in the editing area, you add or delete squares in your path, depending on whether you begin dragging on an empty space or a square.

You can also assign the icon a name and ID, as shown in Figure 4-15.

Use the commands in the Icon and Special menus to change the icon's appearance. These commands and other icon editing techniques are described in the next section, "More Techniques for Changing the Appearance of an Icon."

If this icon has been copied from another stack, the changes you make will affect only the copy of the icon that's part of the current stack. The original will remain intact in the stack it came from (or in the HyperCard file, if it's part of HyperCard).

8. When the icon looks the way you want it to, click OK.

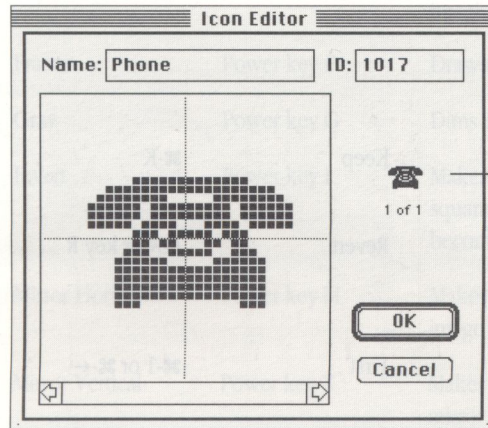
The Icon Editor closes, and the edited icon appears on the button. This icon is now part of your stack. You can see it in the Icon dialog box (and assign it to other buttons) whenever this stack is open.

If you click the scroll bar in the Icon Editor to go to another icon after editing the current one, HyperCard asks whether you want to save your changes. The only icons you see when you move around in the Icon Editor are those attached to the current stack.

- ❖ *A shortcut:* To open the Icon Editor quickly, choose the Button tool from the Tools menu, click to select the button you want to modify, and choose Icon from the Edit menu, or press **⌘-I**. ❖

More techniques for changing the appearance of an icon

This section describes other techniques (in addition to those described in the preceding section) for modifying an icon's appearance. As you make changes to an icon in the Icon Editor, they're reflected in the small picture to the right of the magnified icon:



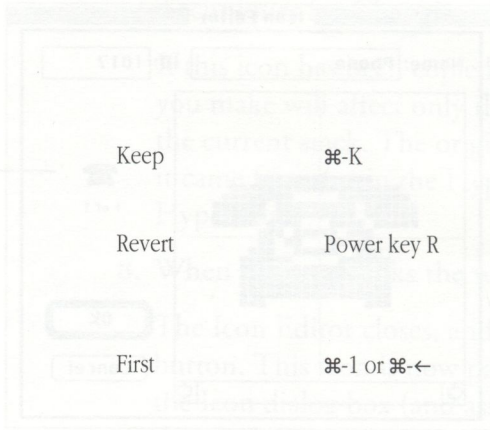
As you create or edit the icon in the editing area to the left, this shows you how the icon will actually look.

Figure 4-16 The small picture shows what the icon will look like.

The Icon and Special menus

When the Icon Editor opens, the menu bar changes. You can use the commands in these menus for manipulating icons and moving from one icon to another in the Icon Editor (when your stack has multiple icons stored in it). Two of these menus, the Icon menu and the Special menu, are described in the two tables that follow.

Icon menu command	Keyboard shortcut	What the command does
Erase	Power key E*	Erases the whole image of the current icon.
Pickup	⌘-P	Turns the pointer into a “snapshot” tool, a small box that you can move anywhere on your screen. When you click, the image under the box appears in the Icon Editor.
Keep	⌘-K	Saves any changes you’ve made to the icon without leaving the Icon Editor.
Revert	Power key R	Reverts to the last saved image of the icon, discarding any changes you’ve made since.
First	⌘-1 or ⌘-←	Takes you to the first icon in the current stack.
Prev	⌘-2 or ←	Takes you to the previous icon in the current stack.
Next	⌘-3 or →	Takes you to the next icon in the current stack.
Last	⌘-4 or ⌘-→	Takes you to the last icon in the current stack.
Find	⌘-F	Lets you search for a specific icon by name or ID.



* Power keys work when you have the Power Keys option selected on the Preferences card in your Home stack. Striking a single key does the work of choosing a specific menu command.

Special menu command	Keyboard shortcut	What the command does
Flip Horizontal	Power key H*	Flips the icon horizontally around an imaginary center axis.
Flip Vertical	Power key V	Flips the icon vertically around an imaginary center axis.
Frame	Power key F	Draws a border around the entire icon.
Gray	Power key G	Dims the icon.
Invert	Power key I	Makes the icon appear in inverse—black squares become white and white squares become black.
Mirror Horizontal	Power key M	Makes the right half of the icon a mirror image of the left half.
Mirror Vertical	Power key X	Makes the bottom half of the icon a mirror image of the top half.
Rotate 90°	Power keys [and]	Rotates the icon 90°.
Shadow	Power key S	Draws a shadow to the right and bottom of the image.

* Power keys work when you have the Power Keys option selected on the Preferences card in your Home stack. Striking a single key does the work of choosing a specific menu command.

Working with a selected part of an icon

You can select any area within the magnified icon by pressing and holding the ⌘ key while you drag with the crosshair pointer. When an area of the icon is selected, the commands in the Special menu work only on the selected area, as do the commands Undo, Cut, Copy, Paste, and Clear in the Edit menu. Power key O makes the selection opaque, and Power key T makes it transparent.

If you press and hold the Option key and drag a selected area, you create a copy of the selection.

You can also move the whole icon around in the editing area by pressing and holding the Option key while you drag with the hand pointer (⏏). When you release the mouse button, the icon is clipped at the borders of the icon editing area. (You can undo this change by immediately choosing Undo from the Edit menu.)

Creating a new icon

To create a new icon for the current stack, follow these steps:

- 1. Choose Icon from the Edit menu, or press ⌘-I.**

The Icon Editor opens.

- 2. Choose New Icon from the File menu.**

3. Draw an icon.

When you move the pointer over the editing area in the Icon Editor, it becomes a pencil you can use to create an icon. Click to add and delete the little squares that make up the icon. When you click an empty space, a square appears. When you click an existing square, it disappears. If you drag in the editing area, you add or delete squares in your path, depending on whether you begin dragging on an empty space or a square.

You can also assign the icon a name and ID, as shown in Figure 4-15.

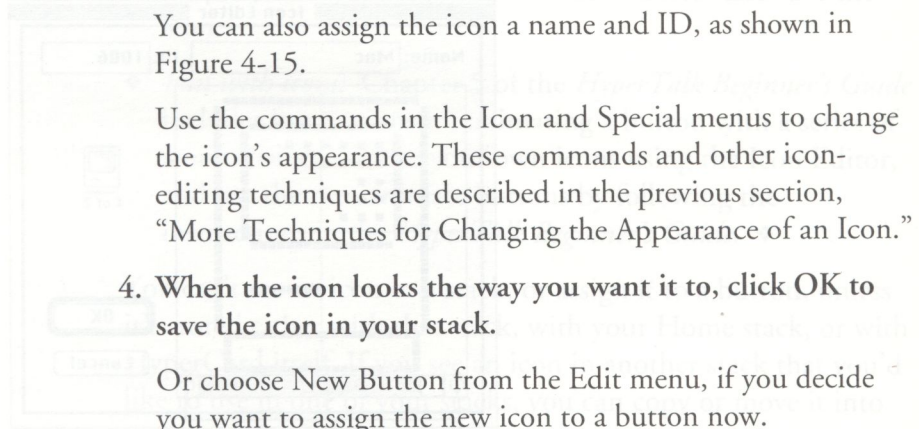
Use the commands in the Icon and Special menus to change the icon's appearance. These commands and other icon-editing techniques are described in the previous section, "More Techniques for Changing the Appearance of an Icon."

4. When the icon looks the way you want it to, click OK to save the icon in your stack.

Or choose New Button from the Edit menu, if you decide you want to assign the new icon to a button now.

The Icon Editor closes and your card appears. Your new icon is saved in the current stack. You can see it in the Icon dialog box (and assign it to other buttons) whenever this stack is open.

If you've chosen the New Button command, a selected button with the new icon appears in the center of the card.

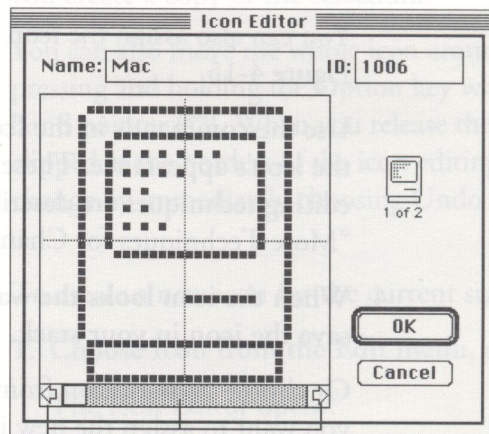


Copying or moving an icon

When you want to create an icon that looks something like an icon you already have, the best way to start is by duplicating the one you have. You can duplicate an icon in the current stack or copy it to another stack using the Icon Editor.

To duplicate an icon in the current stack, follow these steps:

1. Choose **Icon** from the **Edit** menu, or press **⌘-I**.
2. Scroll through the icons to find the one you want to duplicate.



Click the arrows or the scroll bar to scroll through the icons, one at a time.

Figure 4-17 Scrolling through the icons

Or choose **Find** from the **Icon** menu to search for the icon by name or ID.

- ❖ *Another way to get to the icon:* Select a button that has the icon on it (if there is one), then press **⌘-I**. The **Icon Editor** opens with that icon displayed in it. ❖

3. Choose Duplicate Icon from the File menu.

HyperCard creates a new icon in the current stack that's an exact copy of the original icon, except the ID of the copy is one number higher than the ID of the original (or the next available ID, if that one is taken). Initially, the icon has no name.

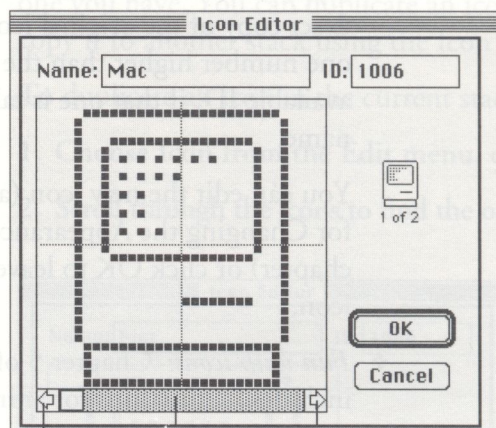
You can edit the new icon (as described in “More Techniques for Changing the Appearance of an Icon,” earlier in this chapter) or click OK to leave the Icon Editor and save the icon.

- ❖ *Fun with icons:* Chapter 5 of the *HyperTalk Beginner's Guide* includes instructions for animating a button with a series of icons. You can create your own icons using the Icon Editor, and use them to animate buttons by following the instructions in the *HyperTalk Beginner's Guide*. ❖

You can't see an icon in a stack, or assign it to a button, unless it's stored either with that stack, with your Home stack, or with HyperCard itself. If you see an icon in another stack that you'd like to use in one of your stacks, you can copy or move it into your stack by following these steps:

1. Go to a stack that has the icon you want to copy or move.
2. Choose Icon from the Edit menu, or press ⌘-I.

3. Scroll through the icons to find the one you want.



Click the arrows or the scroll bar to scroll through the icons, one at a time.

Figure 4-18 Scrolling through the icons

Or choose Find from the Icon menu to search for the icon by name or ID, if you know the name or ID.

- ❖ *Another way to get to the icon:* Select a button that has the icon on it (if there is one), then press \mathbb{A} -I. The Icon Editor opens with that icon displayed in it. ❖
4. **Choose Copy Icon from the Edit menu, if you want to copy the icon to another stack.**
- Or choose Cut Icon from the Edit menu to move the icon to another stack.
- This puts a copy of the current icon on the Clipboard.
5. **Click OK to close the Icon Editor.**
6. **Go to the stack where you want the icon.**

Use HyperCard's navigation techniques (for example, the commands in the Go menu) to go to the stack.

7. Choose **Icon** from the **Edit** menu, or press ⌘-I.
8. Choose **Paste Icon** from the **Edit** menu, or press ⌘-V.

The pasted icon appears in the **Icon Editor**.

You can edit the new icon (as described in “Changing the Appearance of an Icon,” earlier in this chapter) or click **OK** to leave the **Icon Editor** and save the **Icon**. (Clicking **Cancel** won’t save the pasted icon.)

- △ **Important:** When you use a particular icon in a stack, it’s a good idea to make sure the icon is part of the stack. (If it is, it appears in the **Icon Editor** whenever the stack is active.) If the icon isn’t part of the stack, you can copy it into the stack through the **Icon Editor** (as explained in this section). If it isn’t part of the stack, other people might not be able to see it when they use your stack, unless it happens to be part of **HyperCard**, part of their **Home** stack, or part of another stack they have open at the same time. △

Deleting an icon from a stack

When you have icons in your stack that you no longer need, it’s a good idea to delete them in order to save disk space. To delete an icon from the current stack, follow these steps:

1. Choose **Icon** from the **Edit** menu, or press ⌘-I.
2. Scroll through the icons to find the one you want to delete.
Or choose **Find** from the **Icon** menu to search for the icon by name or ID.
3. Choose **Clear Icon** from the **Edit** menu.
This removes the icon from the stack. It’s gone for good—the **Undo** command won’t bring it back.
4. Click **OK** to close the **Icon Editor**.

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 \mathfrak{H} and Option keys. Gray rectangles appear around the buttons:

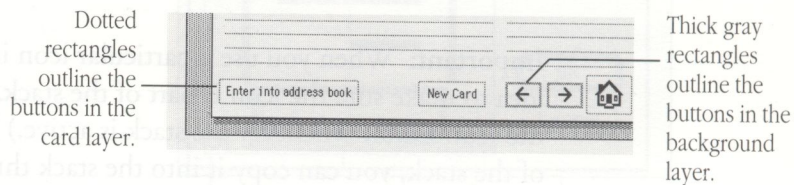
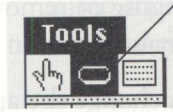


Figure 4-19 Peeking at buttons

- 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.

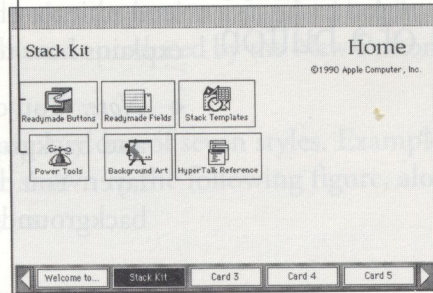
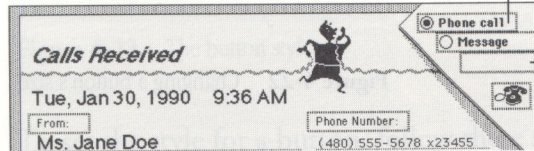


Figure 4-20 Locating buttons with the Button tool

- 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 \mathbb{A} and Option keys. Gray rectangles appear around all the buttons:

When you choose the Button tool and press \mathbb{A} -Option, gray rectangles outline the visible buttons . . .



. . . and the hidden buttons.

Figure 4-21 Peeking at all the buttons—both visible and hidden

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, or changing or removing its text or icon. 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. ❖

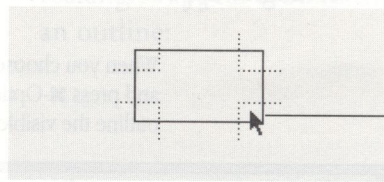
Changing the size of a button

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 4-22 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.

- ❖ *Creating a standard-size button:* If you hold down the Shift key while you resize a Rounded Rectangle button, HyperCard automatically makes the button a standard height (the same height as the buttons produced by the New Button command). ❖

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:

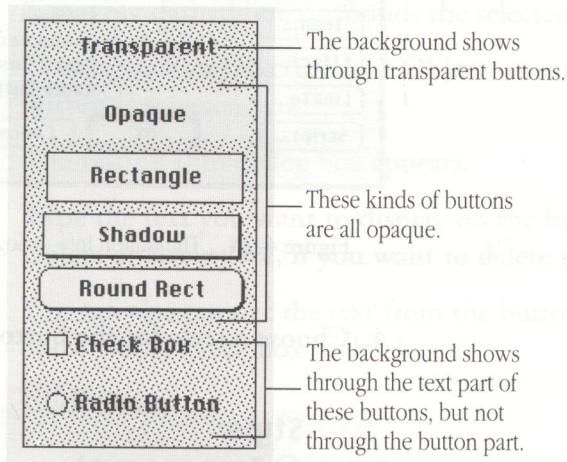


Figure 4-23 The button styles

To set the style for a button, follow these steps:

1. Choose the **Button tool** (\Rightarrow) 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:

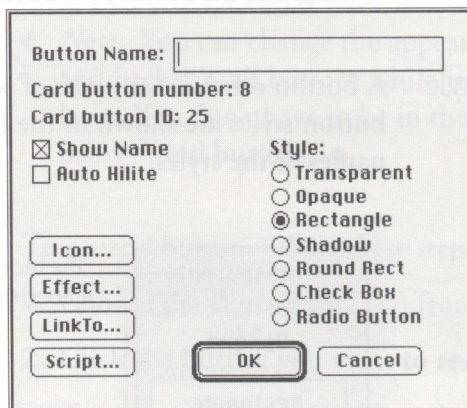


Figure 4-24 The Button Info dialog box

4. Choose a style for the button:

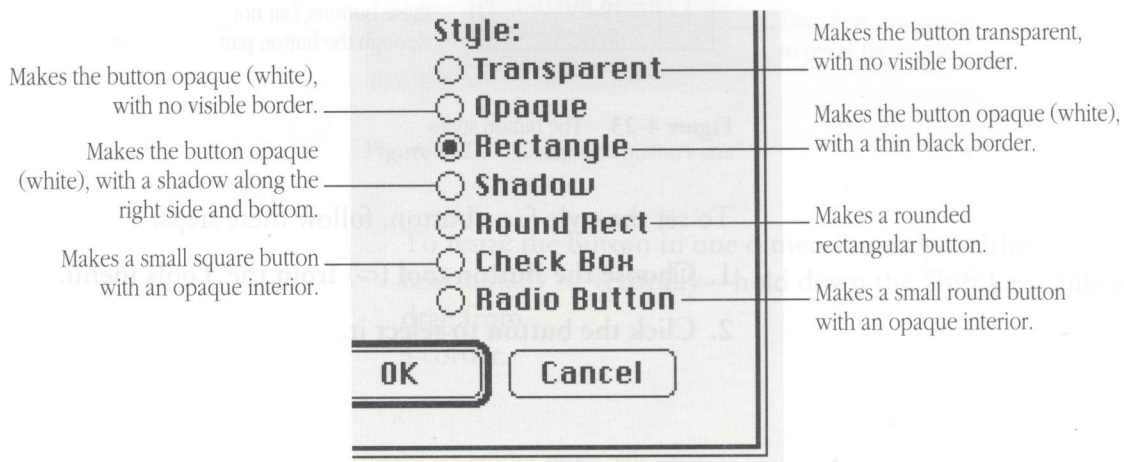


Figure 4-25 Choosing a button's style

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 or Backspace, 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.

**Setting the style
of button text**

You can change the font, style, or size of the text that's displayed on a button using either of the following methods:

- Choose commands from the Font and Style menus.
- Select options in the Text Style dialog box.

To set the style of a button's text using the Font and Style menus, 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 from the Font and Style menus to set the font, style, and size of the button's text.

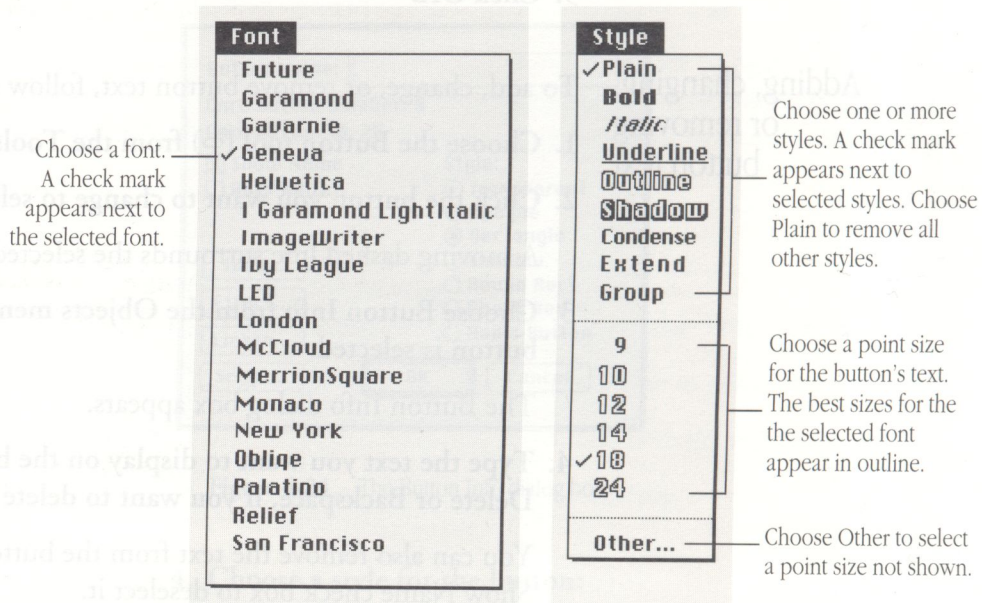


Figure 4-26 The Font and Style menus

The button's text is displayed in the font, style, and size you've chosen.

