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## on the Macintosh®

Peter Dyson

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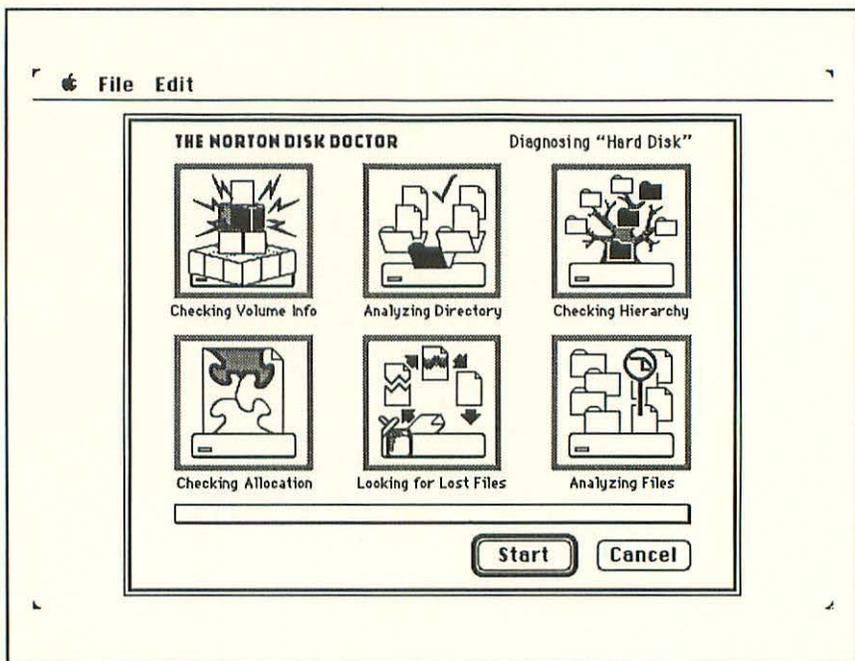
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■ *For Jean and Harold*

Acknowledgments

■ ■ ■ ■ ■ ■ ■ ■ ■ ■

Once again I have enjoyed my part in writing this book, but as always, many people have worked on the project, providing technical assistance, advice, and many other services. This is my chance to thank them.

SYBEX Up & Running Books

The Up & Running series of books from SYBEX has been developed for committed, eager PC users who would like to become familiar with a wide variety of programs and operations as quickly as possible. We assume that you are comfortable with your PC and that you know the basic functions of word processing, spreadsheets, and database management. With this background, Up & Running books will show you in 20 steps what particular products can do and how to use them.

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45

You can also focus on particular points by scanning the short notes in the margins and locating the sections you are most interested in.

In addition, three symbols highlight particular sections of text:

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The Norton Utilities for the Macintosh occupy a unique position in the Macintosh world. They add to the Macintosh operating system in several important ways: they provide the tools for diagnosing and repairing disks and restoring erased files, they provide programs that let you optimize your Macintosh's resources efficiently, and they extend the capabilities of the desktop with desk accessories and control panel devices that speed up and simplify your normal operations.

This book describes the Norton Utilities version 1.0 for the Macintosh and is organized into 20 Steps. Each Step describes a specific utility, but you don't have to read the Steps in sequence. Because each of the Steps is self-contained, you can just read about the utilities you are most interested in.

REQUIREMENTS FOR RUNNING THE UTILITIES

The Norton Utilities will run on several versions of the Macintosh operating system. You must have System 4.2, 6.0.2, 6.0.3, 6.0.4, or 6.0.7 in order to use the utilities.

As for hardware, the Norton Utilities will run on the Mac Plus; the Macintosh Portable; the SE and SE 30; and the Macintosh II, IIx, IIcx, and IIci. They also run on the new Macs: the Classic, LC, and IIsi. A hard disk is recommended, although not required, and you must have at least one megabyte of memory.

Table of Contents

Installation

This first Step introduces the Norton Utilities, explains how to make copies of the original distribution disks, and describes how to install the Norton Utilities onto your hard disk.

A BRIEF INTRODUCTION
TO THE NORTON UTILITIES

The Norton Utilities for the Macintosh consist of three applications, two desktop accessories, three startup documents, and a help file. This section gives a short description of each of the Norton Utilities.

The **Norton Utilities** program is the heart of the package, and it contains the Norton Disk Doctor for diagnosing and repairing disk problems, UnErase for recovering accidentally deleted files, Format Recover for restoring data to an accidentally formatted hard disk, and the Norton Disk Editor for looking at and changing disk information.

SpeedDisk is a disk optimizer you can use to increase your disk performance.

Layout Plus lets you customize the Finder and change the appearance of your desktop.

Fast Find is a desk accessory that replaces Find File.

KeyFinder is a desk accessory that adds to the capability provided by Key Caps.

FileSaver is a startup document and control panel that provides protection for hard disks. Both Format Recover and UnErase can use information saved by FileSaver when they recover lost data.

Directory Assistance is a startup document that gives greater capability to the standard Open, Save, and Save As dialog boxes used by almost all your application programs.

DiskLight is a startup document and control panel that tells you when a disk is being read or written to.

MAKING BACKUP COPIES OF THE ORIGINAL DISKS

As with any software you buy, the first thing you should do after taking it out of the box is back it up. Do this even if you plan to install the software on your hard disk. In the event that the original disks are damaged in an accident, these backup copies ensure that the software is still available.

Making Backups Using Floppy Disks

You can copy the contents of one floppy disk to another using a

single drive; however, you will have to change disks several times.

1. Eject any floppy disk currently in the drive and insert a formatted blank disk.

2. Select the disk's icon and choose Eject from the File menu. This ejects the disk but leaves its dimmed icon on the desktop. You need this dimmed icon on the desktop before you can start the copy.

3. Insert one of the original Norton Utilities distribution disks and drag its icon across to the destination disk's dimmed icon. The Macintosh confirms that you want to replace the original contents of the destination disk, and then starts the copy process. You are prompted to swap the disks over until the copy is complete.

4. When you have finished copying, rename the destination disk to reflect its new contents, put a label on the disk, and store it in a safe place. Don't forget to write-protect the disk by sliding back the write-protect tab in the upper right corner of the disk.

Repeat this process for each of the disks in the Norton Utilities package.

Making Floppy Backups Using Your Hard Disk

If you bought the Norton Utilities because you currently need to perform a recovery operation such as unerasing a file, do not install the programs onto your hard disk yet. Instead, use the Norton Utilities from the red Emergency disk to recover the file. When the recovery is complete, you can continue with the installation procedure. If you install the Norton Utilities without first recovering the file, you might accidentally overwrite the area of the

disk occupied by the erased file, making its recovery impossible. For more details, see the Steps describing disk repair and file recovery.

If you have one floppy disk drive and one hard disk, you can use the hard disk as an intermediate step to avoid disk swapping when duplicating a floppy. Here's how to do it:

1. Insert the original distribution disk into the floppy disk drive.

2. Select the hard disk icon and choose Open from the File menu, or double-click on the hard disk icon to open it.

3. Drag the source disk icon to the directory window of your hard disk. A window opens to remind you that the two disks are of different types and that the contents of the source disk will be placed in a folder on the hard disk. Click on OK to start the copy. When the copy is complete, you will see a new folder on your hard disk with the same name as the source disk.