- ❖ *Note:* You can't change the style of the text that's displayed on a button with an icon. ❖

To set the style of a button's text using the Text Style dialog box, follow these steps:

1. Choose the Button tool (\ominus) 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.
(Or double-click to select the font and return to your work quickly.)

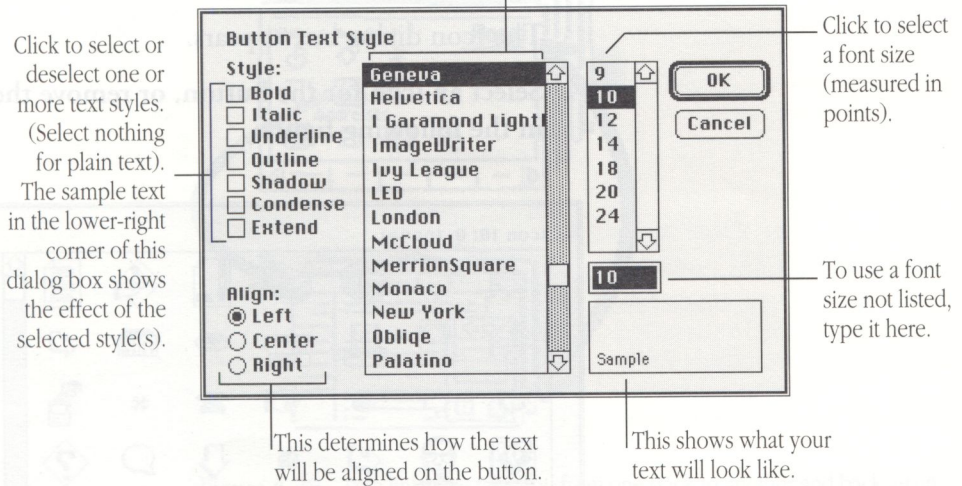


Figure 4-27 The Text Style dialog box

5. Click OK.

The button's text is displayed in the font, style, and size you've chosen.

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:

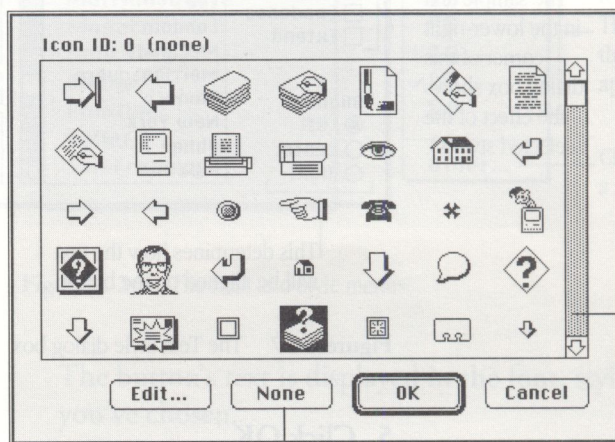
1. Choose the Button tool (\square) from the Tools menu.
2. Double-click the button you want to change.

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.

Click here if you want to remove the button's icon.

Figure 4-28 Setting and removing an icon

5. Click OK.
Your button displays the icon you've chosen.

➤ *See also:* "Creating and Modifying Icons" in this chapter

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:

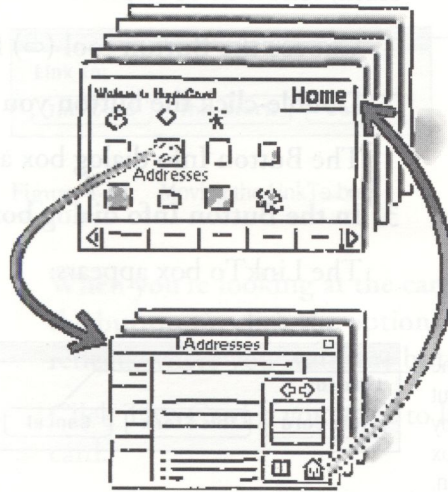


Figure 4-29 Two links that take you from one stack to another and back again

You can link a button to a card or stack using any of the following methods:

- Use the LinkTo box.
- Write a short script.
- Use the New Link to Stack command in the standard Home stack (as described in “Customizing Your Home Stack” in Chapter 2).
- Use the special linking tools in the Readymade Buttons stack. (These tools are described in the Readymade Buttons stack.)

△ **Important:** If you use the LinkTo method to link a button that already has a link, the new link completely replaces the previous one. △

Using the LinkTo method

To use the LinkTo 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 **LinkTo**.

The **LinkTo** box appears:

You can close the LinkTo box without creating a link by clicking the close box or the **Cancel** button.

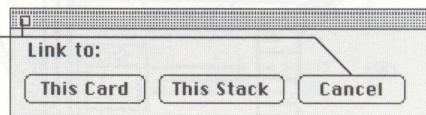


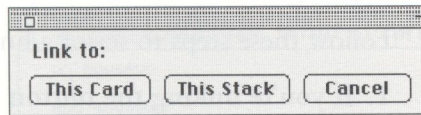
Figure 4-30 Using the LinkTo box to create a link

- ❖ *Note:* The LinkTo box works differently than a standard Macintosh dialog box. You don't respond right away when you see the LinkTo 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 LinkTo box, go to the card you want to link the button to.**

The LinkTo box doesn't disappear—it stays on the screen while you move from card to card.

If the LinkTo box gets in your way, you can move it:



You can move the LinkTo box by dragging from here.

Figure 4-31 Moving the LinkTo box

5. **When you're looking at the card or stack you want to link the button to, click the option in the LinkTo 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 you've just linked it to. If it doesn't, repeat the LinkTo procedure or try the scripting procedure described in the next section, "Scripting a Link."

Scripting a link

As an alternative to using the LinkTo 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 LinkTo 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:

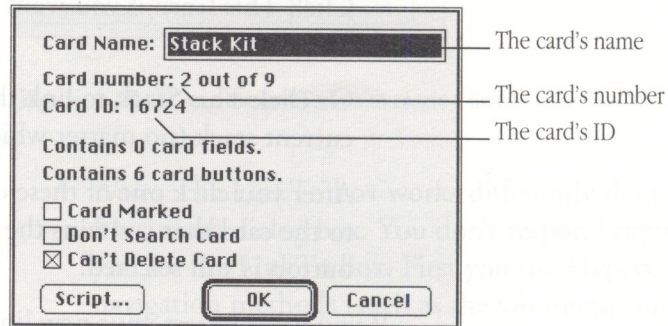


Figure 4-32 Finding out a card's name, number, and ID

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:

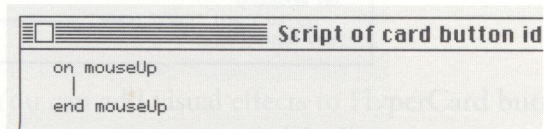


Figure 4-33 Opening a button's script

4. If there's any text in the script other than the text shown in Figure 4-33, don't go any further.

The additional 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 its close box, and create or find another button to link.

5. If the script looks like the one shown in Figure 4-33, 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:

The figure displays five examples of the 'Script of card button' dialog box, each with a different script and a corresponding description. Each dialog box has a title bar with a square icon and the text 'Script of card button'. The scripts are as follows:

- Example 1:** Script: `on mouseUp
 go to card "card name"
end mouseUp`. Description: Takes you to the card with the specified name.
- Example 2:** Script: `on mouseUp
 go to card 4
end mouseUp`. Description: Takes you to the card with the specified number.
- Example 3:** Script: `on mouseUp
 go to card ID 8
end mouseUp`. Description: Takes you to the card with the specified ID.
- Example 4:** Script: `on mouseUp
 go to stack "stack name"
end mouseUp`. Description: Takes you to the stack with the specified name.
- Example 5:** Script: `on mouseUp
 go to card "card name" in stack "stack name"
end mouseUp`. Description: Takes you to the specified card name in the stack with the specified stack name.

Figure 4-34 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.

Adding a visual effect

You can add visual effects to HyperCard buttons to make movement between cards and stacks more noticeable and visually interesting. For example, you can add a visual effect that produces an image of a Venetian blind closing as you move from one card to another. Or you can add a visual effect that makes one card seem to fade away gradually as the next one appears.

To add a visual effect to a button, follow these steps:

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 Effect.**

4. Choose a visual effect for the button:

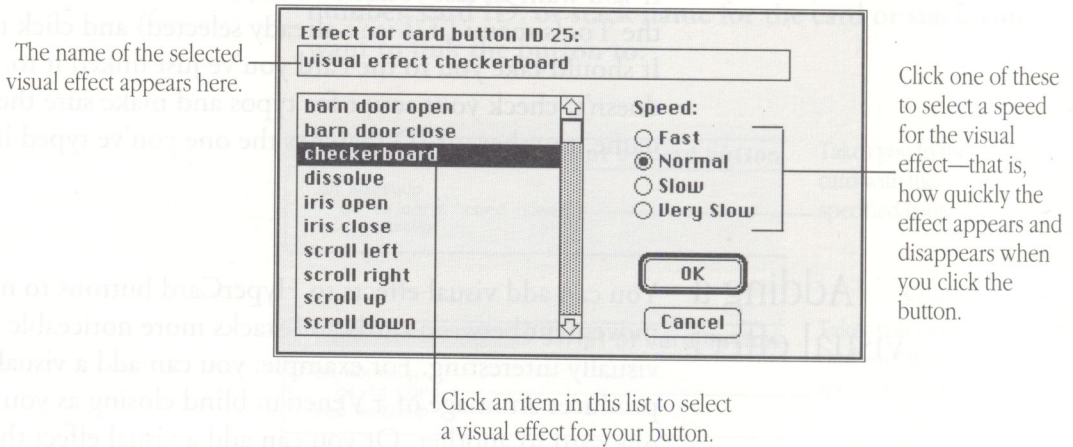


Figure 4-35 Selecting a visual effect

5. Click OK.

To test the new visual effect, choose the Browse tool from the Tools menu and click the button. You see the visual effect as you go to the card that the button's linked to.

- ❖ *Note:* You won't see the visual effect unless the button is linked to another card or stack. "Linking Information," earlier in this chapter, explains how to link a button to another card or stack. ❖

To find out what all the visual effects do, you can experiment by repeating this procedure to assign different visual effects to buttons.

- △ **Important:** If you're using more than one monitor with your computer, and the card window is divided between two monitors, you won't see any visual effect. △

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 (\Rightarrow) 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 a button of any style, except for a check box or radio button. 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.

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.

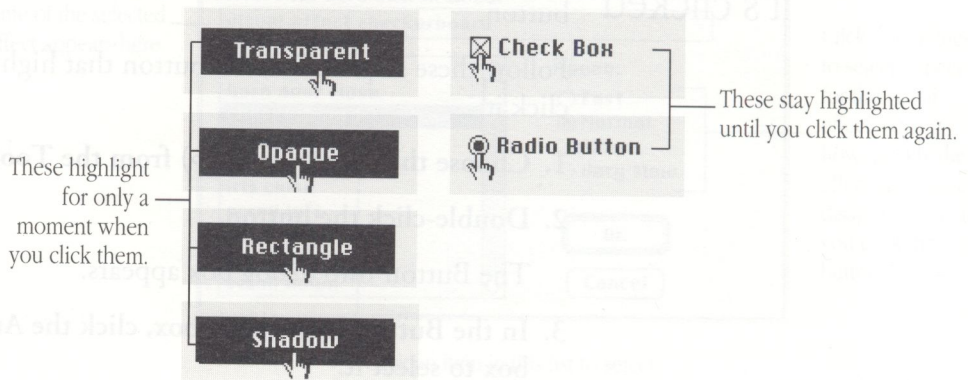


Figure 4-36 Highlighting buttons of different styles

Making a button appear highlighted on certain cards

Normally, when you click a background button for which Auto Hilite is turned on (in the Button Info dialog box), the button becomes highlighted on every card with that background. And a background button for which Auto Hilite is turned off never becomes highlighted when you click it.

However, background buttons have an additional option called Shared Hilite. When Shared 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 good 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 Shared Hilite check box to deselect it.

When a background button is first created, this option is turned on.

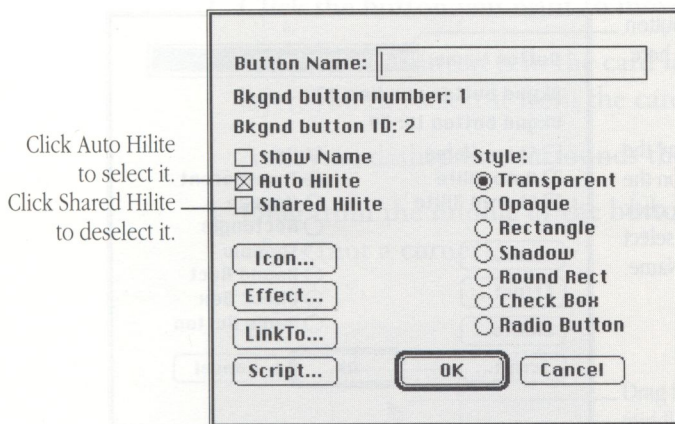


Figure 4-37 Varying a button's highlighting from card to card

5. Click the Auto Hilite check box to select it, if it isn't already selected.
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.

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:

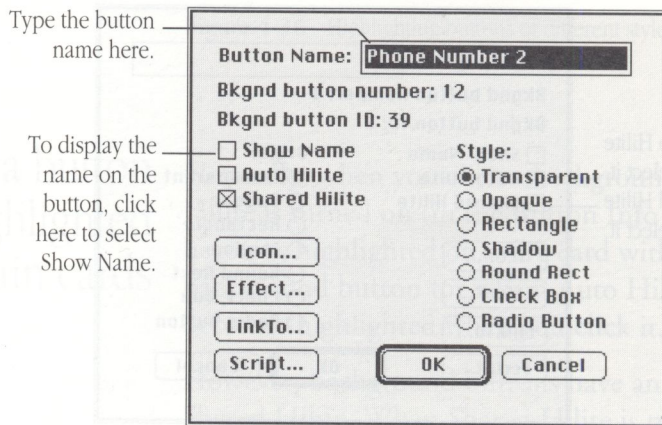


Figure 4-38 Naming a button

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):

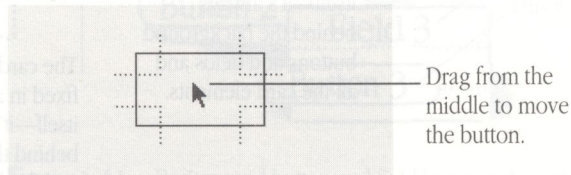


Figure 4-39 Repositioning a button on the card

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 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.

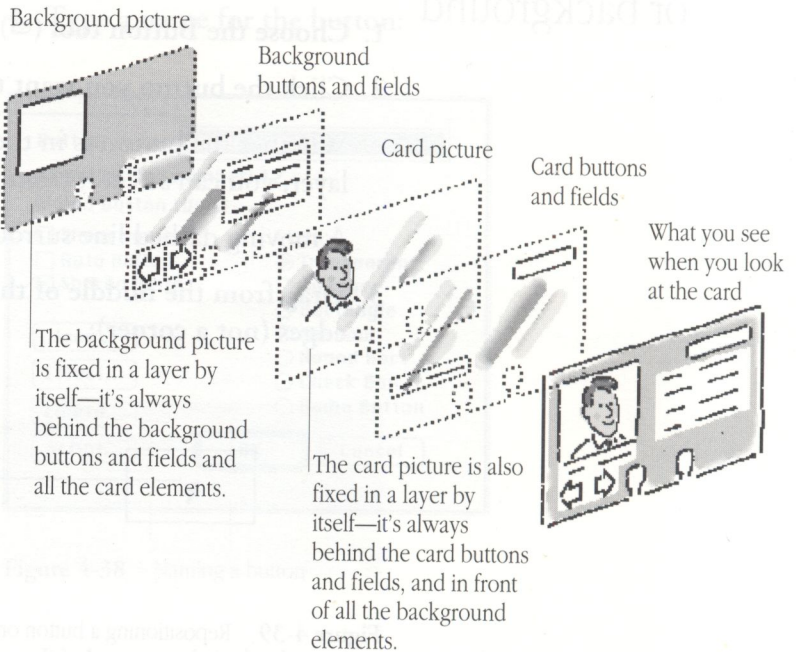


Figure 4-40 HyperCard's layers

As shown in Figure 4-40, 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 field.

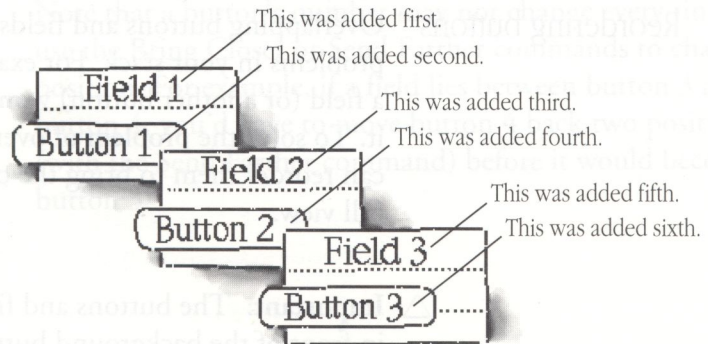


Figure 4-41 Background button and field layers and numbers

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 4-40).

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 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.

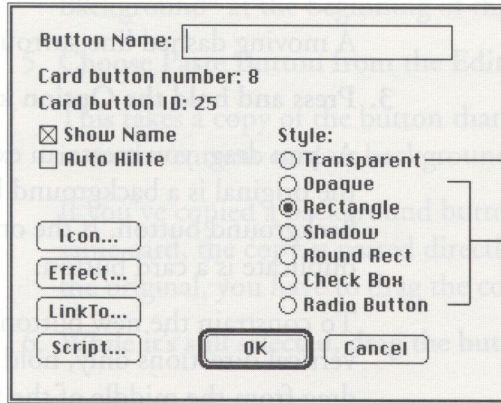
Follow these steps to make a button opaque or transparent:

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 any of these styles makes the button opaque. (See Figure 4-23.)

Figure 4-42 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 field.

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 (\ominus) 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 \mathbb{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 \mathbb{B} .

5. **Choose Paste Button from the Edit menu, or press \mathbb{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 \mathbb{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—its 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, simply click its close box.

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 or Backspace.

- ▲ **Warning:** Once you've deleted a button with the Clear Button command (or with the Delete or Backspace 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. 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 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 also 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.

In addition to their linking powers, 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 Options menu (for example Slant, Distort, and Perspective), which appears whenever a Paint tool is selected. Chapter 6 describes Paint text.

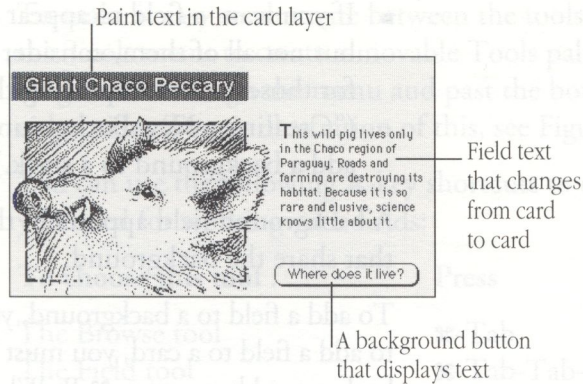


Figure 5-1 Different kinds of text

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.

Adding text

- 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, stripes appear 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 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.