4. Eject the source disk by dragging its icon to the Trash.

5. Insert the destination disk, click on the new folder to high-light it, and then choose Open from the File menu.

6. Select all the icons inside the folder by using Select All from the Edit menu. All the icons in the window will be highlighted.

7. Drag the highlighted icons on to the icon for the destination disk, and all the selected files and folders will be copied across.

8. When the copy is complete, rename the destination disk to reflect its new contents, put a label on the disk, and store it in a safe place.

When you have copied the Norton Utilities disks, slide back the write-protect tab in the upper right corner of each disk using a pencil or a paper clip so that you can see through the hole. This makes the disks read-only disks—a useful protection against accidental erasure.

USING THE NORTON UTILITIES FROM A FLOPPY DISK

If you do not have a hard disk, you can launch the Utilities from your backup copy of the Applications or the Emergency disk.

The Norton Utilities, comprising the Norton Disk Doctor, Un-Erase, Format Recover, and the Norton Disk Editor are on the Emergency disk. SpeedDisk, Directory Assistance, DiskLight, Fast Find, FileSaver, KeyFinder, and Layout Plus are on the Applications disk. The Installation disk contains the Installer, the Help file, and several important Read Me files.

INSTALLING THE NORTON UTILITIES ONTO YOUR HARD DISK

If you bought the Norton Utilities because you currently need to perform a recovery operation such as unerasing a file, do not install the programs onto your hard disk yet. Instead, use the Norton Utilities from the Emergency disk to recover the file. When the recovery is complete, you can continue with the installation process. If you install the Norton Utilities without first recovering the file, the installation process might overwrite the area of the disk occupied by the erased file, making recovery impossible.

Do not install the Norton Utilities on a hard disk containing lost files

The Norton Utilities Installer will install all the Norton Utilities, the online help, and the color icons. The Installer guides you

through this installation procedure step by step, explaining the choices available at every stage. You will need over a megabyte (MB) of free space on your hard disk to do a complete installation of all the utilities.

The default settings are as follows: install all the utilities, the on-line help system, and color if the Mac has color capability; install the Desk Accessories in a system file unless you use a resource optimizer like Suitcase II; and install the startup documents into the system folder.

Insert the Installation disk into your disk drive, and when the disk icon appears, double-click to open it. Then double-click on the In-staller to launch the installation program.

The first Installer window contains a dialog box reminding you not to install the utilities if your hard disk currently contains files you want to recover. You should use the red Emergency disk to recover the file or files, and then continue with the installation af-ter the files have been recovered. If you are ready to continue with the installation now, notice that this dialog box has the following buttons:

- Drive toggles through the list of mounted disk drives until the name of the disk that you want to install the utilities on is shown above the button.

- Customize allows you to choose between several options, including which of the utilities to install, whether the Desk Accessories are installed in the system file or in a separate folder, whether Help is installed, and whether color resources are installed. Choose color only if you have a Mac with a color or gray-scale monitor; installing color adds approximately 150K to the size of the Norton Utilities.

■ Help provides information to guide you through the choices.

■ Quit exits the Installer and returns you to the Finder.

■ Install starts the installation process.

Use Customize if you don't want to install all the utilities or if you want to alter the default settings. Click on the appropriate utility icon to toggle the highlighting off and on. If highlighting is off, the utility will not be installed. Click on the radio buttons to determine where to install the desk accessories—put them in the system or in a separate folder. Click on the two checkboxes to install the online help system and the color resources. When you have made all your choices, click on OK to return to the previous Installer window. Now click on Install and follow the screen prompts, changing disks as requested. When the installation is complete, you will see a report on the screen detailing what was installed where on your disk.

Because the Installer copies system resources, you may well see messages from a virus detector if you use one. Either turn off the detector while you install the Norton Utilities or click on the box that allows the process to continue. If you turn off your virus detector, don't forget to turn it back on again when the Installer is done.

You must restart your Macintosh to activate the startup documents you installed. Click on Restart when you are ready; otherwise, click on Quit to return to the Finder.

LOOKING AT THE
READ ME FILES USING TEACHTEXT

Several Read Me documents are included with the Norton Utilities, and you should check these files for the latest information

that may not have made it into the manual. The fastest way to look at one of these files from the Finder is to double-click on the Read Me document icon. TeachText starts automatically and displays the contents of the Read Me file you selected. You can also use TeachText to print the contents of the Read Me document.

The User Interface

This Step describes the Norton Utilities user interface, or more correctly, it describes how the Norton Utilities use the standard Macintosh user interface. If you have used other programs on the Mac, you will have no difficulty using the Norton Utilities.

USING THE MOUSE

In the Norton Utilities, the mouse works just as you would expect it to; the on-screen cursor follows the movements you make with the mouse. Use the mouse to point to an icon on the screen or to pull down a menu to work with. Click on your choice by moving the on-screen cursor to the selection you want, and then pressing and releasing the mouse button.

Double-clicking requires that you press and release the mouse button twice in quick succession. Double-clicking on an icon is often used to select a document and launch the application program that created that document at the same time.

SCROLLABLE LISTS

If a list is sorted into alphabetical order, you can just type the initial letter of the item to select it. If the list is not sorted alphabetically, then you must use an exact-match search instead.

If you can choose an item from the list, you can use the following keys to help you make your selection:

- ↑: Moves the highlighted bar up one row. Pressing the ↑ key can also scroll the display up one row if you are at the top of a window.

- ↓: Moves the highlighted bar down one row. Pressing the ↓ key can also scroll the display down one row if you are at the bottom of a window.

- Home (Command-↑): Moves to the top of the list and selects the first item in the list.

- End (Command-↓): Moves to the bottom of the list and selects the last item in the list.

- PgUp (Command-Option-↑): Moves up the list one screen and selects the last item displayed.

- PgDn (Command-Option-↓): Moves down the list one screen and selects the first item displayed.

SHORTCUT KEYSTROKES

In addition to the Mac user interface you are familiar with, the Norton Utilities provide some additional capabilities, including shortcut or hotkey sequences. You can use these command key shortcuts when selecting buttons in a dialog box. For example, if a button is labeled Drive, you can use Command-D instead of clicking on the Drive button. The Enter key always selects the default

button; Escape, Command-., Command-C, and Clear all select the Cancel button.

If a dialog box has only one option, for example, an OK button, and it does not contain scrollable lists or text fields, you don't have to use Command-O to select the OK button; you can just press O by itself.

When you use a shortcut, the chosen button always flashes so that you can be sure that the button has been accepted.

WORKING WITH DISK DRIVES

When you are working with disk drives, clicking on the drive icon has the same result as clicking on the Drive button: you select the next drive on your Mac in sequence. If you hold down the Option key and click on the drive icon, you move backwards through your list of drives. This is the same as holding down the Option key and clicking on the Drive button. The Tab key also performs the same function as the Drive button in dialog boxes, selecting each drive in sequence, and Option-Tab cycles backwards through the list of available drives.

USING RADIO BUTTONS

If a dialog box has a set of radio buttons and does not contain scrollable lists or text fields, you can double-click on the radio button to select the radio button and choose the OK button simultaneously. It is as though you had clicked the radio button and the OK button as two separate actions but is much faster.

Using Help

The Norton Utilities have an extensive help system available to guide you through the application programs. This help system is based on the Norton Guide hypertext display database and is available online anytime you are using the Norton Utilities. The Norton Guide hypertext display database allows text entries to be linked together in a complex set of relationships. To access this help, press Command-H or click on Help in the Apple menu, and you will see the Norton Utilities Help window as shown in Figure 3.1.