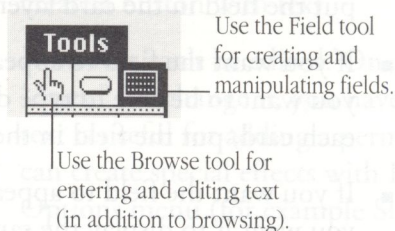


Figure 5-2 The tools for working with fields

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

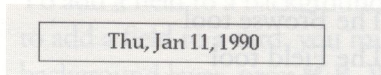
Copying readymade fields

HyperCard comes with a special stack—called Readymade Fields—that contains interesting and useful fields you can copy and paste into your stacks. The readymade fields have pre-programmed scripts that can add power and versatility to your stacks.

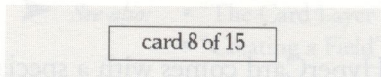
The Readymade Fields stack includes different fields that automatically display the date, the time, the current card number, or calendar months, fields that expand or shrink when you click them, fields that perform calculations on values you type into them, fields that sort their text alphabetically, fields that perform metric conversions, and much more.

You don't need to know HyperTalk to make these fields work—you just need to understand what they do, so that you can use them appropriately in your stacks. These fields are designed to work in virtually any stack. They don't depend on your stack's structure in any way.

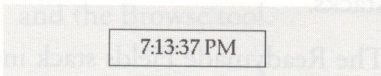
A field that always displays the current date:



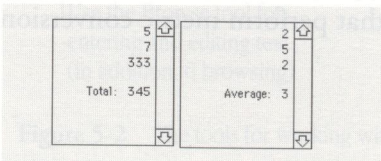
A field that always displays the current card number:



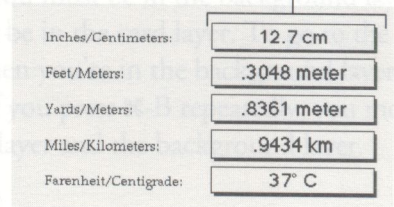
A field that always displays the current time:



Fields that can perform calculations on numbers you type in them:



Fields that convert measures you type in them:



A field that always displays the current month's calendar when you click it:

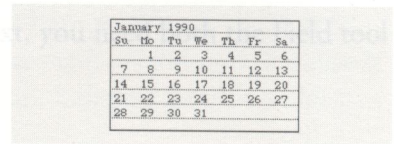


Figure 5-3 Some readymade fields

Copying readymade fields can make stack building easier and save you a lot of time. If you see a field you like in the Readymade Fields stack, there's no sense in reinventing it—copy it and paste it into your stack.

Follow these steps to copy one of the readymade fields:

1. **Open the Readymade Fields stack.**
2. **Go to the card that has the field you want to copy.**
3. **Choose the Field tool (▣) from the Tools menu (or click it on the Tools palette).**

The pointer changes to an arrow (↔).

4. **Click the field you want to copy to select it.**

A moving dashed line surrounds the selected field.

5. **Choose Copy Field from the Edit menu, or press ⌘-C.**

This puts a copy of the selected field (including its script) on the Clipboard.

6. **Go to the card or background where you want to put the copied 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.

7. **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.

8. **While the field is still selected, drag it to where you want it on the card.**

△ **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,” later in this chapter. △

If you want to enter text in the field after you’ve copied it, choose the Browse tool, then click in the field and type.

- ❖ *Can’t type in the field?* Make sure you’re working in the card layer. If you see stripes in the menu bar (indicating that you’re working in the background layer), press ⌘-B to return to the card layer. ❖

➤ *See also:* “Changing the Appearance of a Field” in this chapter

Creating a field

To create a new field, follow these steps:

1. **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.

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 Field from the Objects menu.

This automatically selects the Field tool and creates a new, Rectangle-style field. The field appears in the center of the card window and is selected, so you can move it or resize it easily.

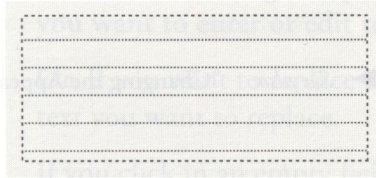
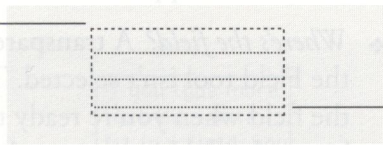


Figure 5-4 A field created with the New Field command

- ❖ *Another method:* You can 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 5-5 Dragging to create a new field

You can have as many fields on a card or a 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

Entering and editing text in a field

Entering and editing text in a HyperCard field is just like working with any other Macintosh text. You can click anywhere in the field and begin typing, delete text with the Delete or Backspace 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 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 (I) 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 left edge of the line you click.

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:

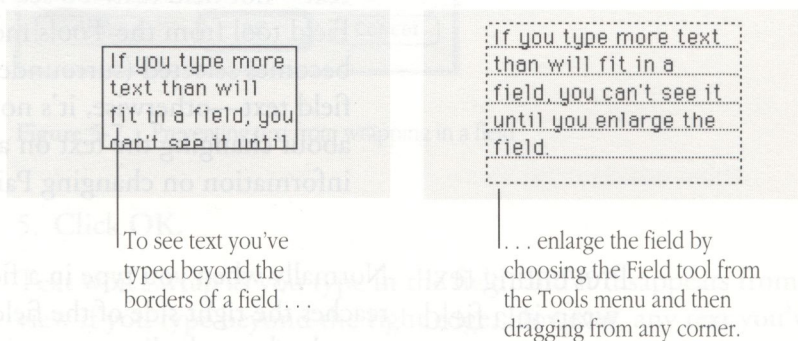


Figure 5-6 Revealing hidden text

Where's the I-beam pointer?

If the Browse tool doesn't turn into an I-beam (⌘) 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.
- The Shared Text option is turned on in the Field Info dialog box and you're working in the card layer rather than the background layer. Press ⌘-B to go to the background layer. (See “Making Field Text Appear on Every Card,” later in this chapter, for more information about the Shared Text option.)
- The Shared Text option is *not* turned on in the Field Info dialog box and 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.

Preventing text wrap in a field

Normally when you type in a field, your text wraps when it reaches the right side of the field—that is, words that won't fit completely on the line move to the next line. However, you can choose not to have the text in a field wrap. When you use this feature, you won't see the text you type beyond the right side of the field unless you press Return to move from line to line.

Here's how to prevent text from wrapping in a field:

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

4. Click the Don't Wrap check box to select it.

Click here to prevent text from wrapping in a field as you type. Clicking Don't Wrap again to deselect it allows the text to wrap and reveals any text that was typed beyond the field's right border.

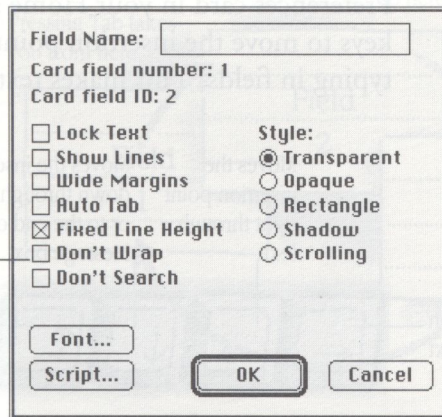


Figure 5-7 Preventing text from wrapping in a field

5. Click OK.

Text won't wrap as you type in the field, and it disappears from view if you type beyond the right edge. However, any text you've typed beyond the right side of the field is there. You can recover it by turning off Don't Wrap or enlarging the field.

If you turn on Don't Wrap for a field that already has text in it, HyperCard puts all the text on the first line of the field (the text extends beyond the right edge of the field) unless you've pressed Return at the end of each line while entering the text. The text that was below the first line disappears from view, but it's still in the field. You can see it again by turning off Don't Wrap.

Using the arrow keys to move through text

Normally, the arrow keys move you through cards. However, when the Arrow Keys in Text option is selected (on the 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.

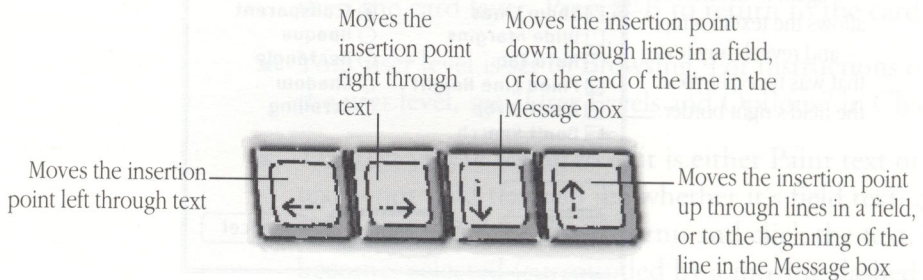


Figure 5-8 Moving through text when Arrow Keys in Text is turned on and the insertion point is blinking in a field or the Message box

When Arrow Keys in Text is turned on and the insertion point is blinking in a field or the Message box, you use the Option key with the arrow keys to move through cards in a stack.

► *See also:* "The Arrow Keys in Text 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:

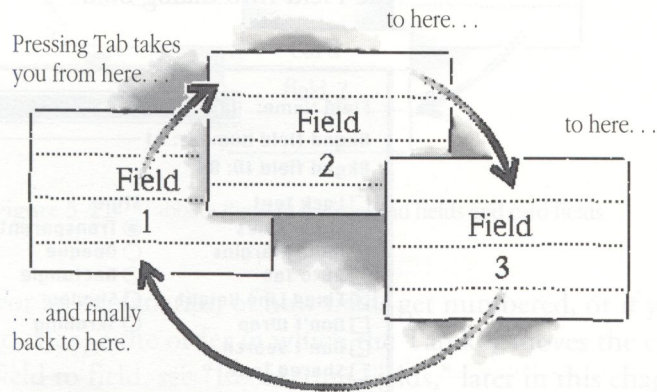


Figure 5-9 Tabbing order

Pressing Shift-Tab moves you backwards through the fields. Locked fields are excluded—you can't Tab to a locked field.

1. Choose the Field tool (⌘) from the Tools menu.
2. Double-click the field.
3. Click where you want to insert text.
4. Click OK.

* *Note:* Auto Tab doesn't work for a scrolling 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. ▲

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:

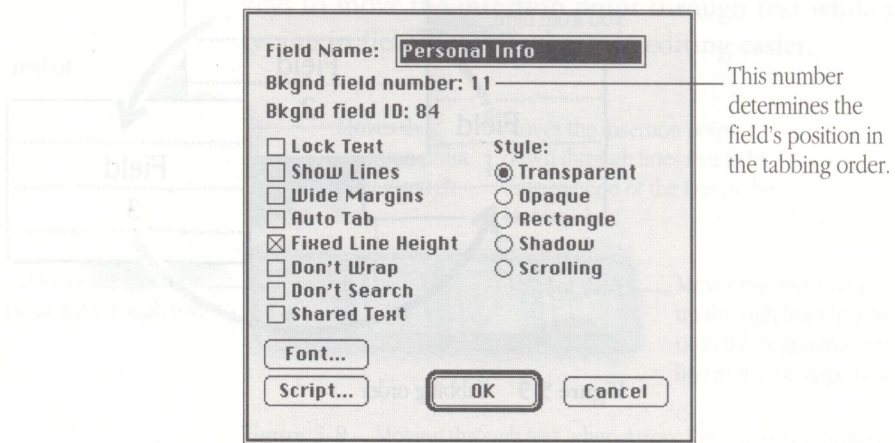


Figure 5-10 Checking a field's number

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:

➤ See also "The Arrow Keys in Text" (up) in Chapter 1

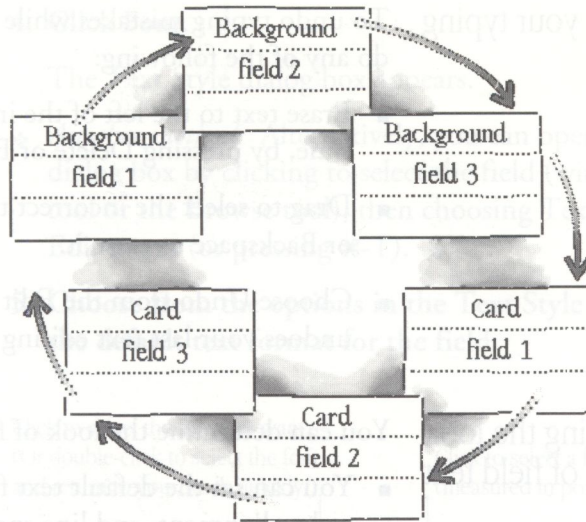


Figure 5-11 Tabbing through background fields and card fields

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 or Backspace.
- Drag to select the incorrect text and retype it, or press Delete or Backspace to erase it.
- Choose Undo from the Edit menu, or press ⌘-Z. Undo undoes your last text editing (or stack editing) operation.

Choosing the look of field text

You can determine the look of field text in two different ways:

- You can set the default text format—including the font, size, style, alignment, and line spacing—for the field as a whole.
- You can set the font, style, and size for individual characters, words, or phrases in the field.

The default text format options you choose for the field apply to the whole field. All text you type in the field has these attributes unless you style it individually.

Setting the font, style, and alignment of a field

To choose the default 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:

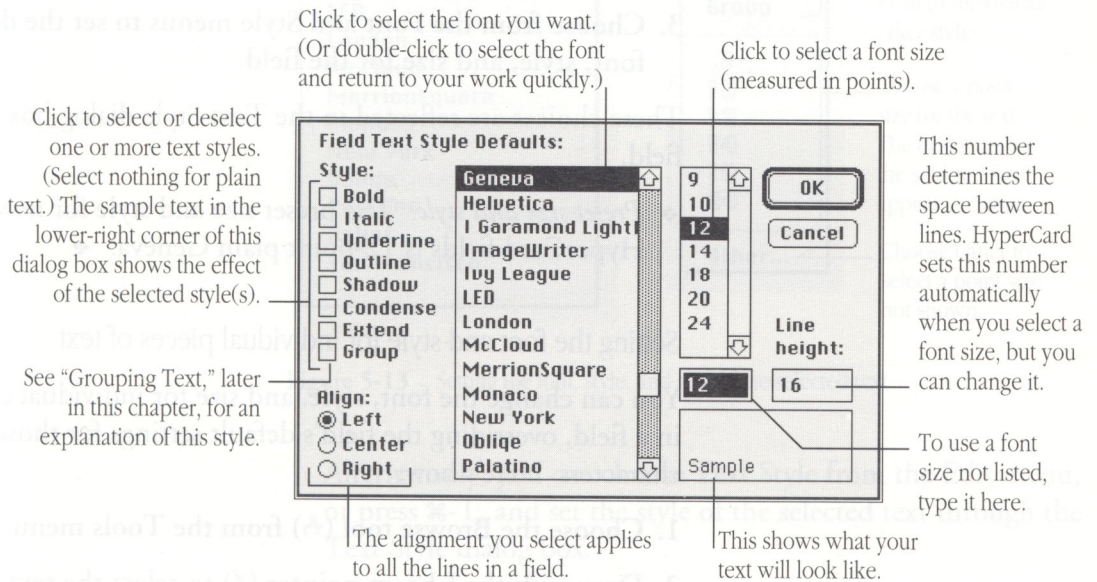


Figure 5-12 Setting the default text format for a field

6. When you're finished, click OK.

The text in the field appears in the new default format, and any new text you type in the field acquires the same format.

If you set one font size for a field and change it to a larger size later, the tops of the characters may disappear. You can fix this by turning off the Fixed Line Height option in the Field Info dialog box. This allows the line height of the field to vary to accommodate the size of your text.

Here's a shortcut for setting just the font, size, and style for a field:

1. Choose the Field tool (⌘) from the Tools menu.
2. Click the field to select it.
3. Choose from the Font and Style menus to set the default font, style, and size for the field.

These choices are reflected in the Text Style dialog box for the field.

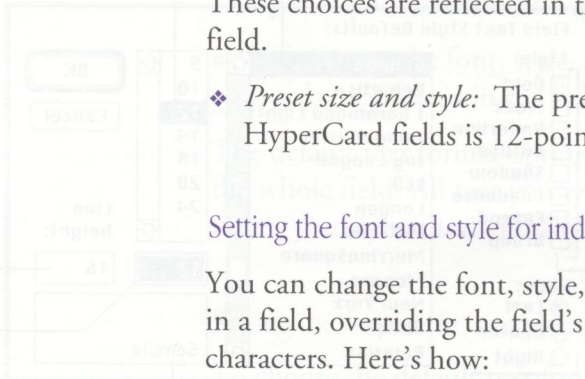
- ❖ *Preset size and style:* The preset size and style for new HyperCard fields is 12-point plain Geneva. ❖

Setting the font and style for individual pieces of text

You can change the font, style, and size for individual characters in a field, overriding the field's default settings for those characters. Here's how:

1. Choose the Browse tool (⌘) from the Tools menu.
2. Drag with the I-beam pointer (I) to select the text you want to change.

If you don't see the I-beam pointer, consult the section "Where's the I-beam Pointer," earlier in this chapter.



3. Choose from the Font and Style menus to set the font, style, and size of the selected text.

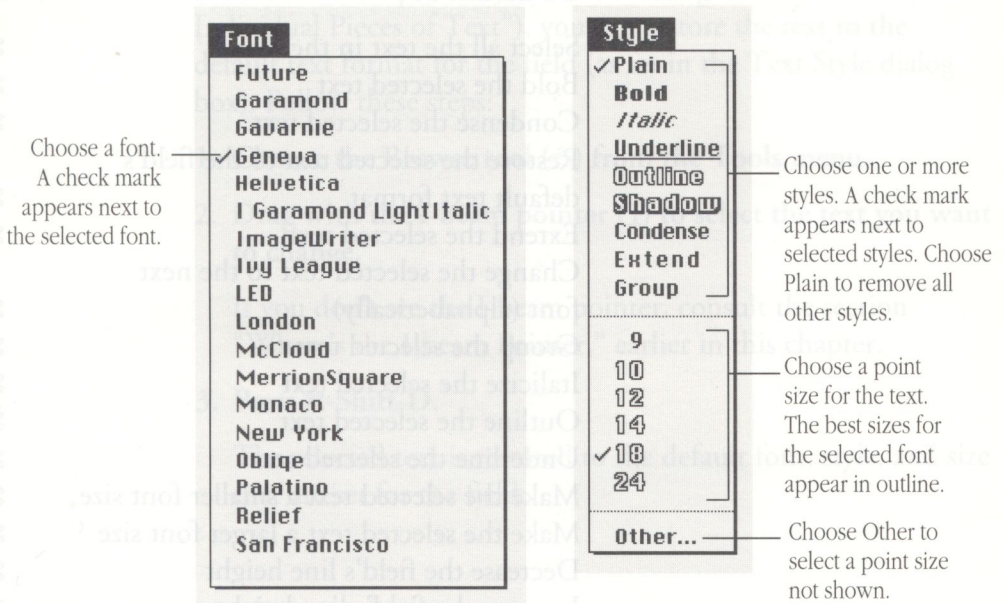


Figure 5-13 Setting the font, style, and size of the selected text

Alternatively, you can choose Text Style from the Edit menu, or press ⌘-T , and set the style of the selected text through the Text Style dialog box.



You can use the following ⌘-key shortcuts while you're working with individual pieces of field text:

To do this . . .	Press
Select all the text in the field	⌘-Shift-A
Bold the selected text	⌘-Shift-B
Condense the selected text	⌘-Shift-C
Restore the selected text to the field's default text format	⌘-Shift-D
Extend the selected text	⌘-Shift-X
Change the selected text to the next font (alphabetically)	⌘-Shift-F
Group the selected text	⌘-Shift-G
Italicize the selected text	⌘-Shift-I
Outline the selected text	⌘-Shift-O
Underline the selected text	⌘-Shift-U
Make the selected text a smaller font size	⌘-Shift-<
Make the selected text a larger font size	⌘-Shift->
Decrease the field's line height	⌘-Shift- - (minus)
Increase the field's line height	⌘-Shift- + (plus)

△ **Important:** If you set varying text sizes within a field, make sure the Fixed Line Height option is turned off in the Field Info dialog box. This allows the line height of the field to vary to accommodate the different sizes of text. When you click Fixed Line Height to deselect it, the Show Lines option in the Field Info dialog box automatically turns off (if it's turned on). △

Restoring text to the default format

After you've formatted individual pieces of text in a field (as described in the previous section, "Setting the Font and Style for Individual Pieces of Text"), you can restore the text to the default text format for the field (as set in the Text Style dialog box). Follow these steps:

1. Choose the Browse tool () from the Tools menu.
2. Drag with the I-beam pointer () to select the text you want to change.

If you don't see the I-beam pointer, consult the section "Where's the I-beam Pointer," earlier in this chapter.

3. Press **⌘-Shift-D**.

The selected text is restored to the default font, style, and size that are set for the field.

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 appears 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.

7. Go to the background layer (if you're not already there) by pressing ⌘-B.

8. Click in the field and type the text you want to display on every card.

9. When you're finished, choose Background from the Edit menu, or press ⌘-B, to return to the card layer.

When the Shared Text option is turned on for a field, you can enter or edit text in the field only while you're in the background layer. If you're in the card layer, you won't see the I beam pointer when you move the Browse tool over a field for which the Shared Text option is turned on.

If you turn off Shared Text, the text you've entered in the background layer disappears from view, and you can edit the field only from the card layer.

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 background layer appears, and text you've entered in the card layer disappears.
- When you turn off Shared Text, any text you've entered in the background layer disappears, and text you've entered in the card layer appears.

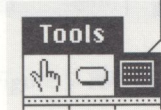
- ❖ *Note:* If the Shared Text option is turned on for a field, the Don't Search option is turned on automatically. This means that HyperCard won't search in the field when you ask it to look for specific text. ❖

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 (except scrolling fields, which have a visible scroll bar):

When you choose the Field tool . . .



. . . lines appear in the fields.

 A screenshot of a HyperCard stack card titled "TimeLog for Job/Company". The card contains a table with columns for Date, In, Out, Time, and Notes. The first row has the date "/30/90" and the time "10:56 AM". Below the table are several input fields for "Total Time:", "Rate" (with a value of "20.00"), and "Amount". There are also buttons for "Log Out", "Recalculate", "Clear Fields", and "Print Report". Grid lines are overlaid on the table and input fields, indicating they have been located by the Field tool.

Figure 5-14 Locating fields with the Field tool

- While the Browse tool is selected, you can “peek” at both the buttons and fields by pressing and holding the ⌘, Shift, and Option keys. (Gray rectangles appear around the buttons and fields.) Then, while you’re still holding down the ⌘ and Option keys, release the Shift key—the dotted 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.

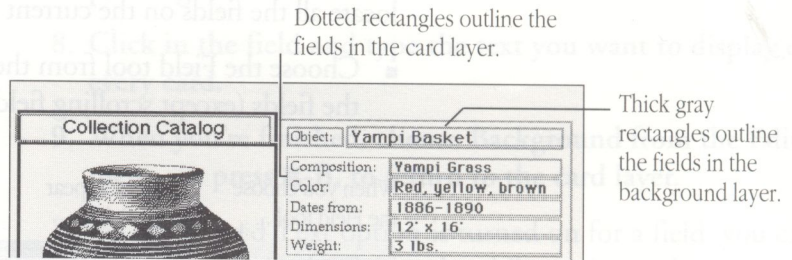


Figure 5-15 Peeking at fields

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, or displaying lines in it. 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:* “Choosing the Look of Field Text” in this chapter

Changing the size of a field

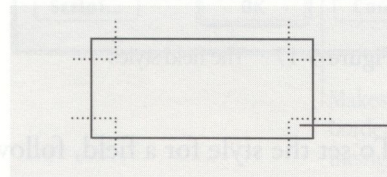
You can change the size of a field whether or not it has text in it. When you change a field's size, any text in it wraps appropriately to conform to the new size.

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 5-16 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 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:

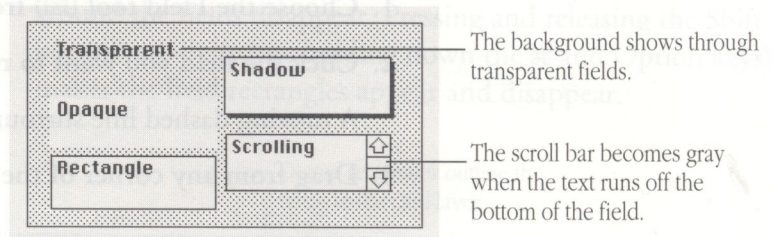



Figure 5-17 The field styles

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. Choose a style for the field:

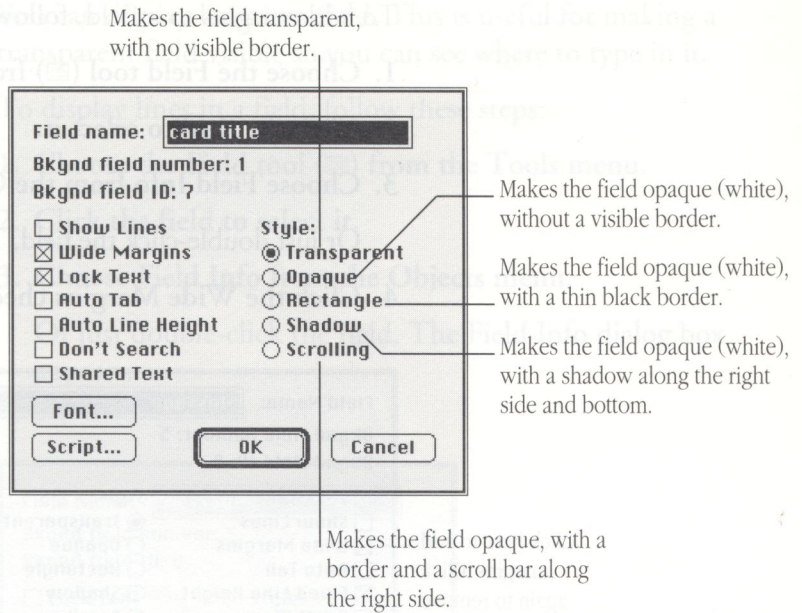


Figure 5-18 Choosing a field style

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 Macintosh window. (For details about scrolling in windows, see the documentation that came with your Macintosh.) ❖

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:

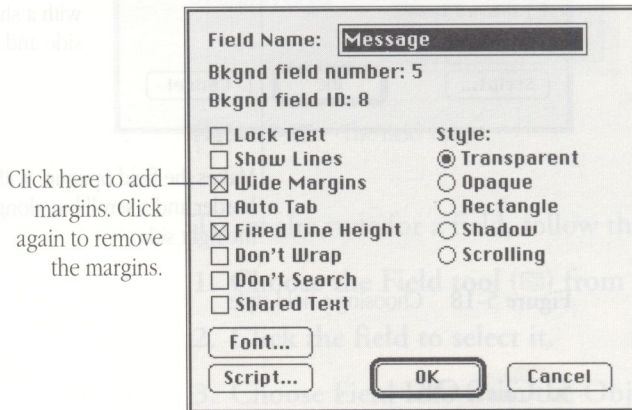


Figure 5-19 Adding margins to a field

5. Click OK.

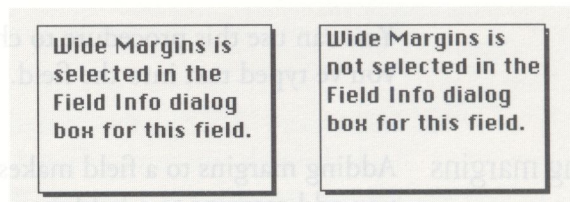


Figure 5-20 Shadow fields with and without margins

Displaying lines in a field

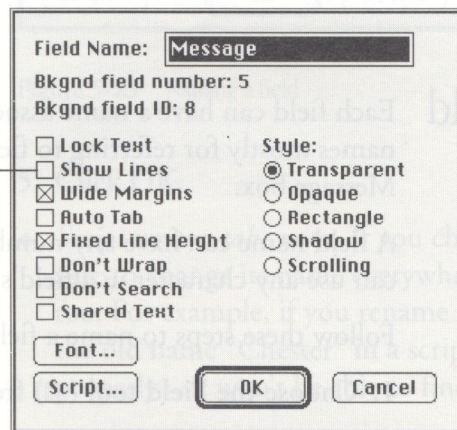
You can display lines in a field. This is useful for making a transparent field visible so you can see where to type in it.

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.

Click here to see
the lines in a field.
Click again to hide
the lines.



4. Click the Show Lines check box to select it:

Figure 5-21 Displaying lines in a field

5. Click OK.

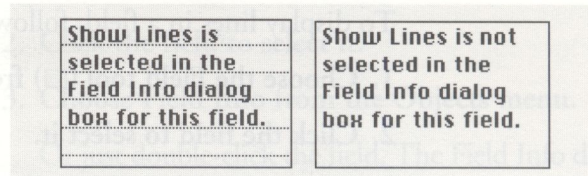


Figure 5-22 Rectangle fields with and without lines


❖ *Note:* You can't display lines in a scrolling field. ❖

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 any number of 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:

Field name:

Bkgn field number: 1
Bkgn field ID: 7

Show Lines
 Wide Margins
 Lock Text
 Auto Tab
 Auto Line Height
 Don't Search
 Shared Text

Style:
 Transparent
 Opaque
 Rectangle
 Shadow
 Scrolling

Font...
Script...
OK Cancel

Type the field name here.

Figure 5-23 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

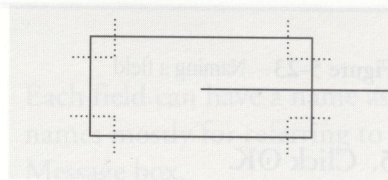
You can place a field wherever you like on the card or background. To reposition a field on the card or background, follow these steps:

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 5-24 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.

Or choose the Browse tool.

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.

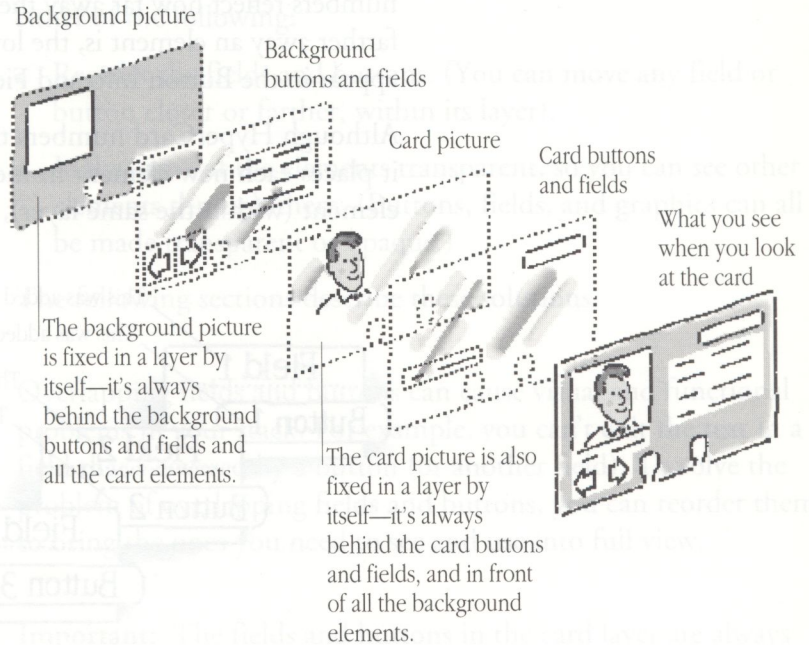


Figure 5-25 HyperCard's layers

As shown in Figure 5-25, 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.

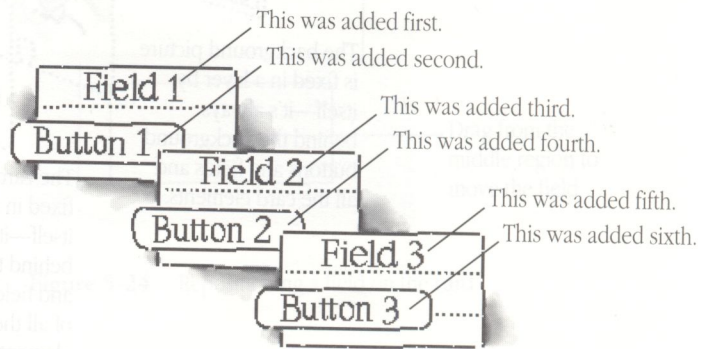


Figure 5-26 Background button and field layers and numbers

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 5-25).

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 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 . . .

Send the field to the back
Bring the field to the front

Press

⌘-Shift - - (minus)
⌘-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

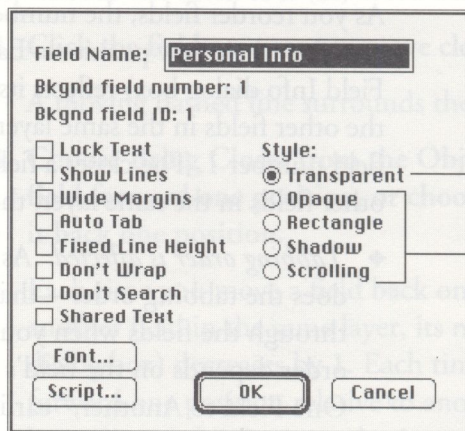
When you want to be able to see background or card elements through a field that covers them, you can make the field transparent. Conversely, when you want to give a field more prominence, you can make it opaque.

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. Choose an appropriate field style to make the field opaque or transparent:



Choosing this style makes the field transparent.

Choosing any of these styles makes the field opaque. (See Figure 5-17.)

Figure 5-27 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 script) 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.

Otherwise, 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 and the text isn't visible, 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.

Otherwise, 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.

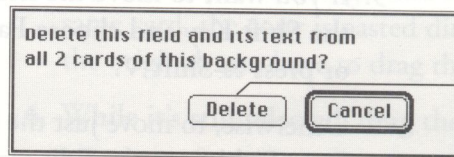
7. If you've pasted the text along with the field, choose **Background** from the **Edit** menu, or press **⌘-B**, to return to the card layer and see the text.

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:



Click **Delete** to confirm that you want to cut the field.

Figure 5-28 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.

Otherwise, 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.

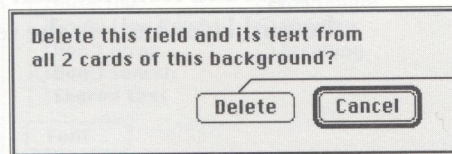
Follow these steps to move a field to another card or background:

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:



Click Delete to confirm that you want to cut the field.

Figure 5-29 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.

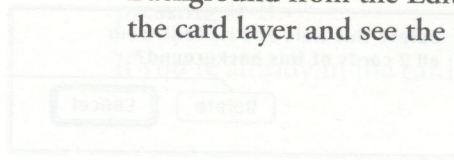
5. If you want to move the field and its text, press and hold the Shift Key and choose Paste Field from the Edit menu, or press ⌘-Shift-V.

Otherwise, 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 and the text isn't visible, 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 default 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.

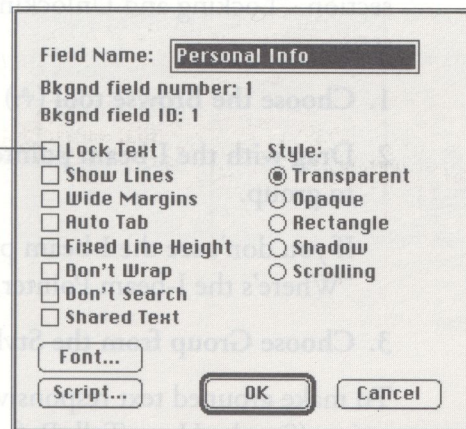


Figure 5-30 Locking a field

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 5-30).

Grouping text

When a field is locked, each individual word of text in the field has the potential to behave much like a button. By writing a script, you can make something happen when a user clicks a word in the field.

You can also make any group of words or characters in a field respond in the same way to a single click in any part of that group of text. What happens when you click text, whether or not it's grouped, depends on the scripts in the stack.

To group text so that it will respond as one unit to a click, first make sure the field is unlocked (as described in the previous section, "Locking and Unlocking a Field"). Then follow these steps:

1. Choose the Browse tool (⌘) from the Tools menu.
2. Drag with the I-beam pointer (I) to select the text you want to group.

If you don't see the I-beam pointer, consult the section "Where's the I-beam Pointer," earlier in this chapter.


3. Choose Group from the Style menu, or press ⌘-Shift-G.

To make grouped text responsive to clicks, you must write a script. (See the HyperTalk Reference stack for more information.)

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

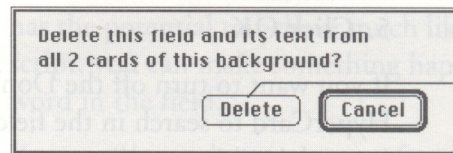
Deleting a field

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 or Backspace.

If the field is a background field, a dialog box like this appears:



Click Delete to confirm that you want to delete the field.

Figure 5-31 Confirmation dialog box for deleting a background field

- ▲ **Warning:** Once you've deleted the field with the Clear Field command (or with the Delete or Backspace 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 MacPaint® (or a MacPaint-compatible application).

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 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 of the cards in the stack (but not all of them), 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, stripes appear 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.

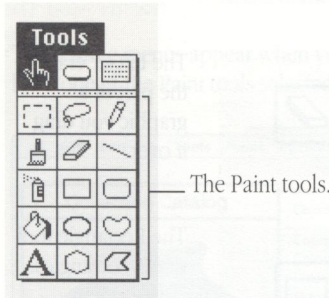
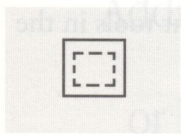
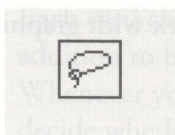


Figure 6-1 HyperCard's tools

The functions of the Paint tools are described briefly in the figure that follows. Detailed instructions for using these tools are given in this chapter.



The Selection tool is for selecting graphics.



The Lasso is for selecting non-rectangular graphics.



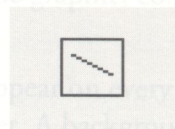
The Pencil draws thin, free-form lines.



The Brush paints with the current pattern.



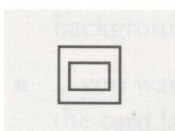
The Eraser erases the part of a graphic you drag it over.



The Line tool draws straight lines.



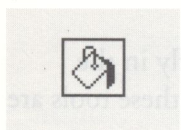
The Spray tool is for spritzing paint onto the screen in the current pattern.



The Rectangle tool draws rectangles.



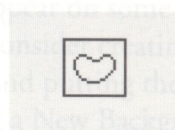
The Rounded Rectangle tool draws rectangles with rounded corners.



The Bucket fills enclosed areas and solid black areas with the current pattern.



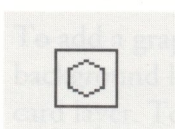
The Oval tool draws ovals and circles.



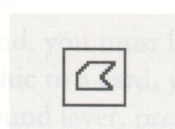
The Curve tool draws free-form lines and shapes.



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



The Regular Polygon tool creates polygons with equal sides.



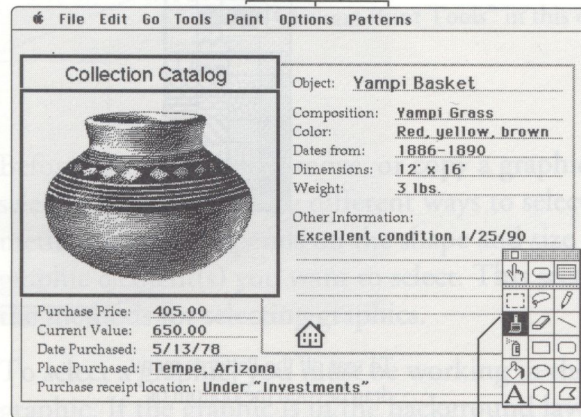
The Polygon tool creates polygons with unequal sides.

Figure 6-2 What the tools are used for

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, Font, and Style menus disappear temporarily while you're working with the Paint tools.)

These three menus appear when you have one of the Paint tools selected.

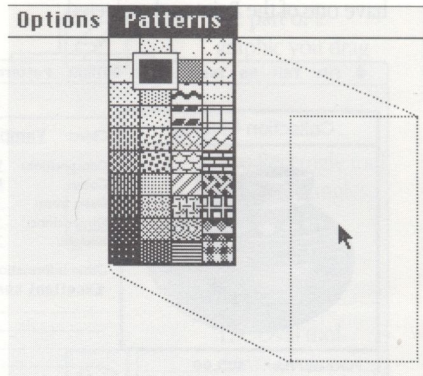


Selected Paint tool

Figure 6-3 Menus that accompany the Paint tools

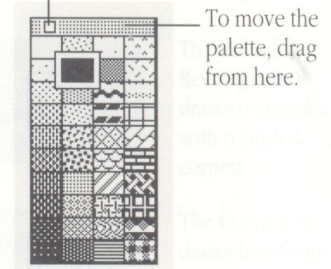
The Paint and Options menus contain commands for creating and manipulating graphics. These commands are described throughout this chapter.

The Patterns menu contains patterns you can use to fill shapes and draw borders. For easy access to the patterns, 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.



To tear off the Patterns menu, drag beyond the bottom or side of the menu.

You can close the Patterns palette by clicking here.



To move the palette, drag from here.