The Help window has five main icons across the top of the screen, and they are used as follows:

- Topics: Choose Topics to see a list of all the Norton Utilities arranged in the sequence: Utilities, Desk Accessories, Startup Documents, and How to Use This Online Help.

- Glossary: Select Glossary to see a list of approximately 50 technical terms related to the Mac.
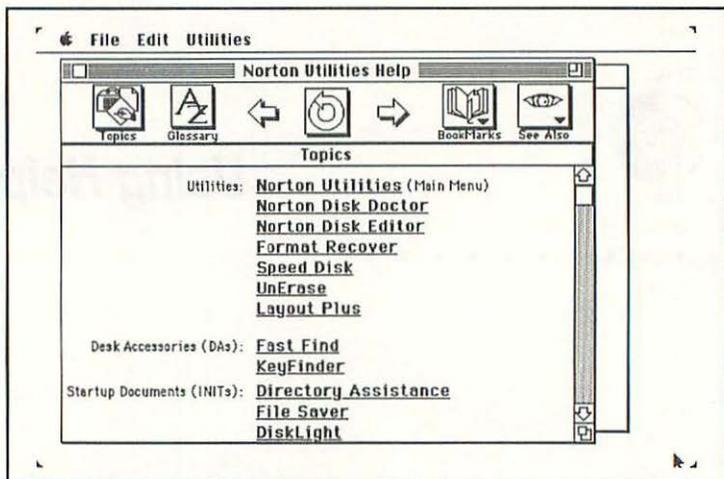
■ *Figure 3.1: The Norton Utilities Help Window*

- ■ Go Back: Click on the Go Back icon (a curved arrow) or press Escape after displaying a help entry to return to the previous topic in the help system. The Norton Utilities can keep track of the last 15 topics you looked at, and you can move backwards through this list one step at a time, each time you click on Go Back.

- ■ BookMarks: Choose BookMarks to tag or mark an entry in the help system so that you can access the entry very quickly. You can use up to ten different bookmarks at a time.

- ■ See Also: Click on See Also to display a menu of the other help options available. If you choose Topics, the See Also menu contains the Glossary; if you choose the Glossary, the menu contains Topics and the Norton Utilities; if you choose the Norton Utilities, the menu contains Topics and the Glossary.

LOOKING AT TOPICS

To select a Topic, move the mouse to one of the underlined entries in the list. When the cursor changes to a magnifying glass, click on the Topic to see the related help window. For even faster access, just type the first letter of a Topic, and the highlight moves to that Topic. Press Return to see the help window. You can use Command-A with < or > to find other matching Topics, and you can use the ↑ and ↓ keys, as well as Home, End, PgUp, and PgDn, to scroll through the list.

If you are looking at a Help screen and you see that a section of the Help text is underlined, you can click on this item to see additional help on that topic, too.

All of the information in the Norton Utilities Help database is arranged so that related subtopics follow each of the main topics. To look at these subtopics, use Command-← and Command-→ as Previous and Next buttons. You can also click on the two arrow icons at the top of the Norton Utilities Help window to perform the same functions. For example, if you ask for help on the first Topic in the list, Norton Utilities (Main Menu), you will see the Help window shown in Figure 3.2.

In this screen, the text *Norton Disk Doctor* is underlined; this means that you can ask for help on this subject. If you do, you will see another window of help on the Norton Disk Doctor. In this screen the text *Sad Mac* is underlined, indicating that more help is available on this subject too. Click on the Go Back button to return to your original place in the help system.

USING THE GLOSSARY

Once you can use Topics, you will find the Glossary very easy to use. Click on the Glossary icon, or select Glossary from the See

r **& File Edit Utilities**

╔══════════════ Norton Utilities Help ══════════════╗

Topics   Glossary   ⇦ ◉ ⇨   BookMarks See Also

About the Norton Utilities

The Norton Utilities for the Macintosh consist of the following:

Norton Disk Doctor repairs crashed or damaged floppy and hard disks.

UnErase recovers files that you have accidentally erased.

Format Recover restores data to a hard disk that has been formatted accidentally or crashed very badly.

Speed Disk is a disk optimizer. It can speed up your day-to-day and minute-to-minute operations by internally reorganizing your data and by putting each of your files back in one piece.

Norton Disk Editor displays and allows you to change hidden and sensitive information on your disk; stuff you may not even have known existed.

Layout Plus allows you to customize your Finder to change the

■ *Figure 3.2: The first Help window for the Norton Utilities*

Also menu. The Glossary contains nearly 50 different entries in alphabetical order on technical subjects related to the Mac. Just as with Topics, you select an underlined Glossary entry by using the mouse, and you scroll the topics with the arrow keys. Once the information is shown in the Help window, you can use the same keys to move through the Help text that you used with Topics, and you can also use the two arrow icons at the top of the window as Previous or Next buttons.

SETTING AND CLEARING BOOKMARKS

You can mark your place in the Help system and go to it very quickly if you use one of the ten BookMarks. Use the following steps to mark an entry with a BookMark:

1. Find the starting Topic or Glossary entry that you want to mark with a BookMark.

2. Scroll through the Help text until you find the place where you want to place the BookMark.

3. Click on the BookMarks menu, select Set BookMark, and then choose the number of the BookMark you want to use from BookMark 0 to BookMark 9.

The BookMark is now set; to access the marked Help text from anywhere within the Help system, press Command-n, where n is the number of the BookMark. For BookMark 0, press Command-0; for BookMark 1, press Command-1; and so on.

A faster way of doing the same thing but without using the Book-Marks menu, is to move to the place in the Help window that you want to mark, and press Command-Option-n or Command-Control-n, where n represents a number between 0 and 9. This sets BookMark n to the current place in the Help window. You access the BookMark with the same Command-n key sequence as before.

BookMarks are saved from one Help session to another so you do not have to reset them each time you use Help.

To clear a BookMark, click on the BookMarks menu, but this time choose Clear BookMark, and then select the number of the Book-Mark you want to clear.

SEARCHING WITH THE GLOBAL FIND

If you remember that there is information on a certain topic in the Help system but you cannot remember how to access it, you can use the Global Find to track it down. Press Command-F to bring up the Search dialog box, and enter the text you want to search for. The search is not case sensitive, so *window* matches with *Window* and *WINDOW*. Next click on one of the radio buttons to select the search mode. Page Search looks at the contents of the current window for the search text; Global Search looks through

the whole Help system for the search text and may take a little longer. You can use Command-P to select Page Search or Command-G to select Global Search. Click on Find to start the search. When a match is found, the line containing the match is shown on the screen with a highlight. Press Command-A to continue the search for another occurrence of the search string. When there are no more matches remaining, you will hear the Macintosh Alert sound to tell you that the search is complete.

Remember, this search is for any text anywhere in the Help system, not just the underlined entries in Topics or in the Glossary.

To exit Help and return to the Norton Utilities, click on the active Norton Utilities window. To return to the Help system again, click on the active Help window. To leave Help and close its window, click on the close box in the upper left corner of the Help window.

FileSaver

FileSaver is an important part of the Norton Utilities. By using it, you can save yourself a great deal of time and trouble if you ever have an accident involving your hard disk. It is an insurance policy, and it is a good example of the prevention being better than the cure. FileSaver is a combination startup document and control panel device that protects your hard disk by creating a file that contains details of all the applications, documents, and folders on your hard disk. As long as the file is present and up to date, Format Recover and UnErase can use it to restore accidentally lost data. Every time you throw a file into the Trash, eject a disk, or shutdown your Mac, FileSaver takes a "snapshot" of your disk. FileSaver also protects the Finder's Get Info comments when you rebuild the desktop. If FileSaver is already installed on your Mac, then just after the Welcome to Macintosh message (when you restart), you will see the FileSaver icon at the bottom of your screen.

You have to configure and activate FileSaver before you can use it to full advantage.

CONFIGURING FILESAVER

If you used the Install option in the Norton Installer, you already have FileSaver loaded into your startup System folder; however, if you used the Installer Customize option, FileSaver may not be present.

Installing
FileSaver

If you didn't install FileSaver during the initial installation, copy the FileSaver document to your System folder, and then activate FileSaver by restarting your Mac. To configure FileSaver, choose the Control Panel from the Apple menu and click on the FileSaver icon. You will see the FileSaver window as shown in Figure 4.1.

The FileSaver window contains three sets of radio buttons, a slide bar, a Drive button you can use to change drives, and a checkbox.
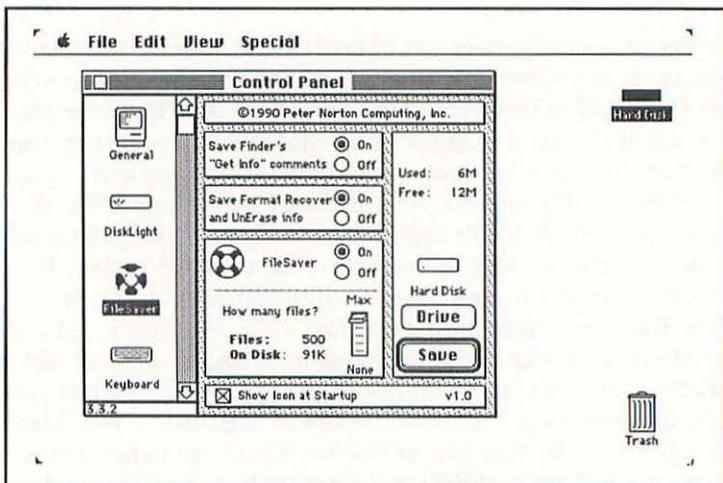
- *Figure 4.1: Configure FileSaver through the Control Panel*

The radio buttons are used as follows:

- Save Finder's "Get Info" Comments. If you turn this selection on, the Finder's comments (that are stored in the Get Info window and are viewed through the Get Info selection in the File menu) are protected and will not be lost the next time you rebuild the desktop.

- Save Format Recover and UnErase Info. Turn this selection on to store information that Format Recover and UnErase can use in recovering unintentionally removed files or an accidentally reformatted hard disk.

- FileSaver. This radio button turns FileSaver on or off.

How to turn FileSaver on

The slide bar lets you choose the number of files you want File-Saver to remember, from a minimum of no files to a maximum of 500 files. The greater the number of files you choose to protect, the larger the amount of disk space FileSaver will need. A total of between 200 and 400 seems reasonable; any more than this and the erased files may be overwritten by other more recently erased files.

The Show Icon at Startup checkbox at the bottom of the window determines whether the FileSaver icon is shown on the screen during a restart. Click on the box to choose to show the icon at startup.

If you want to install FileSaver protection on another disk, click on the Drive button to change to the next drive.

When you have finished making your selections, click on the Save button to create the FileSaver protection file.

FILESAVER,
FORMAT RECOVER, AND UNERASE

If you accidentally reformat your hard disk, Format Recover uses FileSaver's stored information to recover your files and folders. Remember that you cannot use Format Recover to unformat floppy disks. Because the initialization (formatting) process on the Mac completely erases a floppy disk, Format Recover can only work with hard disks. Similarly, FileSaver cannot protect your hard disk against low-level formatting programs like those routinely provided by hard disk manufacturers.

In addition, UnErase uses the information stored by FileSaver to recover deleted files, particularly files that have become fragmented into several small discontinuous pieces.

For more information on Format Recover, see Step 12; for more information on UnErase, see Steps 13, 14, and 15.

Although the combination of FileSaver with UnErase and Format Recover is a powerful one and can provide a high degree of protection, you should still continue to make regular backups of your files.

Using Directory Assistance

Directory Assistance is a startup document that changes the way the Open, Save, and Save As dialog boxes look when you are working with files. There are several features that allow you to find or delete files, create new folders, and change drives; and there are two pop-up menus that contain File and View commands. In other words, you have much of the capability of the Finder right inside your application program, which is often where you need it.

The Norton Installer copies Directory Assistance into the system folder on your startup disk; remember that you must restart your Macintosh to activate Directory Assistance.

Installation

Directory Assistance is not compatible with Apple System 4.2 and has been disabled from the following applications and desk accessories because of compatibility problems: Cricket Draw, Cricket Graph, DiskTop, and SoundEdit. There may also be problems with On Cue and the shareware program Boomerang.

USING THE FILE MENU

After you have launched an application program, click on Open or
Save As in the File menu, and you will see the Directory Assis-
tance window as Figure 5.1 shows.

If you double-click on a folder in this window, Directory Assis-
tance opens that folder. Directory Assistance also remembers
which folder you were in last time you opened or saved a docu-
ment. It even remembers how you set up your favorite selections
in the View menu.

The File menu has the following commands:

- New Folder (Command-N) creates a new folder on the
  selected disk.
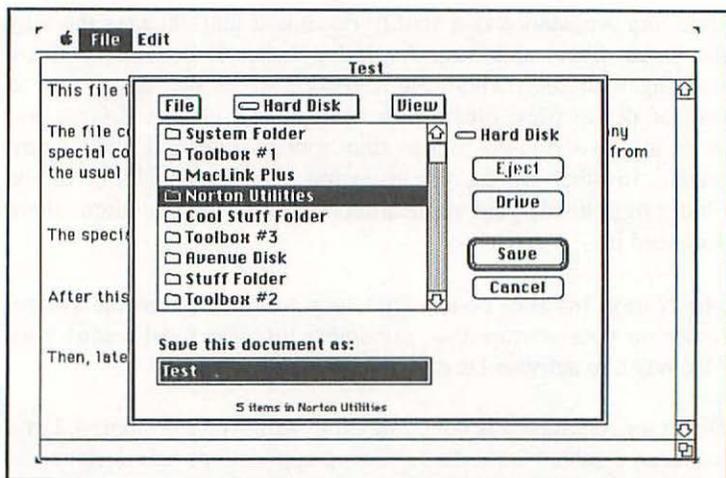
- *Figure 5.1: The Directory Assistance File and View menus*

■ Get Info (Command-I) provides information on the selected file or folder.

■ Duplicate (Command-D) lets you duplicate the selected file or folder.

■ Delete allows you to delete a file or folder. A dialog box opens asking if you are sure that you want to make the deletion (unless you've selected an empty folder); click on Cancel if you change your mind, or click on Delete to throw the file away. Hold down the Option key when you select Delete if you want to prevent the verify delete box from appearing. Use this key combination with caution because there is no second chance; the file is deleted immediately.