Click any pattern 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. ❖

The Patterns palette works like the Tools palette—to select a pattern, 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” 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. This section explains 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 only select it from the background layer. If it’s in the card layer, you can only select it 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.)

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, stripes appear 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.

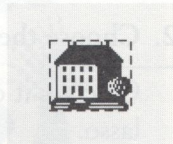
A moving dashed line surrounds the selected area.

- ❖ *For a tighter selection:* To eliminate extra white 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. ❖

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 white space from the selection.

Figure 6-5 Eliminating extra white space in a rectangular selection

If you select too much or not enough, you can 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:

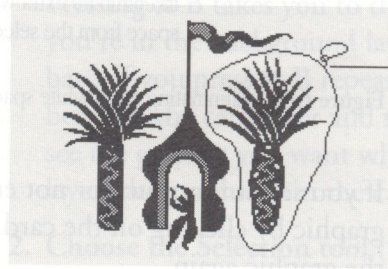
1. **Go to the card or background that contains the graphic element or the area you want to select.**

Pressing ⌘-B takes you to the background layer. (When you're in the background layer, stripes appear 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:**

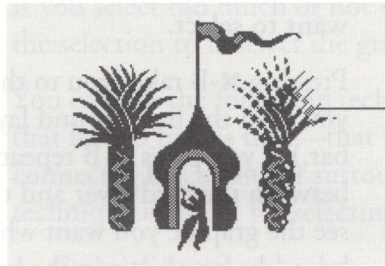


The tip of the line trailing out of the Lasso determines what you select.

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 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

- ❖ *If you want to include the surrounding white space:* To lasso a graphic without eliminating the surrounding white space, 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, you can 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 white space 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 white space, 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, stripes appear 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.

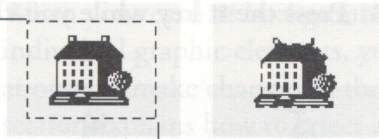
2. **Choose the Selection tool (⌘) from the Tools menu.**

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.

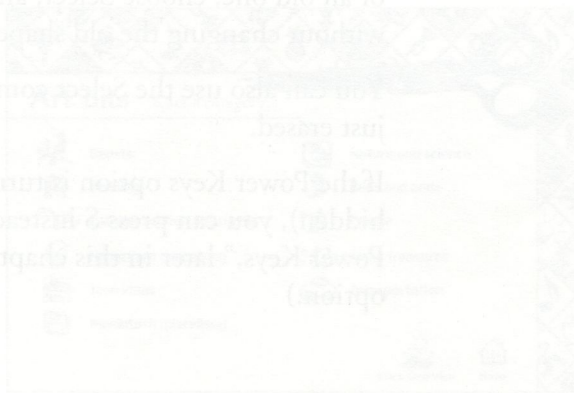
The selected graphic shimmers.

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 graphic element that has no breaks in it—that is, one that’s composed entirely of connected black dots or surrounded by an unbroken line. This technique is useful for selecting small, solid graphic elements.

1. Go to the card or background that contains the graphic 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 the graphic by ⌘-clicking it with tip of the Lasso.

The edges of the selected graphic shimmer.

Figure 6-9 Selecting a solid 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 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.

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 the white space 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, stripes appear 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.)

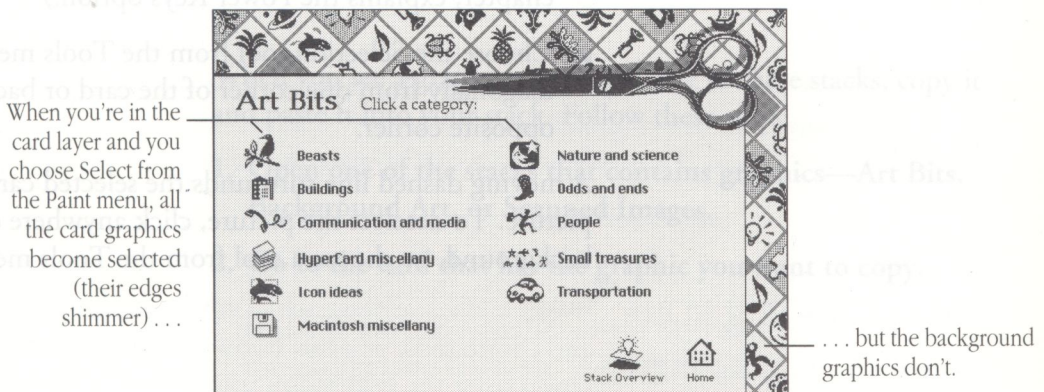


Figure 6-10 Selecting all the graphic elements in the current layer

Selecting the entire card picture or background picture

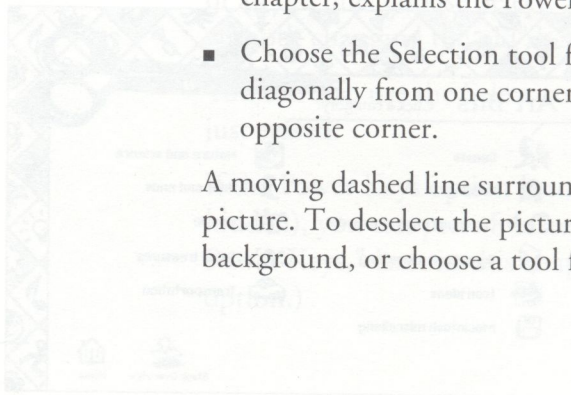
When you want to copy, delete, or change the entire card picture or background picture (for example, by filling it with a pattern), you can select the whole picture at once in one rectangular selection the size of the card. This section explains how to select the whole picture in the current layer, including all the graphic elements and the white 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, stripes appear 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.
- Choose the Lasso from the Tools menu, then press the ⌘ key while you click the card or background.
- 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 great art into your stacks is to copy graphics that already exist. Copying graphics can simplify the stack-building process. HyperCard comes with several stacks that contain graphics you can copy and paste into your stacks:

- The Art Bits stack is filled with all kinds of illustrations. The first card in this stack lists categories of graphic images. To see graphics in a particular category, click the category name.
- The Background Art stack contains graphics for stack backgrounds.
- The Scanned Images stack contains graphics that have been digitized using a scanner so they can be viewed on a Macintosh.

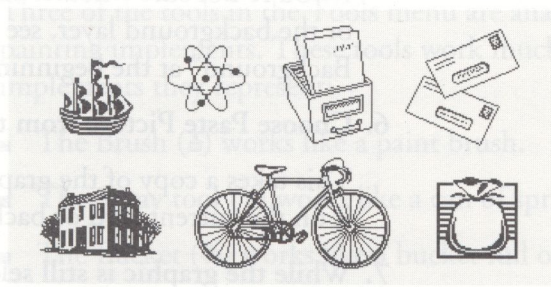


Figure 6-11 Some graphics from the Art Bits stack

When you see a graphic you like in one of these stacks, copy it and paste it into your stack. Follow these steps:

1. **Open one of the stacks that contains graphics—Art Bits, Background Art, or Scanned Images.**
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 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.

The graphic is opaque right 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.

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.

- *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, Bucket, and Spray tool

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 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. (HyperCard’s default pattern 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 (◦).

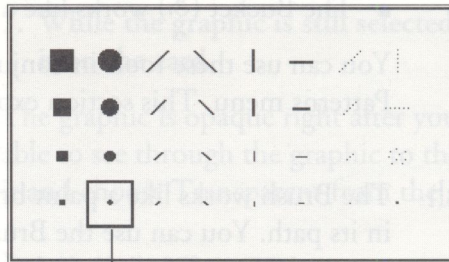
3. Drag where you want to paint.

Paint (in the current pattern) 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, choose the pattern 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:



A box appears around the selected brush shape.

Click a brush shape to select it. After you select a brush shape, this dialog box disappears. The pointer changes to brush shape you select.

Figure 6-12 The different brush shapes

The different brush shapes create different effects when you paint. The following figure shows some examples:

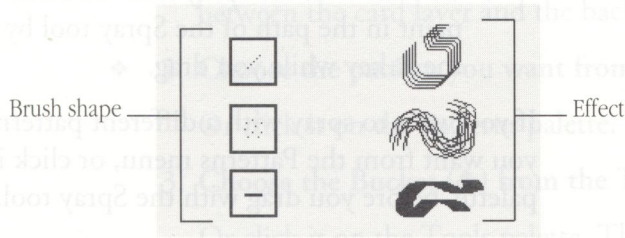


Figure 6-13 The different brush shapes create different effects

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 pointer (☼).

3. Drag where you want to paint.

Spray paint, in the current pattern, appears where you drag. The more you spray back and forth over the same area, the more the pattern 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, choose the pattern 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

You can fill any area on a card or background with a pattern 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 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, you can fill the shape automatically as you draw it. For instructions, see “Drawing a Shape Filled With a Pattern,” 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, stripes appear 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 pointer so that the tip of the stream pouring from it is within the enclosed space you want to fill, then click:

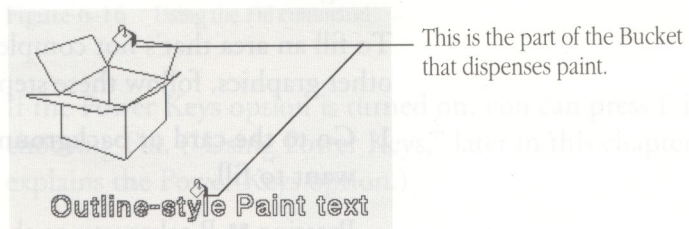


Figure 6-14 Positioning the Bucket pointer to fill an area

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, or Esc. Then check carefully for gaps in the outline before using the Bucket again.

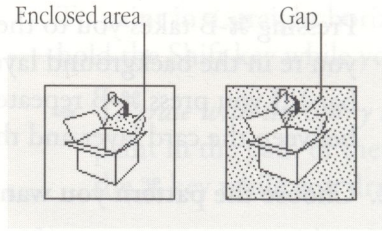


Figure 6-15 Paint spills out of an unenclosed area

- ❖ *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, stripes appear 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.

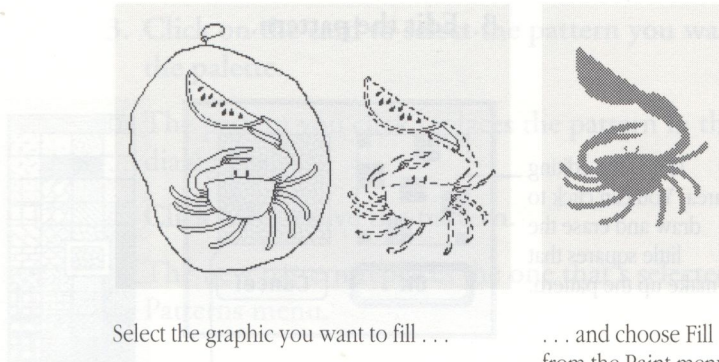


Figure 6-16 Using the Fill command

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 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 Patterns menu.**

Or click it on the Patterns palette.

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.

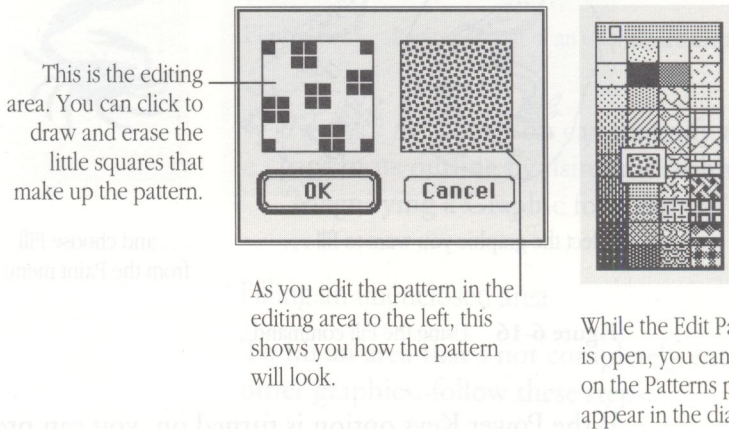


Figure 6-17 Editing a pattern

4. Click OK to save the new pattern.

The new pattern takes the place of the one that was selected in the Patterns menu.

Using a pattern that appears on the card You can replace a pattern in the Patterns menu with a pattern that appears anywhere on the card. Follow these steps:

1. Choose the pattern you want to replace from the Patterns menu.

Or click it on the Patterns palette.

2. Choose Edit Pattern from the Options menu.

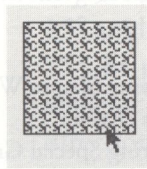
Or double-click the pattern you want to replace on the Patterns palette. The Edit Pattern dialog box appears, displaying the selected pattern.

3. Click on the card to select the pattern you want to add to the palette.

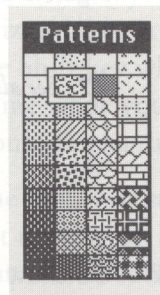
The pattern you click replaces the pattern in the Edit Pattern dialog box.

4. Click OK to save the pattern.

The new pattern replaces the one that's selected in the Patterns menu.



If you click a pattern on the card while the Edit Pattern dialog box is open, and then click OK in the Edit Pattern dialog box . . .



. . . the pattern you've clicked replaces the selected pattern in the Patterns menu.

Figure 6-18 Replacing a pattern in the Patterns menu

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.

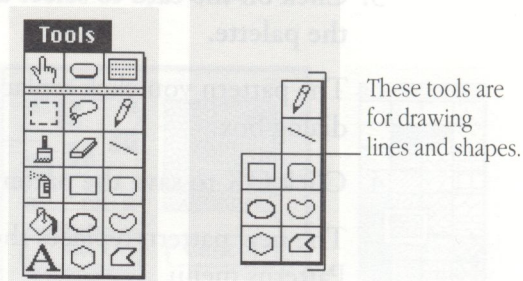


Figure 6-19 Tools for drawing lines and shapes

- *See also:*
- “Drawing Shapes With Patterns 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.

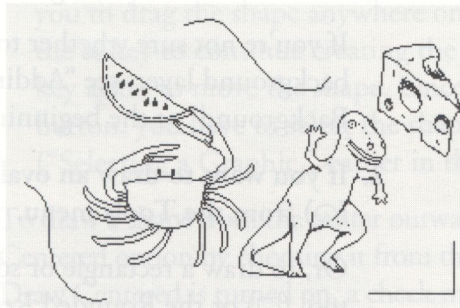


Figure 6-20 Lines and free-form shapes

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 in Inverse," 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 . . .

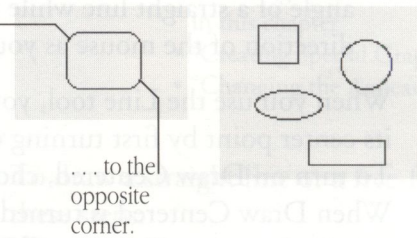


Figure 6-21 Drawing circles, ovals, and rectangles

To draw a perfect 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 outwards, 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.)

Drawing a regular polygon

To draw a regular polygon (one whose sides are all 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 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 a 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.

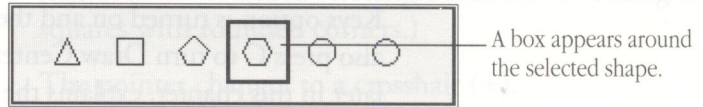


Figure 6-22 Choosing the number of sides for a polygon

5. Drag diagonally to draw the polygon.

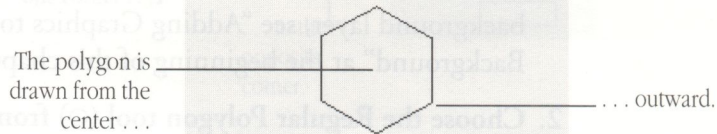


Figure 6-23 Drawing a regular polygon

To move the polygon around on the card while you're drawing it, press \mathbb{X} *before* you release the mouse button. This allows you to drag the shape anywhere on the card. You can release the \mathbb{X} key to continue creating the polygon, then press the \mathbb{X} 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 outwards, 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 (\square) 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.)

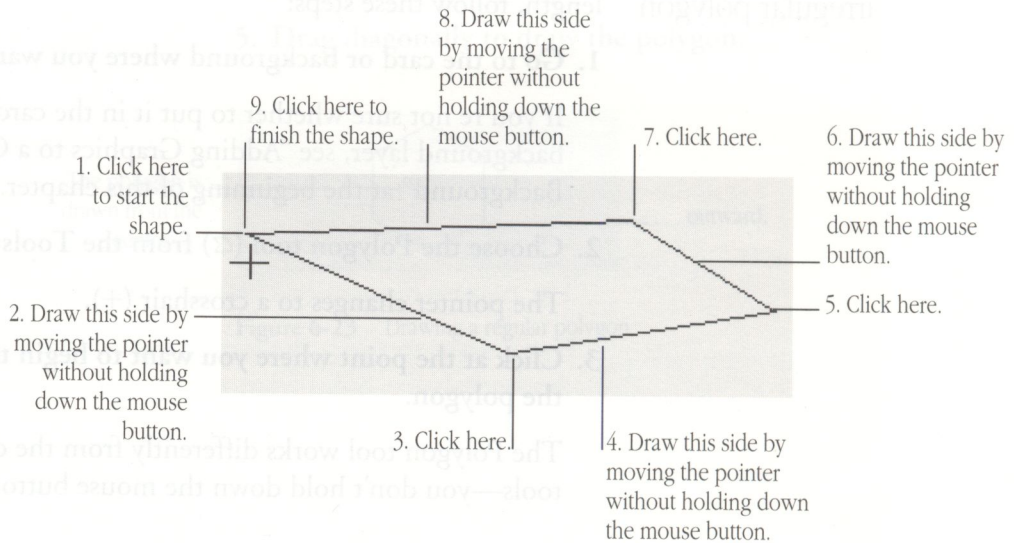
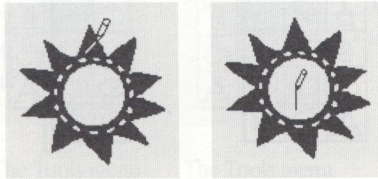


Figure 6-24 Drawing an irregular polygon

Drawing in inverse

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 opposite color of the place where you begin to drag:



If you start dragging on black, the Pencil draws in white.

If you start dragging on white, the Pencil draws in black.

Figure 6-25 Drawing in the opposite color

To draw a straight horizontal or vertical line with the Pencil, press the Shift key while you drag.

The Pencil can only draw thin solid lines (black or white) and shapes and pictures composed of thin solid lines. It can't draw thick lines, or shapes and lines that have patterns.

Drawing shapes with patterns and different line widths

This section explains how to create lines and shapes that have patterns, and lines and shape borders in varying line widths.

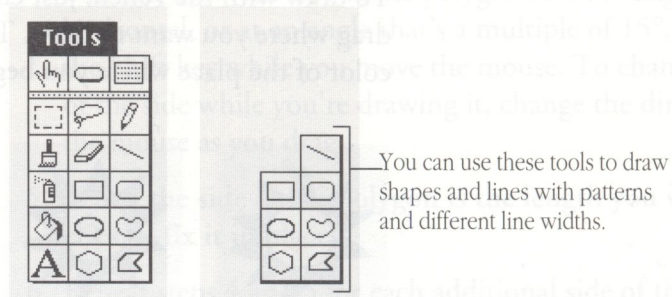


Figure 6-26 The tools for drawing with patterns and different line widths

Drawing a shape filled with a pattern

When you know before creating a shape that you'll want it filled with a pattern, you can fill the shape automatically as you draw it. Follow these steps:

1. **Choose the pattern you want the shape to have from the Patterns menu.**

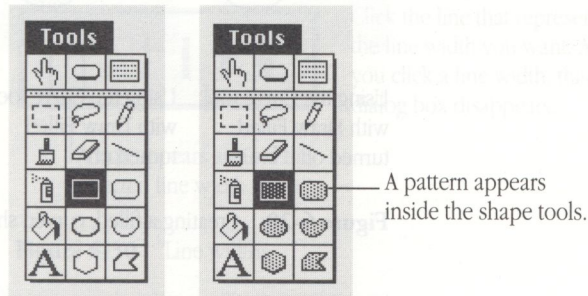
Or click it on the Patterns palette.

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

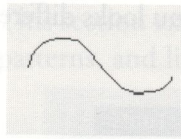
Figure 6-27 The Tools menu with Draw Filled turned off and turned on

3. Draw the shape.

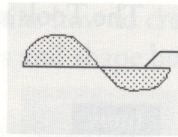
Choose the tool for the shape you want to draw from the Tools menu, then drag to draw the shape. (See “Drawing Lines and Shapes,” earlier in this chapter, if you want more detailed instructions.)