■ Find (Command-F) allows you to search for a particular folder or to search a set of folders for a specific file name. Enter the name you are looking for into the Find What dialog box, and click on OK. When Directory Assistance finds the file or folder, it is listed in the main window between the File and the View menus.

■ Find Again (Command-A) continues the search for the file or folder after Find located the first occurrence.

■ About shows you the usual Directory Assistance information.

USING THE VIEW MENU

You can use the selections in the View menu to change the way that files and folders are displayed in the Directory Assistance window as follows:

■ by Name arranges files and folders in alphabetical order by name.

■ by Date arranges the folders and documents in chronologi-
cal order. The date on a document indicates the last time
that it was modified or changed, and the date on a folder
indicates the last time that a document inside the folder was
changed in some way. With by Date selected, if you click
on a file or folder in the Directory Assistance window, you
will see the appropriate date and time shown at the bottom
of the window.

■ by Size lists your documents and folders by size, largest
first. If you click on a document or an application in the
Directory Assistance window when you have by Size
selected, you will see the size of the file in bytes at the
bottom of the window. If you click on a folder, you will
see a count of the number of items in the folder at the
bottom of the screen.

■ Folders First lists your folders together followed by your
files.

■ Folders Last lists files grouped together followed by your
folders. To return to the normal way of listing files and
folders (that is, in alphabetical order of files and folders
together), reselect the Folders First or Files First selection
you had made. Reselecting your choice toggles it off again,
and this restores the listing to normal alphabetical order.

KEYBOARD SHORTCUTS

There are several different keyboard shortcuts you can use with
Directory Assistance to save you time and keystrokes.

*How to turn
Directory
Assistance
off*

■ If you want to turn Directory Assistance off for a moment
so you can access the File menu in the usual way, hold
down the Option key as you choose Open or Save As from
the File menu. This turns Directory Assistance off until the
next time you access the File menu.

■ If you are adding to a file such as a word processor document and you want to save the new file on top of the old one, you can press Y from the keyboard instead of clicking on the Yes box in the Replace existing dialog box. You can also hold down the Option key when you click on the Save button to avoid the Replace existing dialog box altogether.

■ When you use Save and you want to find a file with the same name as the file you are saving (so you can avoid using the same name), hold down the Option key as you select Find. The name of the file you are about to save will be entered automatically into the Find dialog box for you.

You can permanently turn Directory Assistance off inside a specific application if you add that application program's Creator type to the APP# list in the Directory Assistance resource fork. The Creator type is a four-letter code that identifies the application originally used to create the document. This is an advanced technique usually performed with ResEdit or a similar resource editor.
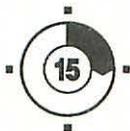
Using
DiskLight

DiskLight is another of the startup document and control panel devices included in the Norton Utilities package. DiskLight allows you to monitor disk access even when you cannot see the disk in question. This is particularly useful if your hard disk is an external drive.

The Norton Installer copies the DiskLight startup document/control panel device into the system folder on your startup disk. You must restart your Macintosh and configure the program before DiskLight can become active.

Installation

CONFIGURING AND USING DISKLIGHT

After you have restarted your Mac, choose the Control Panel from the Apple menu, scroll down the list of icons, and click on the DiskLight icon. You will see the DiskLight configuration window, as shown in Figure 6.1.
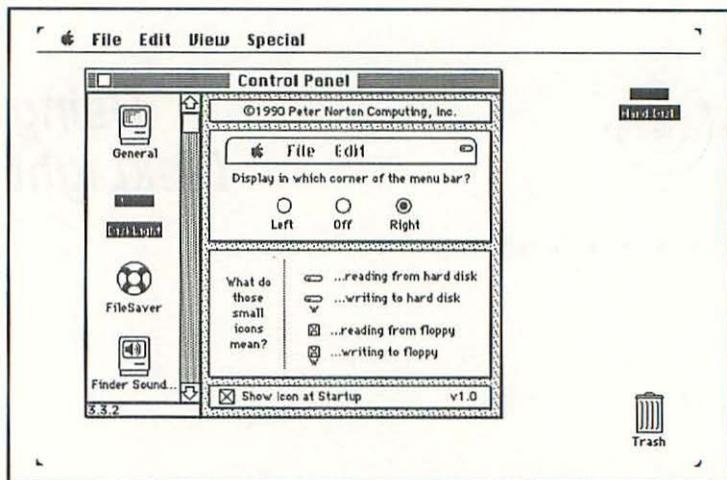
- *Figure 6.1: Use the DiskLight configuration window to set up DiskLight*

There are three radio buttons at the top of the window, a set of icon descriptions in the center, and a checkbox at the bottom.

Choose one of the radio buttons to select where you want the DiskLight icon to appear on the menu line:

Placing the DiskLight icon

■ Left positions the icon to the left of the Apple menu.

■ Off turns DiskLight off so that it is not used. The next time you restart your Mac, you will briefly see the DiskLight icon with an X through it at the bottom of the screen.

■ Right displays the DiskLight icon to the far right of the menu line. This is probably the most appropriate place to put the icon for most application programs.

After you make your selection, the DiskLight icon is shown on the grayed-out menu bar towards the top of the control panel window, showing you how it will look in normal operation.

The DiskLight icon can take two forms:

- Hard disk. A small rounded rectangle denotes a hard disk.

- Floppy Disk. A small picture of a Macintosh floppy disk indicates a floppy disk.

If you read from the drive, the appropriate disk icon flashes on the menu bar at the top of the screen. If you write to the drive, a small *w* is shown underneath the flashing drive icon.

Use the checkbox at the bottom of the window to choose whether you want to see the DiskLight icon displayed each time you start or restart your Macintosh.

When you have configured DiskLight, click on the close box to close the control panel.

If you want to turn DiskLight off when you next use your Macintosh, hold down the Option key as the Macintosh starts. The DiskLight icon at startup shows an X through it to indicate that it is not installed and is not being used during this session. This does not affect the default DiskLight settings.

How to turn DiskLight off

Finding Files Quickly

Fast Find is a desk accessory that allows you to search for files and folders very quickly. Once you have found a file, you can look at it using Fast Find, and you can even launch the application program that made the file if you wish.

The Norton Installer copies Fast Find into your system folder on your startup disk during the installation of the rest of the utilities. Alternatively, you can install the program by using Font/DA Mover or a resource utility like Suitcase II.

To start Fast Find, choose the Apple menu, and select Fast Find. You will see a window similar to the one shown in Figure 7.1.

All the disk drives currently available for searching are shown at the top of the window. Click on the drive you want to look at.

Select drives

Fast Find can display the icons of up to three disk drives (volumes) at a time; click on the arrows or use the Tab key to see

■ *Figure 7.1: The main Fast Find window*

other volumes if you have more than three. When you have se-
lected one drive, you can hold down the Shift key while clicking
on drives to extend the search to a second or third drive. Choose
Select All Drives (Command-A) from the Fast Find menu to ex-
tend the search to all the drives available.

FINDING FILES

Type in all or part of the file or folder name you want to search
for. The search is not case sensitive. For example, *norton* is
treated the same as *NORTON* and *Norton*. In fact as Figure 7.1
shows, when looking for all the Norton Utilities files, it is suffi-
cient to enter the abbreviation *nort*. Press Enter or click on the
running man icon to start the search.

The search begins with the disk represented by the leftmost icon
in the window and then moves to each subsequent disk. As the

disk volumes are searched and the running man runs, search progress is shown by the horizontal bar.

This indicates how much of the disk has been searched and how much remains. The number of files and folders found matching the search criteria is shown immediately to the left of this bar, and this number is updated as new matches are found throughout the search. You can click on the stop icon (the raised hand) any time you want to stop the search.

Searching

The files found are listed in the central part of the window, and their icons indicate whether they are documents, applications, or folders.

Listing files

When the search is complete, Fast Find plays a chime to let you know that it is finished. You can click on the files in this window to display more information about them in the bottom two boxes in the window. At the bottom left, you can see the create and modify information on the file, as well as information on the file kind and size. If you choose the Norton Utilities Help file, you will see information similar to that shown at the bottom of Figure 7.1. Over in the right box you can see a picture of exactly where this file or folder fits into the overall structure of your disk. As you select different files or folders in the main scrollable part of the window, the information in the bottom two boxes changes to reflect the new files.

Search complete

BROWSING THROUGH FILES

When Fast Find has found the file you are looking for, you can browse through its contents without launching the original application program that created the file. You can even look at a document whose application program is "busy or missing."

Looking at
text files

To look at a document, first click on the file you are interested in,
and then click on the magnifying glass icon in the lower left box
of the window. You can also select View document (Command-F)
from the Fast Find menu to do the same thing.

If you insert the Norton Installer disk into your floppy disk drive
and then use Fast Find to locate all the files on this disk with the
word *notes* in their names, you will find three files: Accessory
Notes, Installer Notes, and Disk Repair Notes. Click on Accessory Notes, and then click on the magnifying glass icon to display
the contents of the file as text. The next window displays the first
32K of the file, as Figure 7.2 shows.

Use the scroll bars to move through the file, and click on Done
when you are through.
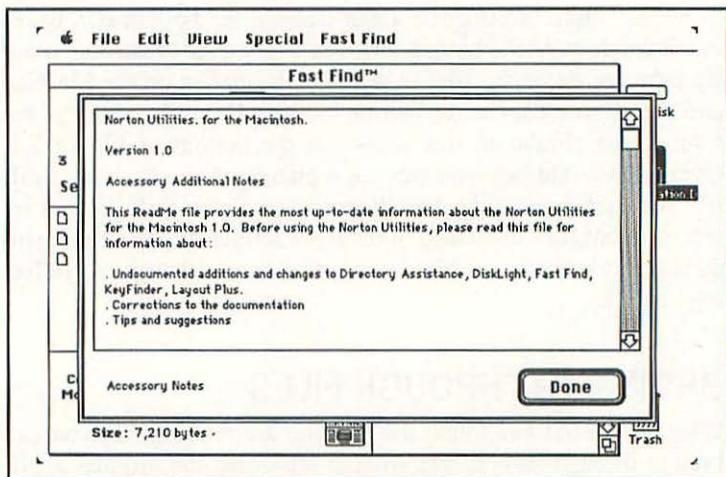
■ *Figure 7.2: Looking at a text file using Fast Find*

If you look at files of different types using the View document se-
lection (Command-F) in the Fast Find menu, they may not always
look just as you expect them to. For example, if you look at the
Norton Utilities file, you will see some things that you recognize
and much that you won't. This is because Fast Find displays the
files as text files, and sometimes files contain control information
that was never intended to be read as text. If you look at an appli-
cation program file using Fast Find, the characters that cannot be
displayed are represented on the screen by periods.

*Looking at
other file
types*

One of the main benefits of this part of Fast Find is that you can
use it to ensure that you have found the file you want to work
with before you go to all the trouble of launching the application
program.

*Looking
before
launching*

USING THE FAST FILE MENU

There are several other important tasks you can complete with
Fast Find, including searching through folders rather than through
complete disks and moving documents to the desktop so that you
can work on them. These features are all accessed from the Fast
Find menu. Use the About Fast Find command in the Fast Find
menu to look at the version number and find out who wrote
Fast Find.

Searching Folders

If you know roughly where a file is and you just want to search
through a specific folder, use Search Folder (Command-S) from
the Fast Find menu.

The search window shown in Figure 7.3 opens, listing the folders
(but not the files) on the selected disk or disks.

```
🍎  File  Edit  View  Special  Fast Find

                    Fast Find™

                                                      Hard Disk

   File  ⊂ Hard ...  View
9                                                              ⊂ Hard Disk
Se  ⊃ Avenue Disk
    ⊃ Cool Stuff Folder
    ⊃ Junk Folder         Select a folder.    Eject
    ⊃ MacLink Plus
    ⊃ Norton Utilities                        Drive
    ⊃ Stuff Folder
    ⊃ System Folder       Cool Stuff Folder
    ⊃ Toolbox #1            Select           Open
    ⊃ Toolbox #2
                                             Cancel

    Kind: document
    Size: 306,799 bytes                              Trash
```
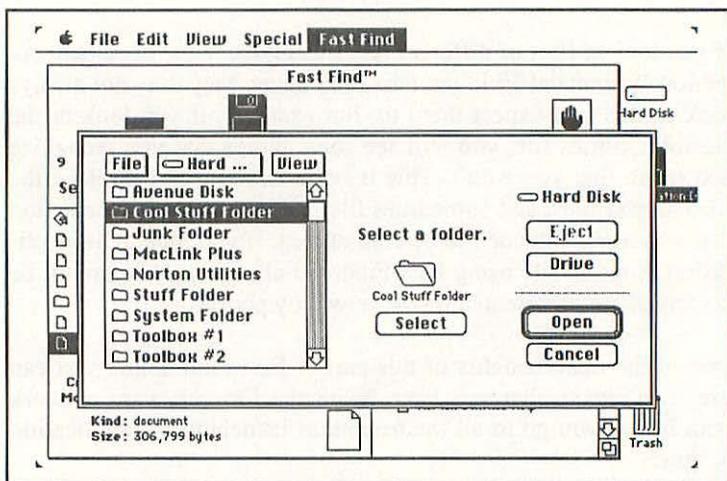
- *Figure 7.3: The Search Folder window*

There are several radio buttons available on this window:

- Eject: If the Eject button is not dimmed, you can use it to eject the selected volume. If it is dimmed, you cannot use it.

- Drive: Click on Drive to change to another disk drive.

- Open: Choose Open to see other folders inside the folder you have chosen.

- Cancel: Click on Cancel to abort the current operation.

- Select: Choose Select to confirm your choice of folder.

You can use the File and View menus of Directory Assistance, if you wish, as I described in Step 5.

Click on the folder you want to search, and then click on Select. When you return to the main Fast Find window, the icon of the folder you selected replaces the disk icon that was previously

shown at the top of the window. Change the Search For text if you want to, and then click on the running man or press Enter to execute the search. Just as before, the files corresponding to the search criteria are listed in the scrollable window one by one as they are located. If you click on one, you will see the file information shown in the two boxes at the bottom of the window.

If you select a folder, the Search Folder entry in the Fast Find menu changes to Search Drives (Command-S). Now if you choose Search Drives, Fast Find replaces the folder icon at the top of the screen with disk drive icons. These two options allow you to toggle between folders and disk drives.

From folders to disks

Moving Files to the Desktop

Select a file or folder in the scrollable window, and then choose Move to Desktop (Command-M) from the Fast Find menu to move the file or folder to the desktop, no matter where the file was originally located.