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. ❖



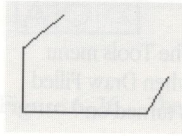
Using the Curve tool with Draw Filled turned off



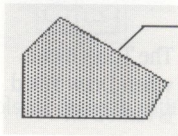
Using the Curve tool with Draw Filled turned on

HyperCard draws this line.

Figure 6-28 Creating a filled, curved shape



Using the Polygon tool with Draw Filled turned off



Using the Polygon tool with Draw Filled turned on

HyperCard draws this line.

Figure 6-29 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. 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.

2. To select a line thickness, click it:



A box appears around the selected line width.

Click the line that represents the line width you want. After you click a line width, this dialog box disappears.

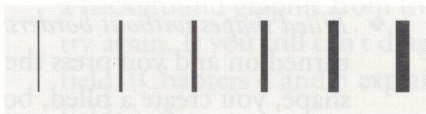
Figure 6-30 Line widths

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 6-31 The power keys for choosing line widths

Drawing lines and borders with patterns

To draw a line that has a pattern, or a shape with a patterned border, follow these steps:

1. Choose the pattern you want from the Patterns menu.

Or click it on the Patterns palette.

2. Choose the tool for the line or shape you want to draw.

The Line tool or any of the shape tools will work. (You can't draw a patterned line with the Pencil).

3. Press and hold the Option key while you draw the line or shape.

See “Drawing Lines and Shapes,” earlier in this chapter, if you want more detailed instructions.

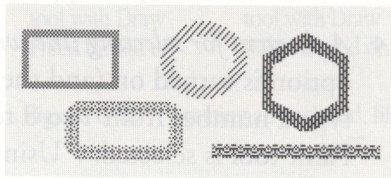


Figure 6-32 Lines and shape borders with patterns

- ❖ *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, stripes appear 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. △

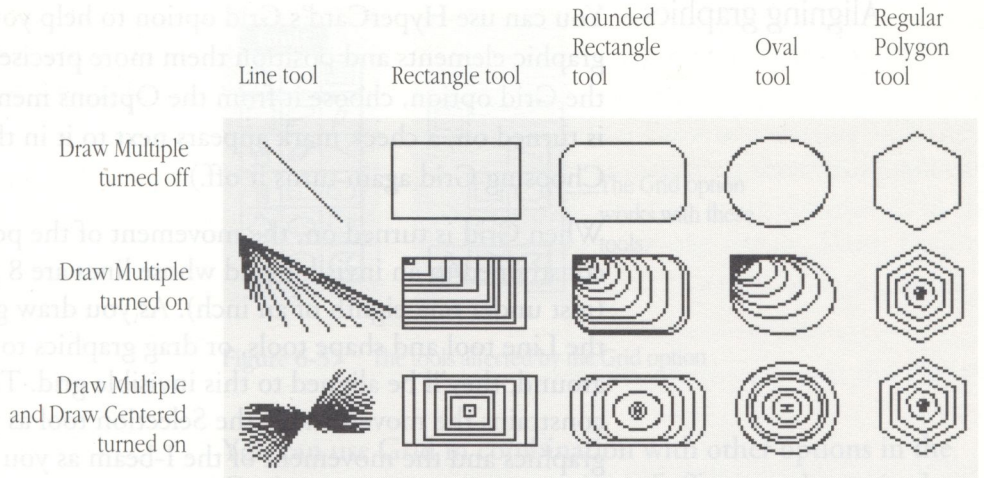


Figure 6-34 Drawing shapes with and without Draw Multiple

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.

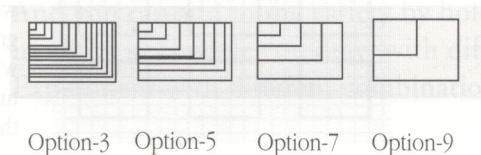


Figure 6-35 Varying the spacing between images for the Draw Multiple option

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-eighth 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.

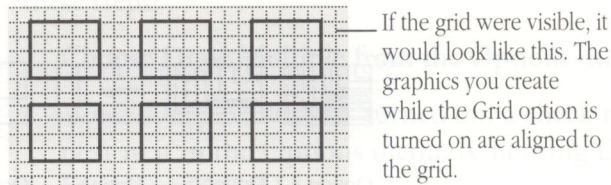


Figure 6-36 Aligning graphics with the grid

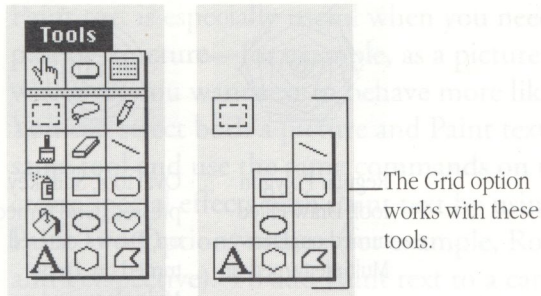


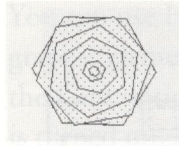
Figure 6-37 The tools affected by the Grid option

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.”

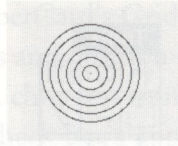
If the Power Keys option is turned on (and the Message box is hidden), you can press G to turn Grid on or off. (“Using Power Keys,” later in this chapter, explains the Power Keys option.)

Combining options for unique effects

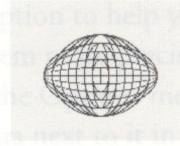
You can create some interesting visual images when several options in the Options menu are turned on at the same time. And you can add to the variety by holding down various modifier keys while you draw with different options turned on. Experiment with different combinations to see what happens.



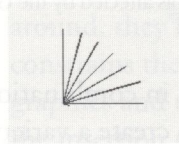
Regular Polygon tool, Draw Filled turned on, Draw Multiple turned on



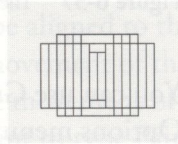
Oval tool, Shift key pressed, Grid turned on, Draw Centered turned on, Draw Multiple turned on



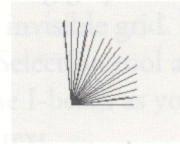
Oval tool, Grid turned on, Draw Centered turned on, Draw Multiple turned on



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 6-38 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 and Options menus (for example, Rotate, Slant, Distort, and Perspective). 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 12-point plain Geneva with a line height of 16 points.

4. Choose from the options in the Text Style dialog box:

The image shows the 'Paint Text Style' dialog box with several annotations. The dialog box has a title bar 'Paint Text Style' and is divided into several sections:

- Style:** A list of checkboxes for Bold, Italic, Underline, Outline, Shadow, Condense, and Extend. A line points to this section with the text: 'Click to select or deselect one or more text styles. (Select nothing for plain text). The sample text in the lower-right corner of this dialog box shows the effect of the selected styles(s).'
- Align:** Radio buttons for Left (selected), Center, and Right. A line points to this section with the text: 'The alignment you select applies to each line you type. (You start a new line by pressing Return).'
- Font List:** A scrollable list of fonts including Geneva, Helvetica, HyperCharacters, I Garamond Light, ImageWriter, Ivy League, LED, London, McCloud, MerrionSquare, Monaco, New York, and Oblique. A line points to this list with the text: 'Click to select the font you want. (Or double-click to select the font and return to your work quickly.)'
- Font Size:** A vertical list of font sizes: 9, 10, 12 (selected), 14, 18, 20, 24. A line points to this list with the text: 'Click to select a font size (measured in points).'
- Line height:** A text field containing the number 16. A line points to this field with the text: 'This number determines the space between lines of text. HyperCard sets this number automatically when you select a font size, but you can change it by typing a new number here.'
- Sample:** A small text area showing the word 'Sample' in the selected font and size. A line points to this area with the text: 'This shows what your text will look like.'
- Buttons:** 'OK' and 'Cancel' buttons are located in the top right corner.

Figure 6-39 Selecting a font, style, and size for Paint text

The choices you make in this dialog box stay in effect 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 or Backspace 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.

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.

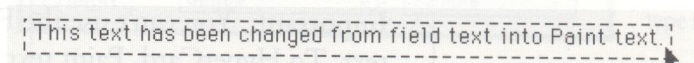
4. **Choose any Paint tool from the Tools menu.**

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:



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 6-40 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.

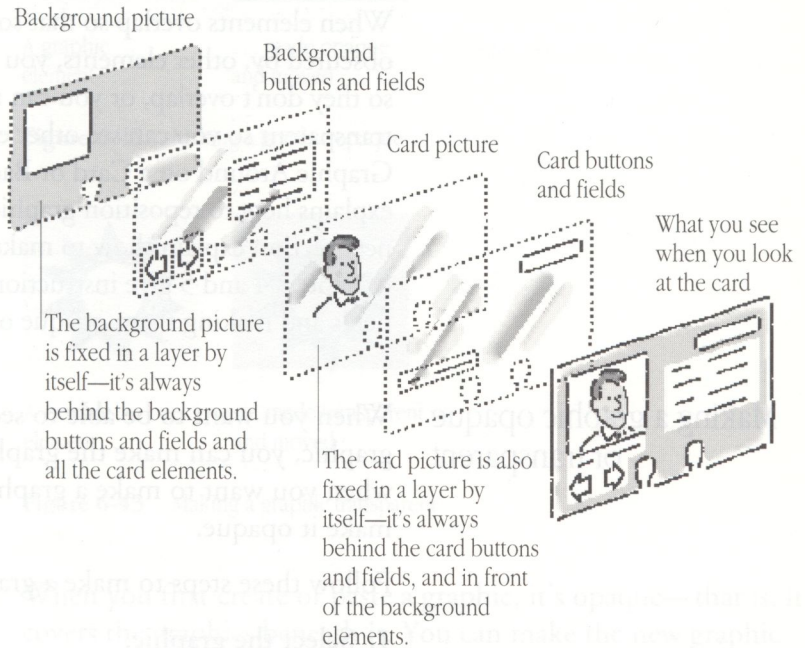


Figure 6-41 HyperCard's layers

As shown in Figure 6-41, 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," later 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.

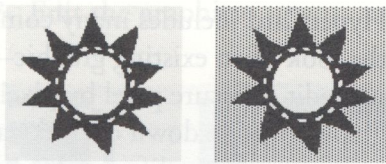
Follow these steps to make a graphic opaque or transparent:

- 1. Select the graphic.**

"Selecting a Graphic," earlier in this chapter, gives instructions.

- 2. Choose Transparent from the Paint menu to make the graphic transparent.**

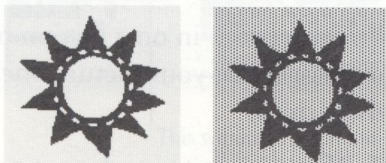
Or choose Opaque from the Paint menu to make the graphic opaque.



A graphic
element . . .

. . . made opaque
and moved

Figure 6-42 Making a graphic opaque



A graphic
element . . .

. . . made transparent
and moved

Figure 6-43 Making a graphic transparent

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 press **T** to make it transparent. (“Using Power Keys,” later in this chapter, explains the **Power Keys** option.)

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 backwards. This section describes all the ways you can modify graphics and Paint text.

- *See also:*
- “Using Power Keys” in this chapter
 - “Using Modifying Keys With Paint Tools” in this chapter
 - “Double-clicking Paint Tools” 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 pixel (dot) 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.

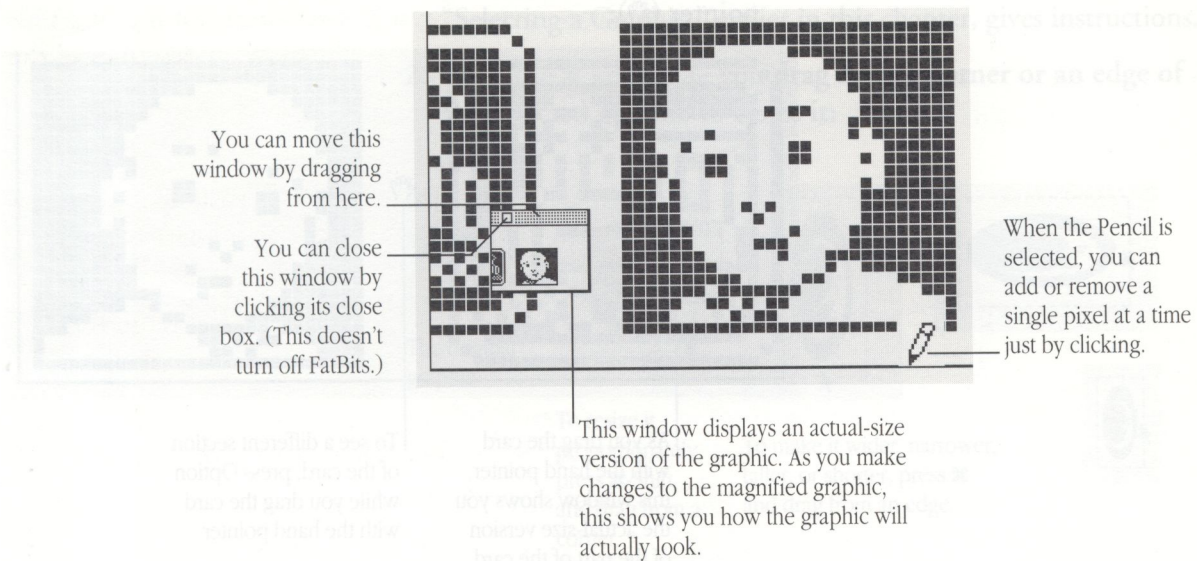
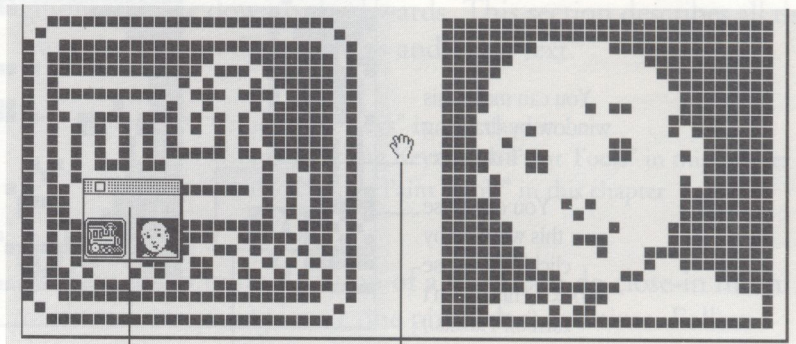


Figure 6-44 Editing a graphic with FatBits turned on

You can use any of the Paint tools to modify the graphic—they all work at the magnified scale.

If you want to edit a different part of the picture, press Option and drag the magnified graphic 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.

To see a different section of the card, press Option while you drag the card with the hand pointer.

Figure 6-45 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 \mathbb{A} key while you drag from a corner or an edge of the selected graphic to resize it:

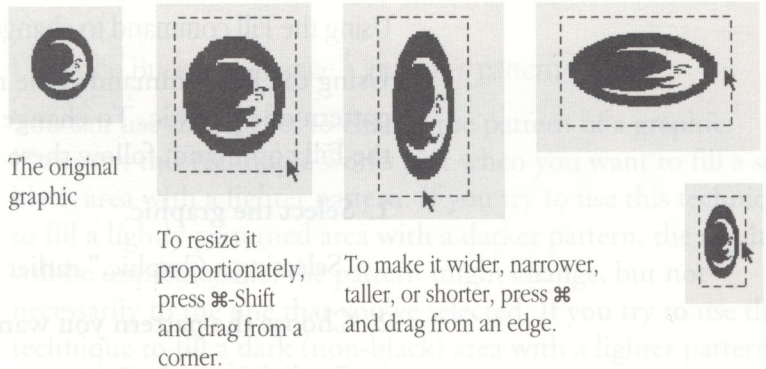


Figure 6-46 Resizing a graphic

- ❖ *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 \mathbb{A} -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 of a graphic

There are three ways to change the pattern of a graphic:

- Use the Fill command to fill the graphic with a different pattern.
- Use the Bucket to “pour” a different pattern into the graphic.
- Use the Pickup command to give the graphic the same pattern as another graphic on the card.

Using the Fill command to change a graphic's pattern

Using the Fill command is the most reliable way to change the pattern of a graphic. To change the pattern of a graphic using the Fill command, follow these steps:

1. Select the graphic.

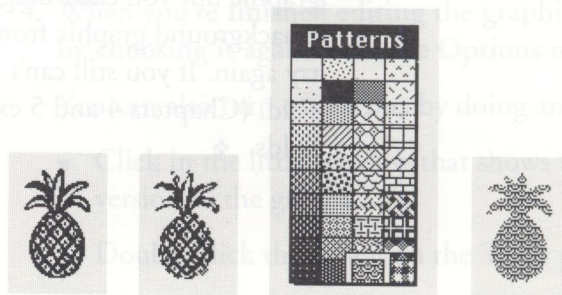
“Selecting a Graphic,” earlier in this chapter, gives instructions.

2. Choose the pattern 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.



The original graphic 1. Select the graphic 2. Choose a pattern. 3. Choose Fill from the Paint menu.

Figure 6-47 Assigning a new pattern 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

You can use the Bucket to change the pattern of a graphic. However, this technique works best when you want to fill a solid black area with a lighter pattern. If you try to use this technique to fill a lightly patterned area with a darker pattern, the results will be unpredictable; the pattern might change, but not necessarily to the one that you've selected. If you try to use this technique to fill a dark (non-black) area with a lighter pattern, you might not see any change at all.

△ **Important:** Use the Bucket to change a graphic's pattern *only* if the graphic is solid black or completely enclosed. Otherwise, paint might spill out and fill the surrounding area. △

To change a graphic's pattern 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, stripes appear 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 a bucket.

4. Move the bucket pointer 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.

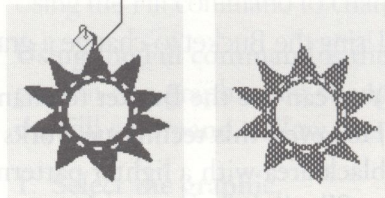


Figure 6-48 Positioning the bucket pointer to fill a graphic

If paint spills out into the surrounding area, immediately choose Undo from the Edit menu, or press ⌘-Z, Tilde, or Esc.

Using the Pickup command to change a graphic's pattern

To give a graphic the same pattern 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 you want to give the graphic.

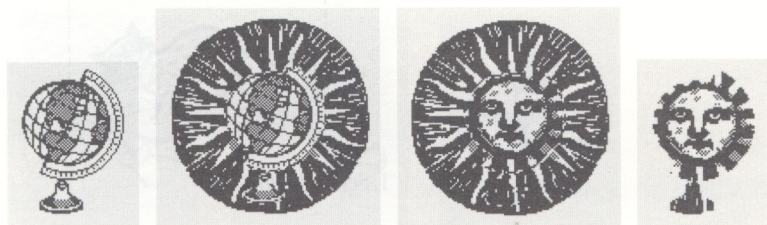
See Figure 6-49.

3. While the graphic is still selected, choose Pickup from the Paint menu.

The selected graphic picks up the pattern of the graphic behind it, or the image that's behind it, whether or not it's a pattern.

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 6-49 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.)

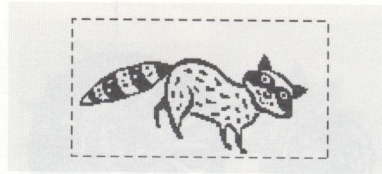
Inverting a graphic

To reverse the colors of a graphic so that white becomes black and black becomes white, 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 6-50 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.)

Making a graphic darker or lighter

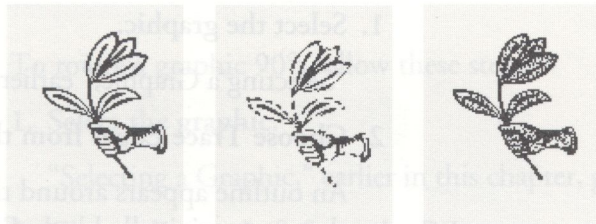
To darken or lighten a graphic, follow these steps:

1. **Select the graphic.**

“Selecting a Graphic,” earlier in this chapter, gives instructions.

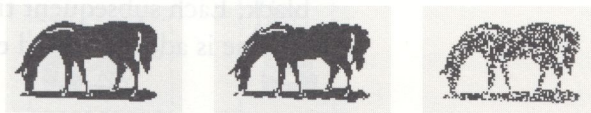
2. Choose **Darken** from the **Paint** menu to make the graphic darker, or choose **Lighten** to lighten it.

Choosing the **Darken** command darkens the selected graphic by randomly turning white pixels black. Choosing the **Lighten** command randomly turns black pixels white. If you choose either of these commands repeatedly, more pixels are changed each time.