This is a particularly useful feature that lets you move files or folders to the desktop so that you can perform houskeeping tasks on them. You can use the Put Away command from the File menu to put the files or folders back in their original location again when you are finished with them.

Launching an Application

To open a document or launch an application, double-click on its name in the scrollable window or use Open application (Command-O) from the Fast Find menu.

In most cases, Fast Find recognizes the application, closes Fast Find, and then opens the application. In certain rare cases,

Fast Find may not be able to open the application, in which case you will be asked to open it by the usual methods.

Quit Choose Quit (Command-Q) from the Fast Find menu, or click on the close box to exit Fast Find and return to the Finder or to the application you were running before you opened Fast Find.

Using KeyFinder

KeyFinder is a desk accessory you can use to display all the characters available in a specific font on the screen at the same time. If you have ever wanted to generate a foreign language character such as the English pound sterling symbol (£) or the German β symbol (used to represent *ss*), KeyFinder shows which keystrokes generate each of the characters. If you are a programmer, you can use KeyFinder to show you the decimal or hexadecimal ASCII (American Standard Code for Information Interchange) equivalents of the characters. If you have worked with Apple's Key Caps desk accessory, note that you do not have to hold down modifier keys (for example, Shift and Option) to generate certain characters with KeyFinder; in fact, KeyFinder can make some characters that Key Caps cannot.

The Norton Installer copies Keyfinder into the system folder on your startup disk. If you want to install it yourself, use Font/DA Mover or a resource utility such as Suitcase II.

Installation

41

THE KEYFINDER WINDOW

Select KeyFinder from the Apple menu, and you will see the window shown in Figure 8.1.

Character matrix

A 16-by-16-character matrix is shown on the left side of the window. This matrix displays all the characters available in a particular font. Blank cells represent nondisplayable characters such as the first few ASCII characters, including carriage return, line feed, and so on. Cells containing an open rectangle do not have a character assigned in that particular font, so no character is displayed; this will change from font to font.

Moving around the matrix

To move to another character in the matrix, just move the mouse and click on the character you want to look at. You can also use
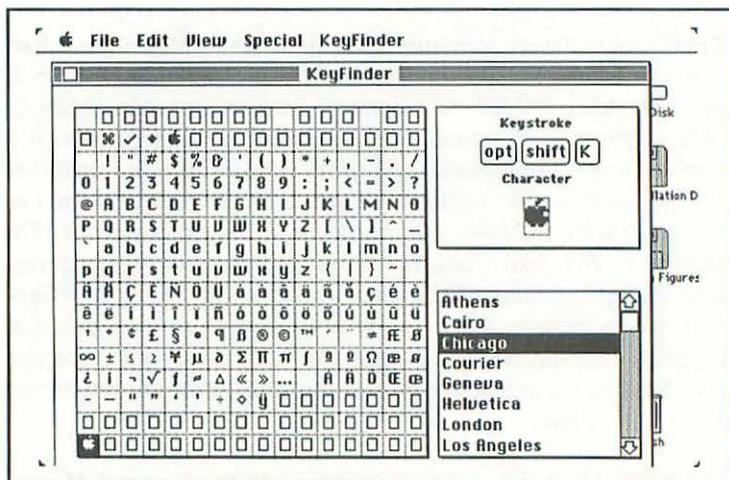
- *Figure 8.1: The KeyFinder window shows all the characters available in a specific font*

the Option key with the arrow keys to move around inside the matrix.

At the top right of the window, there is an enlarged image of the character shown below the keystrokes used to generate the character. The information in the keystroke and character box changes to reflect your new selections as you move from character to character in the matrix.

Below this box is a list of all the fonts loaded onto your Macintosh. Use the scroll bar in the usual way to move through this list. Alternatively, you can use the Command key with ↑ and ↓ to scroll through the list of fonts. As you change to another font, the characters in the 16-by-16-cell matrix all change to reflect the new font. Try changing from Chicago to London or to Mobile to see how the characters change.

FINDING AND USING SPECIAL CHARACTERS

To find the keystrokes that will generate a specific character, follow these steps:

1. Select the font by clicking on the font name in the scrollable list.

2. Find the character you are curious about in the 16-by-16-cell matrix, and click on it with the mouse.

3. The keystrokes that will generate the character in question are shown in the box at the top right.

To check that a particular keystroke sequence generates the character you want, just type the keystrokes from the keyboard. The highlight will move to the new location in the 16-by-16-cell matrix, no matter where the cursor was originally located.

Keys that must be used in combination are shown close together in the Keystroke display; keys that must be used in sequence are shown with wider separations between them. For example, if you are using the default Chicago font, to generate the English pound sterling character, use the Option key and 3 together; for the German β character, use the Option key and S together.

With more complex examples, such as the German ü (u with an umlaut above), you must type Option and u at the same time, followed by another u. In the Keystroke display, the second u is spaced slightly apart from the leading keystrokes.

It is not possible to enter ASCII character codes directly into this display to generate the equivalent character; selecting a cell or typing keys from the keyboard are the only ways to interact with KeyFinder.

USING THE KEYFINDER MENU

There are several selections in the KeyFinder menu to help you work with KeyFinder, including About KeyFinder, which shows you who designed the program and the current version number. The other items in the KeyFinder menu are as follows:

- Swap Orientation (Command-O). The cells in the Key-finder display are usually ordered from top left to bottom right as horizontal rows of increasing ASCII character code numbers. Use Swap Orientation to change these rows to vertical columns.

- Real Font Size (Command-S). The character shown in the box at the top right of the KeyFinder window is enlarged so you can see the character in detail. Use Real Font Size if you want to see the character in its usual size.

- Show ASCII (Command-A). The low-order ASCII characters, up to decimal 32, usually do not have a displayable character associated with them and are usually shown in the matrix as open rectangles or as open cells. If you turn on Show ASCII, a two- or three-letter abbreviation is shown in the cell instead. For example, carriage return (ASCII 13) is labeled *CR*, and the bell (ASCII 7) is labeled *BEL*.

- Programmer Mode (Command-M). The Programmer Mode adds hexadecimal guides to the top and the left sides of the cell matrix so that you can locate a specific ASCII character and determine its hex equivalent quickly and easily.

With the cell table ordered in vertical rows, type Command-M, or select Programmer Mode from the KeyFinder menu. Then type Command-A, or click on Show ASCII from the KeyFinder menu. Now the low-order ASCII characters are visible, and the hexadecimal guides appear around the edges of the cell window. If you select the Chicago font, you will see that the KeyFinder window looks like Figure 8.2.

Hex guides

To find the hex value of a character, take the hex guide number from the left margin, and add it to the hex guide from the top. For example, carriage return is 0D in hex, and the numeral 0 is 30 in hex.

The box at the top right of the KeyFinder window changes in Programmer Mode to show more information, including the character itself, the keystrokes you must type to generate it, its ASCII name, and its ASCII equivalent in decimal, hexadecimal, and octal. For example, the English pound sterling character, £, is generated when you press Option and 3 from the keyboard. This character is 163 in decimal in the Chicago font and is equivalent to A3 in hex and to 243 in octal. Real Font Size is not available in Programmer Mode.