- The original graphic
1. Select the graphic.
 2. Choose **Darken** from the **Paint** menu.

Figure 6-51 Darkening a graphic



- The original graphic
1. Select the graphic.
 2. Choose **Lighten** from the **Paint** menu.

Figure 6-52 Lightening a graphic

If you've just created a graphic element and you haven't clicked *anywhere*, the **Darken** and **Lighten** 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 D instead of choosing Darken, or L instead of choosing Lighten. Pressing and holding D makes the selected graphic darker and darker until it's totally black; pressing and holding L makes it lighter and lighter until it's totally white. ("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 black. Each time you choose Trace Edges, another outline is added.

- ❖ *Note:* If the graphic is mostly black, the first time you choose Trace Edges, the graphic may seem to invert—that is, the black parts turn white and the white parts turn black. Each subsequent time you choose Trace Edges, an outline is added around each black part of the graphic. ❖

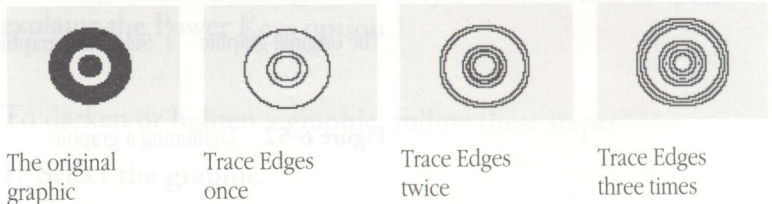


Figure 6-53 Repeated use of the Trace Edges command

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.

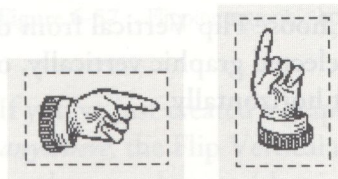


Figure 6-54 Rotating a graphic to the left 90°

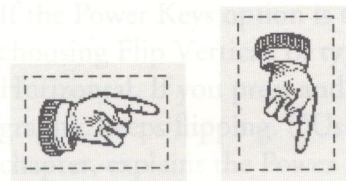


Figure 6-55 Rotating a graphic to the right 90°

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.)

"Slanting, Rotating, or Distorting a Graphic," later in this chapter, explains how to rotate a graphic in increments smaller than 90°.

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.

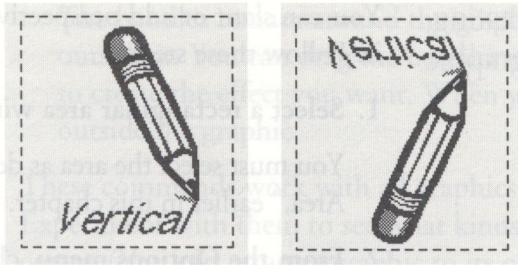


Figure 6-56 Flipping a graphic vertically

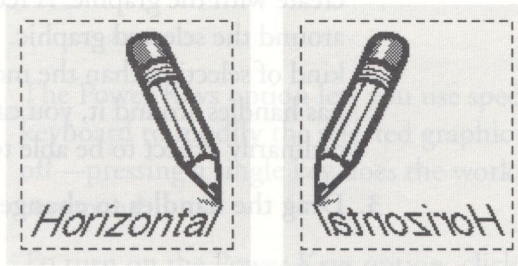


Figure 6-57 Flipping a graphic horizontally

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.)

Slanting, rotating, or distorting a graphic

You can slant or add perspective to a graphic, or rotate or distort it. Follow these steps:

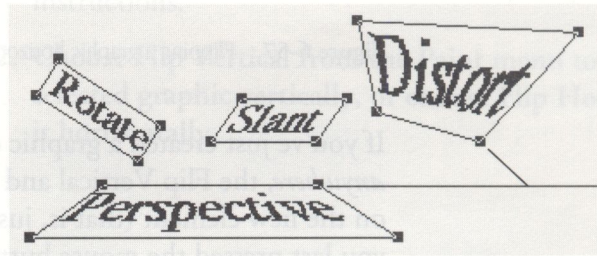
1. Select a rectangular area with the Selection tool (☐).

You must select the area as described in “Selecting a Rectangular Area,” earlier in this chapter. (A Lasso selection won’t work.)

2. From the Options menu, choose Rotate, Slant, Distort, or Perspective.

Choose the command that describes the effect you want to create with the graphic. A rectangle with handles appears around the selected graphic. (The handles indicate a different kind of selection than the moving dashed line; when a graphic has handles around it, you can’t do the things with it that you’d ordinarily expect to be able to do with a selected graphic.)

3. Drag the handles to change the graphic’s appearance:



Drag the handles to change the appearance of the graphic.

Figure 6-58 The effects of the Rotate, Slant, Distort, and Perspective commands

The handles remain around the graphic until you click outside it. You can drag the handles as many times as you like to create the effect you want. When you're finished, click outside the graphic.

These commands work with all graphics, including Paint text. Experiment with them to see what kinds of effects you can create. (You can return a graphic to its original state by choosing Undo—or pressing ⌘-Z, Esc, or Tilde—no matter how many times you've dragged its handles.)

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 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
Darken	D	Paint
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
Lighten	L	Paint
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

❖ *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. The following table shows you how. (Paint tools that aren't affected by the modifier keys at all aren't listed.)

Modifier key

Tool	Command	Shift	Option
Selection	Select tightly	Move selection horizontally or vertically	Duplicate selection
Lasso	Lasso everything	Move selection horizontally or vertically	Duplicate selection
Line	No effect	Draw at 15° angles	Draw with pattern
Eraser	Erase in white	Erase straight horizontally or vertically	No effect
Pencil	Enter/leave FatBits	Draw straight horizontally or vertically	No effect
Rectangle	No effect	Draw a square	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	No effect	Draw square with round corners	Patterned border
Polygon	No effect	Draw at 15° angles	Patterned border
Oval	No effect	Draw a circle	Patterned border
Regular Polygon	No effect	Rotate in 15° increments	Patterned border

Double-clicking Paint tools and patterns

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 patterns.

Double-click . . .	To do this
Any pattern	Bring up Edit Pattern dialog box
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, stripes appear 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.

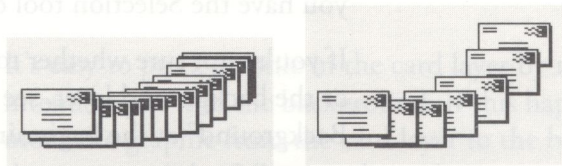
3. **Position the pointer over the selected graphic so that it becomes the arrow pointer.**

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 \mathbb{A} -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.) ❖

You can make multiple copies of the graphic by pressing \mathbb{A} -Option while you drag. A trail of copies follows the pointer. (You can preset the spacing between each image in the trail by pressing Option along with a number from 1 to 9 before you drag. The larger the number you type, the greater the spacing between the copies.)



Option-1 pressed
before dragging

Option-7 pressed
before dragging

Figure 6-59 Making multiple copies

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, stripes appear 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.**

You can use the arrow keys, the Navigator palette, or commands in the Go menu to navigate between cards while you have the Selection tool or the 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.

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.**

A graphic is opaque right 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 copy.**

You must be in the card layer to move a card graphic. (If you see stripes appear 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 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, stripes appear 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 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.**

A graphic is opaque right 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 the preceding section, "Moving a Graphic from the Card to the Background." △

Importing a graphic

There are many products you can use to create pictures that are compatible with MacPaint. Some products let you create MacPaint pictures from scratch; others let you digitize images using a scanner or video camera attached directly to the Macintosh. However you create it, you can bring any MacPaint picture 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 your MacPaint picture.**

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 MacPaint picture, make sure the part of the picture you want to paste is in the document's upper-left corner; or make sure the card you want to paste it on is large enough to accommodate the picture, including any blank space that's in the upper-left corner of the picture. "Changing the Size of a Stack's Cards" in Chapter 2 explains how to adjust the card size. ❖

Once you've imported a picture, you can work with it just as if you'd created it in HyperCard.

- ❖ *Bringing in graphics via the Clipboard:* You can also bring a non-MacPaint picture into HyperCard—for example, something you create using MacDraw® or a similar application—via the Clipboard or Scrapbook. Copy the picture to the Clipboard or the Scrapbook first; then paste it onto a HyperCard card using the Paint Picture command in the Edit menu. ❖

Exporting a snapshot of a card or background

You can take a snapshot of the current card or background and save it as a MacPaint document 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 MacPaint file saved and type a name for the file.**

3. **Click OK.**

Export Paint creates a MacPaint document 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, just an image of the background is saved.

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, the FatBits window, or the Scroll window open on the screen, their images aren't included with the exported picture.

- ❖ *Note:* If the card image is too large to fit in a MacPaint file, it gets clipped along the bottom and the right side. ❖

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, or press ⌘-C.
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 Delete, Backspace, or Clear, 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, Backspace, or Clear 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, or Esc.
- 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.
 - ❖ *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, Esc, or Tilde.)

Printing

This chapter explains how to print the information in a stack. You can print a single card, specific cards in a stack, an entire stack, the contents of a field, or a report that displays the contents of specific fields. You can also create different report templates for a stack and copy and paste report templates from one stack to another.

If you're familiar with HyperTalk, you have even more printing options—for example, you can print a specific rectangular area of a card, a range of consecutive cards, or a document from another application. The HyperTalk Reference stack describes these options. (They aren't covered in this chapter.)

You can do all the tasks described in this chapter no matter what your user level is set to.

Preparing to print

Before printing with HyperCard, you must have the appropriate printer driver (also called printing resource) for your printer in your System Folder and make sure your printer's icon is selected through the Chooser desk accessory. The documentation that came with your computer describes how to install printer drivers and how to use the Chooser.

Once you have the appropriate printer driver installed and 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 what kind of printer and which version of system software you have.

3. Select the options you want in the Page Setup dialog box:

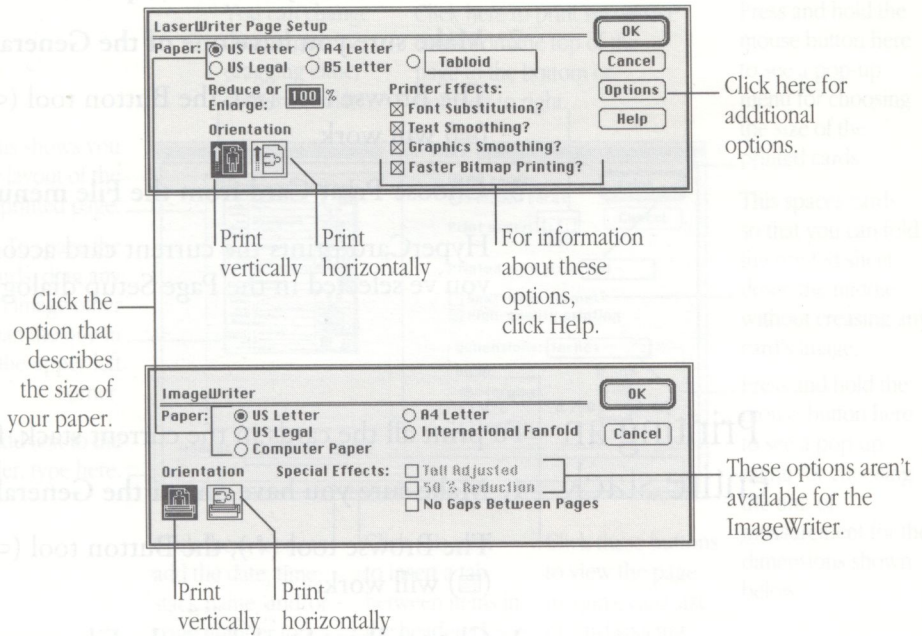


Figure 7-1 Selecting options in the Page Setup dialog box

4. Click OK.

The options you select in the Page Setup dialog box are saved with the current stack. They're in effect when you print the stack (or any part of it) using the Print Field, Print Card, Print Stack, or Print Report commands.

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 according to the settings you've selected in the Page Setup dialog box.

Printing an entire stack

To print all the 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 Stack from the File menu.**

The Print Stack dialog box appears.

3. Select the options you want in the Print Stack dialog box:

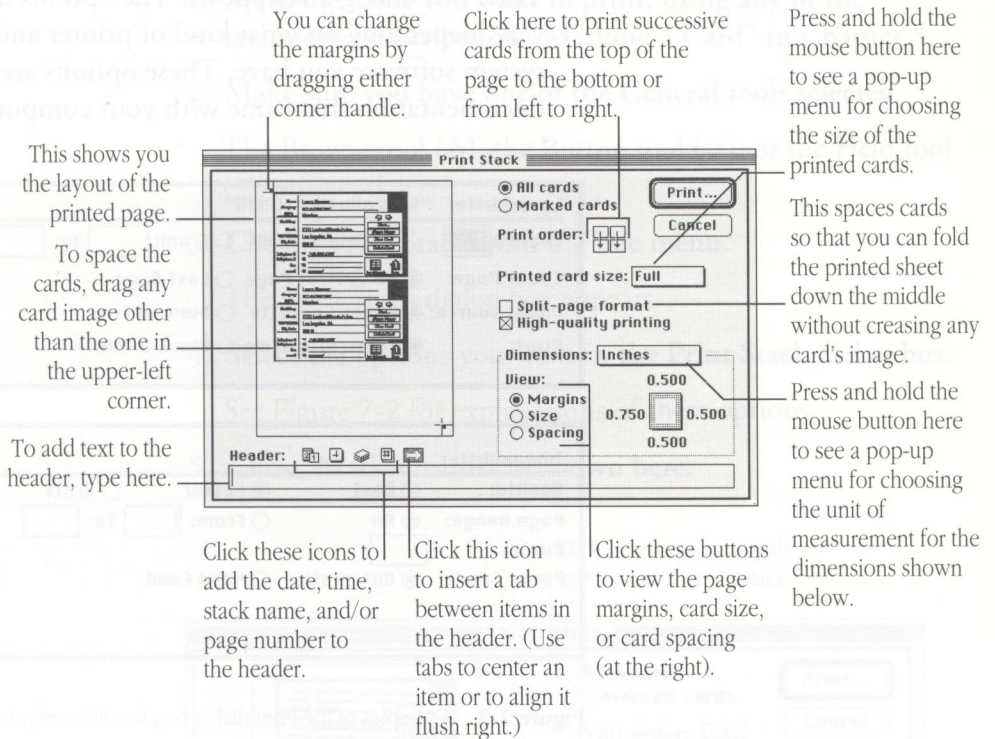


Figure 7-2 Printing an entire stack

- ❖ *If you have a LaserWriter:* When the Precision Bitmap Alignment (4% reduction) option is selected in the LaserWriter Page Setup dialog box, the measurements you see for Margins, Size, and Spacing in the Print Stack dialog box (in Figure 7-2) will be slightly larger than they'll be on the printed page. ❖

4. Click Print.

The Print dialog box 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.

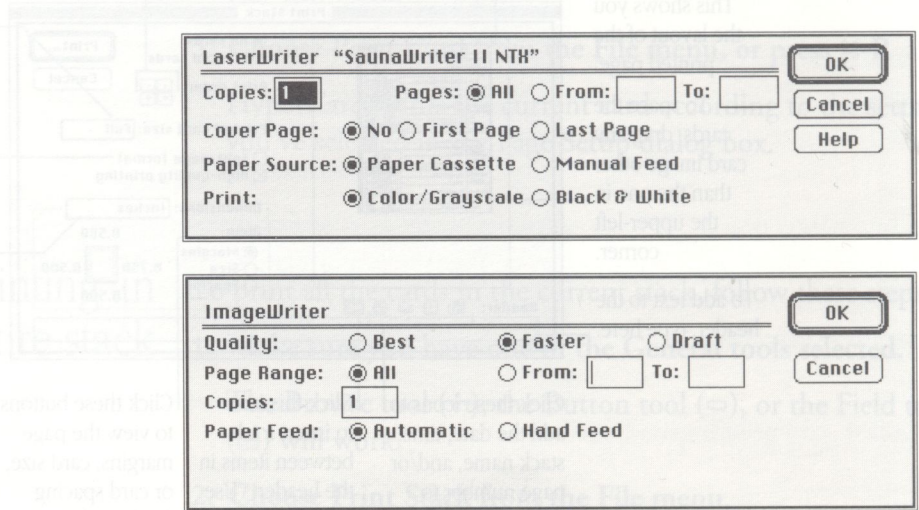


Figure 7-3 Examples of the Print dialog box for different printers

5. Select the options you want in the Print dialog box and click OK.




HyperCard prints the cards in the current stack according to the settings you've selected in the Page Setup dialog box, the Print Stack dialog box, and the Print dialog box.

Once you print a stack, HyperCard remembers the format and header you used for that stack. The next time you print the same stack with the Print Stack command, the same format and header will be displayed in the Print Stack dialog box.

Printing specific cards

To print specific cards in the current stack, follow these steps:

1. **Mark the cards you want to print, using any of the techniques described in “Marking a Card” in Chapter 3.**
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 Stack from the File menu.**

The Print Stack dialog box appears.

4. **Select the options you want in the Print Stack dialog box.**

See Figure 7-2 for explanations of these options.

5. **Click “Marked cards” as shown here:**

Click here to print only the marked cards in the stack.

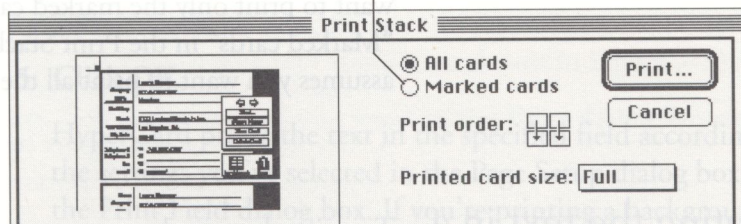


Figure 7-4 Printing only the marked cards in the stack

6. Click Print.

The Print dialog box appears (as shown in Figure 7-3). 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.

7. Select the options you want in the Print dialog box and click OK.

HyperCard prints the marked cards in the current stack according to the settings you've selected in the Page Setup dialog box, the Print Stack dialog box, and the Print dialog box.

Once you've printed specific cards in a stack, HyperCard remembers the format and header you used for that stack. The next time you print the same stack with the Print Stack command, the same format and header will be displayed in the Print Stack dialog box. However, you need to tell HyperCard each time you want to print only the marked cards in a stack (by clicking "Marked cards" in the Print Stack dialog box). Otherwise, it assumes you want to print all the cards in the stack.

Printing the text in a specific field

To print the text that appears in a specific field on a particular card or background, follow these steps:

1. **Go to the card that has the text 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 Field from the File menu.**

The Print Field dialog box appears.

4. Select the field whose text you want to print:

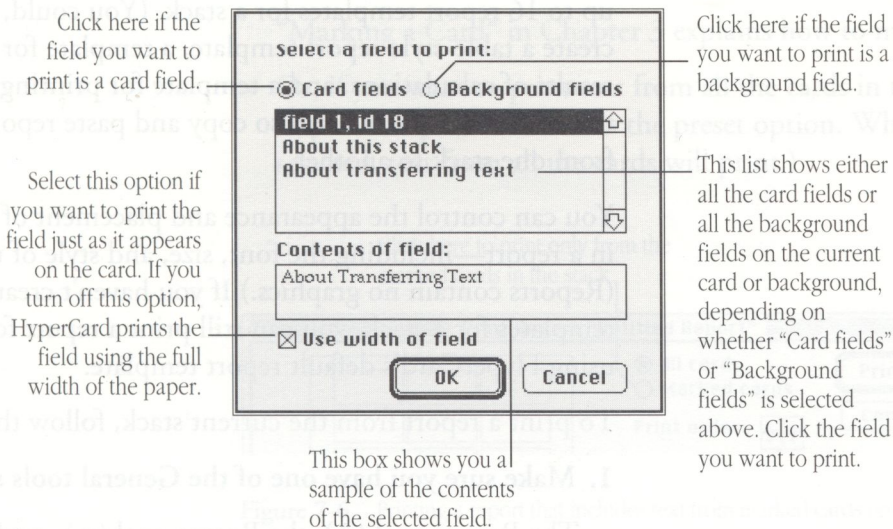


Figure 7-5 Printing the contents of a specific field

5. Click OK.

HyperCard prints the text in the specified field according to the settings you've selected in the Page Setup dialog box and the Print Field dialog box. If you're printing a background field that contains different text on every card, HyperCard prints only the text that appears in the field on the current card.

Printing a report

HyperCard allows you to prepare custom reports that display the field text in a stack in any way you like. You can create and save up to 16 report templates for a stack. (You could, for example, 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 copy and paste report templates from one stack to another.

You can control the appearance and placement of each element in a report—including the font, size, and style of the text. (Reports contain no graphics.) If you haven't created any report templates for a stack, you can still print a report for the stack using HyperCard's default report template.

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 Report from the File menu.**

The Print Report dialog box appears.

- 3. If you've created a report template you want to use, choose its name from the Reports menu.**

Or, if you want to print using HyperCard's default report template, skip this step.

If you want to create your own report template now, click Cancel and go to the next section, "Creating a Report Template."

4. Click “Marked cards” if you want your report to include only text from the marked cards in the stack.

“Marking a Card” in Chapter 3 explains how to mark cards.

Or, if you want to print text from all the cards in the stack, skip this step. (“All cards” is the preset option. When it’s selected, text from all the cards will print.)

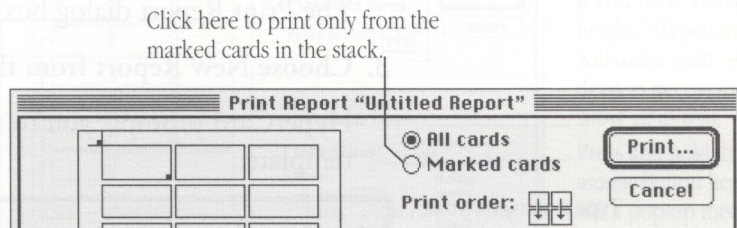


Figure 7-6 Printing a report that includes text from marked cards only

5. Click Print.

The Print dialog box appears (as shown in Figure 7-3).

6. Select the options you want in the Print dialog box and click OK.




These options are described in the documentation that came with your computer.

HyperCard prints text from the cards in the current stack (either all the cards or just the marked cards, depending on what you specified in step 4) according to the settings you’ve selected in the Page Setup and Print dialog boxes, and the current report template (shown in the Print Report dialog box).

Creating a report template

To create a report template for 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.

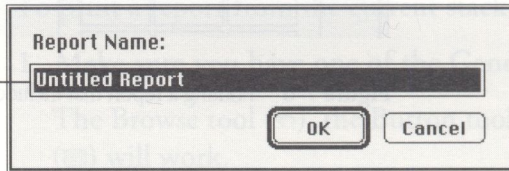
2. **Choose Print Report from the File menu.**

The Print Report dialog box appears.

3. **Choose New Report from the Reports menu.**

HyperCard prompts you to type a name for the new report template:

Type a name for your new report template here, then click OK.



The image shows a dialog box titled "Report Name:". Inside the dialog, there is a text input field containing the text "Untitled Report". Below the text field are two buttons: "OK" and "Cancel". The dialog box is overlaid on a blurred background of a HyperCard stack interface.

Figure 7-7 Naming a report template

4. In the Print Report dialog box, set up the layout for your report:

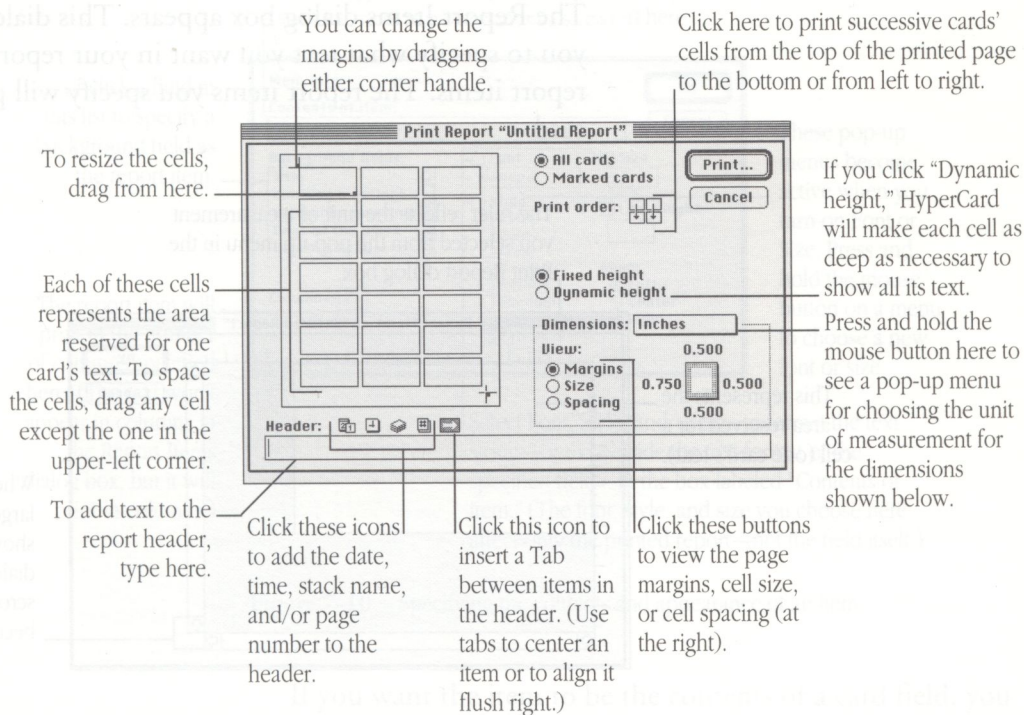


Figure 7-8 Setting up the layout for a report

If you can't decide on a layout now, go on to step 5. You'll have another chance to use this dialog box to set up or adjust the layout later in this procedure.

- ❖ *If you have a LaserWriter:* When the Precision Bitmap Alignment (4% reduction) option is selected in the LaserWriter Page Setup dialog box, the measurements you see for Margins, Size, and Spacing in the Print Report dialog box (in Figure 7-8) will be slightly larger than they'll be on the printed page. It's a good idea to turn off the Precision Bitmap Alignment option before printing a report. ❖

5. Choose **Report Items** from the **Edit** menu, or press **⌘-E**.

Or double-click any cell in the **Print Report** dialog box.

The **Report Items** dialog box appears. This dialog box allows you to specify what text you want in your report by adding report items. The report items you specify will print for each card.

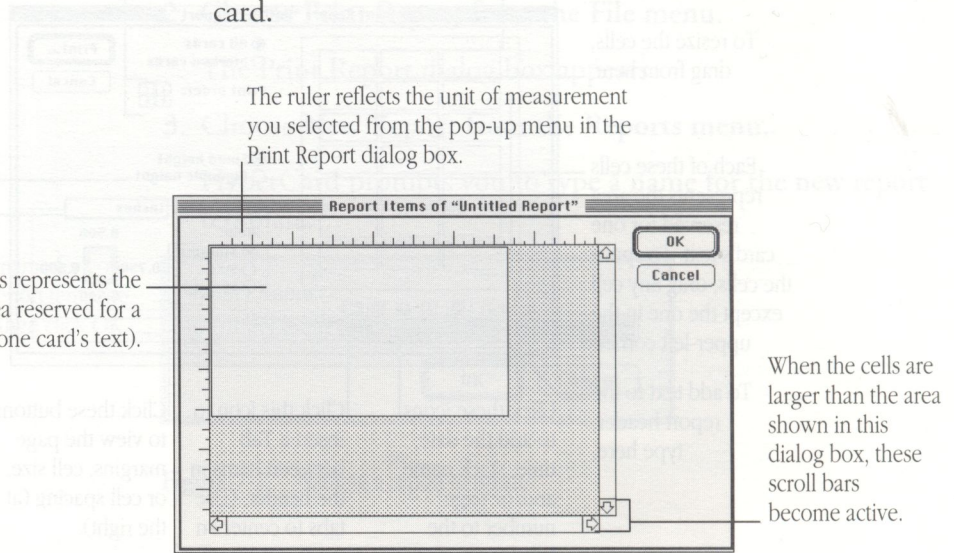


Figure 7-9 The **Report Items** dialog box

6. Choose **New Item** from the **Items** menu, or press **⌘-N**.

A small rectangle appears, outlined by a moving dashed line to indicate that it's selected. This rectangle represents one item of your report.

7. While the item is still selected, double-click it, or choose **Item Info** from the **Items** menu.

The **Item Info** dialog box appears.

8. Specify the contents of the item:

You can type a text string or a HyperTalk expression (such as the number of this card) here...

... or click a field in this list to specify a background field as the report item.

The report item will print in the number of columns specified here. (The text won't appear in columns in the Report Items dialog box, but it will print in columns.)

The dialog box is titled "Item Info". It has a "Contents of item:" text field at the top. Below it is a "Background fields:" list with a scroll bar, containing "Title", "morning meetings", "afternoon meetings", "Days of the week", and "month calendar". To the right of the list are "Font" and "Size" fields. The "Font" field contains "Geneva". The "Style" section has checkboxes for "Plain" (checked), "Bold", "Italic", "Underline", "Outline", "Shadow", "Condense", and "Extend". The "Size" field contains "9". Below the "Style" section is an "Align:" section with radio buttons for "Left" (selected), "Center", and "Right". There is also a "Line height" field. At the bottom left is a "Columns:" field with the value "1". At the top right are "OK" and "Cancel" buttons.

These pop-up menus become active when you turn on Font or Size. Press and hold the mouse button on a menu to choose a new font or size.

Select Font, Style, and/or Size to format the text string—or to override the text format of the specified field—in the box labeled "Contents of item." (The font, style, and size you choose here affect only the printed report—not the field itself.)

Figure 7-10 Specifying the contents and appearance of an item

If you want the item to be the contents of a card field, you must specify the card field (by its name, number, or ID) by typing a HyperTalk description of the card field in the box labeled "Contents of item." For example, you could type any of the following to specify a card field:

```
card field "Name"  
card field 5  
card field ID 7
```

You can also define an item to be any text you want by simply typing the text between quotation marks in the “Contents of item” box. Or you can define the item to be a particular word or words from a field—or any text or value you can describe with HyperTalk—by typing the appropriate HyperTalk expression in the “Contents of item” box. Here are some examples:

"This text will appear in every cell."
word 2 of background field "Name"
first line of background field "Name"
word 1 to 5 of background field "Job"
the number of this card

See the HyperTalk Reference stack for more information about HyperTalk expressions.

9. Click OK.

You return to the Report Items dialog box. The small rectangle contains the text you specified in the Item Info dialog box and is still selected. To resize the item, drag it from any corner; to move it, drag it from the middle.

You can cut, copy, and paste items in the Report Items dialog box using commands in the Edit menu. You can also duplicate an item by pressing Option while you drag it. (To drag the item in a straight line horizontally or vertically, press the Shift key while you drag.)

- 10. Repeat steps 6 through 9 if you want to add more items to your report.**
- 11. When you've added all the items you want, click OK to return to the Print Report dialog box.**
- 12. Refine your layout in the Print Report dialog box, if you like.**

See Figure 7-8 for instructions.

13. Click “Marked cards” if you want your report to include only the text from the marked cards in the stack.

Or, if you want to print text for all the cards in the stack, skip this step. (“All cards” is the preset option. When it’s selected, text from all the cards will print.)

14. Click Print.

A dialog box like this appears:

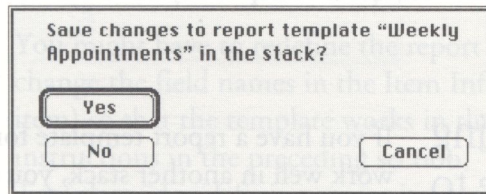


Figure 7-11 Saving a report template

15. Click Yes or press Return to save your new report template.

The Print dialog box appears.

16. If you want to print a report now (using the current template), select the options you want in the Print dialog box and click OK.

Otherwise, click Cancel in the Print dialog box.

HyperCard prints text from the cards in the current stack (either all the cards or just the marked cards, depending on what you specified in step 13) according to the settings you’ve selected in the Page Setup and Print dialog boxes, and the template you’ve defined in the Print Report, Report Items, and Item Info dialog boxes.

- ❖ *To print mailing labels:* If you want to print mailing labels, you can use the Mailing Labels 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 Mailing Labels template using the procedure described in the next section, “Copying or Moving a Report Template to Another Stack.” If you like, you can customize this template by following steps 4 through 13 in this section. If you’re printing on a LaserWriter, be sure to use *only* labels made especially for LaserWriters or photocopiers. ❖

Copying or moving a report template to another stack

If you have a report template for one stack that you think would work well in another stack, you can copy or move it by following these steps:

1. Go to the stack that has the template you want to copy or move.
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 Report from the File menu.
4. From the Reports menu, choose the report template you want to copy or move.
5. Choose Copy Report from the Edit menu if you want to copy the report template.

Or choose Cut Report if you want to move it.

6. Click Cancel to close the Print Report dialog box.
7. Go to the stack to which you want to add the report template.
8. Choose Print Report from the File menu.

9. Choose Paste Report from the Edit menu.

The layout of the pasted report template appears in the Print Report dialog box and its name appears in the Reports menu.

10. Click Print if you want to print a report using this template now.

Or click Cancel if you want to use this template later. The dialog box for saving a report template appears.

11. Click Yes to save the template with the current stack.

You might have to redefine the report items (for example, change the field names in the Item Info dialog box for each item) so that the template works in the new stack. Follow the instructions in the preceding section, "Creating a Report Template," for defining report items.

Renaming a report template

To rename a 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 Report from the File menu.

4. Choose the report template you want to rename from the Reports menu.

5. Choose Report Name from the Edit menu.

A dialog box like the following appears:






Figure 7-12 Renaming a report template

6. After you've typed a new name for the template, click OK.

Deleting a report template

To delete a report 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 Report from the File menu.
4. Choose Delete Report from the Edit menu.

A confirmation dialog box appears for deleting the report template.

5. Click OK to delete the report template.

What's New in HyperCard 2.0

This appendix describes the features that are new in HyperCard 2.0. If you're familiar with an earlier version of HyperCard, this appendix will give you an idea of what to look for in HyperCard 2.0. Cross-references point you to sections in this book where you'll find more detailed information. This appendix doesn't describe the new scripting features.

To review all of HyperCard's new features quickly, click the Find Topics button in both the HyperCard Help stack and the HyperTalk Reference stack, type new features, and press Return.

Stacks You can have several stacks open at once—as many stacks as your computer's memory will allow.

► See: "Opening More Than One Stack at a Time" in Chapter 1

Each stack opens in a window that you can resize and move around on the screen.

► See: "Moving and Resizing the Card Window" and "Viewing Large Cards" in Chapter 1

Card sizes can vary from stack to stack. Your stack can have very large cards, very small cards, or cards of virtually any size in between. (All the cards in a stack are the same size.) You can specify any size for the stack's cards when you create the stack, and change the size of a stack's cards at any time.

- ▶ *See:* “Making a New Stack” and “Changing the Size of a Stack’s Cards” in Chapter 2

You can prevent users from “peeking” at the buttons and fields in a stack.

- ▶ *See:* “Preventing Users from Peeking at Buttons and Fields” in Chapter 2

You can prevent users from stopping scripts that are running in the stack (using ⌘-).

- ▶ *See:* “Preventing Users from Stopping Scripts” in Chapter 2

You can convert any stack built in an earlier version of HyperCard to the 2.0 file format. Then you can use the stack and modify it exactly as if it had been created in HyperCard 2.0.

- ▶ *See:* “Opening a Stack Built in an Earlier Version of HyperCard” in Chapter 1

Browsing HyperCard has a new palette—the Navigator palette—with icons you can click to move around in stacks. Its icons represent commands in the Go menu.

- ▶ *See:* “Using the Navigator Palette” in Chapter 1

In some stacks, you can click text in fields to make things happen, such as going to another card.

- ▶ *See:* “Clicking Text to Move Around” in Chapter 1

Choosing the Browse tool while you're in the background layer no longer returns you to the card layer. You can work with the Browse tool and stay in the background layer. When you're ready to return to the card layer, press ⌘-B.

Buttons You can change the font, size, and style of a button's text.

- ▶ *See:* "Setting the Style of Button Text" in Chapter 4

You can vary the highlight of a background button from card to card.

- ▶ *See:* "Making a Button Highlight When It's Clicked" and "Making a Button Appear Highlighted on Certain Cards" in Chapter 4

Using the Icon Editor, you can create and edit your own icons and copy and paste icons easily between stacks (without using a resource editor).

- ▶ *See:* "Creating and Modifying Icons" in Chapter 4

Field text You can format individual characters, words, and phrases of text in a field with different fonts, styles, and sizes.

- ▶ *See:* "Choosing the Look of Field Text" and "Setting the Font and Style for Individual Pieces of Text" in Chapter 5

A background field can now display the same text on every card on which the field appears.

- ▶ *See:* "Making Field Text Appear on Every Card" in Chapter 5

You can style a string of contiguous text in a field so that it responds as one unit to a user's click. Clicking text can do the same kinds of things that clicking buttons can do.

- ▶ *See:* "Grouping Text" in Chapter 5

You can prevent text from wrapping in a field.

- ▶ *See:* “Preventing Text Wrap in a Field” in Chapter 5

Before you ask HyperCard to search for specific text in a stack (using the Find command), you can exclude specific fields from the search. This can speed your search when you’re looking for text in a very large stack.

- ▶ *See:* • “Excluding Card and Background Fields from Text Searches and “Excluding Background Fields from Text Searches” in Chapter 3
- “Excluding a Field from Text Searches” in Chapter 5

Graphics

There are four new commands in the Options menu for manipulating graphics to create special graphic effects—Rotate, Slant, Distort, and Perspective.

- ▶ *See:* “Slanting, Rotating, or Distorting a Graphic” in Chapter 6

Printing

You can define and store up to 16 different templates in a stack for printing reports. Items in a report can include text strings you specify, field text in the stack, and HyperTalk expressions. You can also copy and paste report templates from one stack to another.

- ▶ *See:* “Printing a Report” and “Creating a Report Template” in Chapter 7

You can print the contents of an individual field.

- ▶ *See:* “Printing the Text in a Specific Field” in Chapter 7

You can mark specific cards in a stack and perform operations on them all at once (such as printing them).

- ▶ *See:* “Marking a Card” in Chapter 3 and “Printing Specific Cards” in Chapter 7

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.

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 default 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 can take you to the next card.

The tool you use to create, change, and select buttons.

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**.

current (adj.) The card, background, or stack you’re looking at now. For example, the current card is the one you see in the active window on your screen.

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.

General tools The tools that appear in the top row of the Tools menu: the Browse tool (↔), the Button tool (⇨), and the Field tool (☐).

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.

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.

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 **container** that you use to send messages to HyperCard.
- MultiFinder** A multitasking operating system for Macintosh computers that makes it possible to have several applications open at the same time, so that you can perform one task while the computer performs another. For example, MultiFinder allows you to work on a HyperCard stack while the computer prints out a document from a word-processing application.
- 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.
- 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 two of HyperCard's palettes, the Tools palette and the Patterns palette, simply by "tearing off" their respective menus. To see the Navigator palette, type `palette "navigator"` in the Message box. See also **tear-off 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.
- pixel** Short for "picture element"; a single dot on the screen.
- point** In printing, the unit of measurement of the height of a text character; one point is one pixel (about $\frac{1}{72}$ of an inch). When you select a font, you can also select a point size, such as 10-point, 12-point, and so on.
- power key** One of a number of keys on the Macintosh 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 **Preferences card** in the Home stack.
- 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 Arrow Keys in Text options.
- Recent** A special dialog box that holds miniature representations of up to the last 42 unique cards viewed. Choose Recent from the Go menu to get the dialog box.
- resource fork** The part of a file that contains resources such as fonts, icons, sounds, and so on.
- 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 large window in which you can type and edit a **script**. The title bar of the script editor describes the object to which the script belongs. You can use the Edit menu, the Script menu, and 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 on the appropriate **Search Paths card** in the Home stack. Each line on a Search Paths card 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 a colon, like this: my disk: HyperCard folder:my stacks:

Search Paths cards Three cards 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 in a background. Shared text can be edited only from the **background layer**. Text in shared text fields can't be searched.

stack A type of HyperCard **object** that consists of a collection of **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 two menus that can be torn off: the Tools menu and the Patterns menu. When torn off, these menus are referred to as **palettes**.

Tools palette The palette that you can “tear off” the Tools menu.

user level A HyperCard setting, ranging from 1 to 5, that determines which of HyperCard's capabilities are available. You select the user level on the **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.

write-protected 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 Get 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 write-protected stack.

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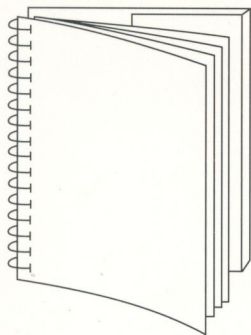
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