Decimal, hex, and octal
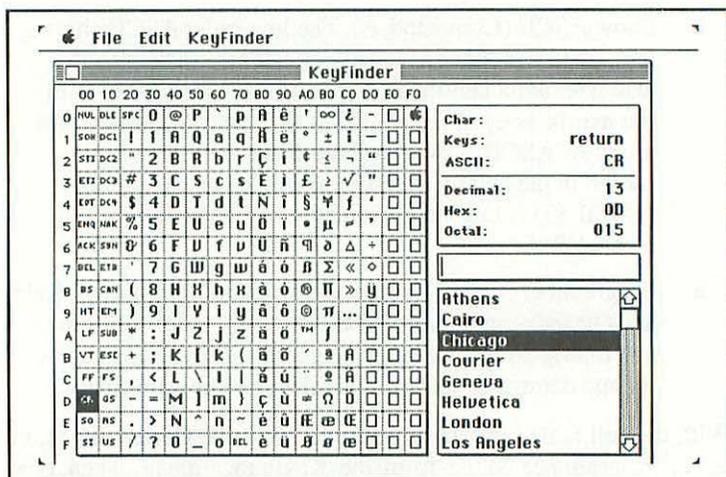
■ *Figure 8.2: KeyFinder Programmer Mode*

Additional items in the KeyFinder menu are as follows:

■ Text Edit (Command-T). When you select Text Edit from the KeyFinder menu, an additional box opens between the keystroke and character box and the scrollable list of fonts. You can enter a string of characters into this box, rather than just one character, and copy them all to the Clipboard.

■ Page Setup. Page Setup opens the usual setup dialog box for your printer. Make the selections you need before choosing the next option in the menu, Print.

If you are using a LaserWriter, clear the Font Substitution checkbox in Page Setup to avoid New York, Geneva, and Monaco being replaced by Times, Helvetica, and Courier, respectively.

■ Print (Command-P). Choose Print when you are ready to print out a page of KeyFinder information. Use Page Setup

first to establish all the key parameters for your printer.

■ Quit (Command-Q). Use Quit to close KeyFinder and
return to the Finder or to the application you were working
with before you opened KeyFinder.

When you close KeyFinder, it remembers the options you
selected from the KeyFinder menu and will make sure they
are selected when you open KeyFinder again.

*KeyFinder
remembers
your
choices*

USING THE
EDIT MENU WITH THE CLIPBOARD

Once you have found a particular character in KeyFinder, you can
transfer it to another application program by using the Clipboard.
The main selections from the Edit menu used to move text onto
the Clipboard are as follows:

■ Cut (Command-X). You must select Text Edit from the
KeyFinder menu before you can use Cut to cut text and
place it on the Clipboard. In the text box that is in the
center of the KeyFinder window, collect the characters you
want to cut the Clipboard, and then select the characters by
dragging the mouse over them. Once the characters have
been selected, choose Cut (Command-X) from the Edit
menu. The original characters in the KeyFinder text box
will disappear and move onto the Clipboard. Remember
that the Clipboard can hold only one item at a time. This
cut text will stay on the Clipboard until it too is replaced.

When you paste the text into your application program
from the Clipboard, remember that the results will depend
on the font chosen in the application program.

■ Copy (Command-C). The Copy command works just like
the Cut command except that the text is not removed from

the KeyFinder text window when the copy is complete.

■ Paste (Command-V). You can move characters from the Clipboard back into KeyFinder again to determine the keystrokes that generated the character. If Text Edit in the KeyFinder menu is enabled, you can transfer a sequence of characters from the Clipboard; if Text Edit is not selected, you can transfer only the last character on the Clipboard. To see the keystrokes that generated a character brought in from another application program via the Clipboard, place the cursor to the right of the character in the text box, and click on the mouse while you also press the Command key. The keystrokes used to generate the character are shown in the upper right box of the KeyFinder window.

To see what the imported characters look like in another font, paste the characters into the text box from the Clipboard, and then select the font you want from the scrollable font list.

Imported characters

The text box display will be converted to the new font along with the rest of the 16-by-16-character matrix.

You can use Show Clipboard from the Edit menu to look at the contents of the Clipboard at any time. Remember that this command is not available if you are using the MultiFinder.

Customizing Your Desktop

Layout Plus is an application program that allows you to customize the way that the Finder displays the desktop. You can change font sizes and types, icon spacing and color, and other desktop attributes. Layout Plus is based on a freeware program called Layout, originally written by Michael O'Connor.

The Norton Installer copies Layout Plus from the distribution disk into the Norton Utilities folder on your hard disk. You can launch Layout Plus by double-clicking on its icon in the Norton Folder, or you can select it from the Utilities menu inside the main Norton Utilities application program.

Installation

Remember that the full Norton help system is available to you from inside this application; review Step 3 for a complete description of how to use help.

CUSTOMIZING YOUR
DESKTOP WITH LAYOUT PLUS

You use Layout Plus when you want to change the way the Finder displays the desktop. You can change the icon spacing horizontally or vertically, you can change the font used for folders and document names inside folders, and you can even change the colors the desktop uses if your Macintosh displays colors.

You configure the Finder by using the menus in Layout Plus, and the Special menu allows you to set most of the Layout Plus configuration parameters.

WORKING WITH THE SPECIAL MENU

The first item in the Special menu is the Options selection. When you select Options, you will see a window like that shown in Figure 9.1.

There are several checkboxes and radio buttons in this window that control how the Finder works and looks in its day-to-day operations. If there is an X in the box, the option is selected.

- Animation. When this selection is checked, the Finder zooms windows when they are opened. If you cancel the check, the Finder will not zoom the windows and will work much more quickly as a result.

- Drag to Grid. When this is not checked, you can place an icon anywhere you like on the desktop. If you check this box, then when you move an icon, it is placed on an invisible grid automatically, without having to do a cleanup.

- Trash Warning. This box is normally checked, which causes the Finder to provide a warning dialog box if you try to throw an application or a system file into the trash. If

é   File   Edit   View   Special   Utilities

☒ Animation	Zooms rectangles.
☐ Drag to Grid	Aligns icons to an invisible grid.
☒ Trash Warning	Display warning dialog.
☐ Title Bar Click	Brings parent to the front.
☐ Show Hardware Icons	Displays alternate drive icons.
☐ Copy Settings Too	When copying folder, copies settings too.
☐ New Folder Settings	Copies new folder's settings from parent.

Pause before watch
(in 60ths of a second)

⏱ ⏱ [120]

Maximum open windows

[13]

Color Icon Style

⊙ Border

○ Interior

[Defaults]

[OK]

[Cancel]

■ *Figure 9.1: The Options window in the Special menu*

> this selection is not checked, the Finder does not open the
> dialog box before trashing the file. As you can see, leaving
> this box unchecked can be somewhat dangerous.

■ Title Bar Click. If you check this selection, you can switch
  the parent window of the current window to the front when
  you double-click on the current window's title bar.

■ Show Hardware Icons. This option replaces the disk icons
  on the desktop with icons representing the drives them-
  selves. For example, the normal floppy disk icon is re-
  placed by a small Macintosh icon.

■ Copy Settings Too. If you check this option, all the folder
  attributes, including size, color, and view are transferred
  when you copy a folder.

■ New Folder Settings. If you check this option, all the attri-
  butes of the parent folder are copied when you create a new
  folder. This may have unexpected results if you create a

new folder on a file server because the Appleshare permissions are also duplicated to the new folder. If you do not own the parent folder, you may not be able to look at, delete, or use the copy.

There are several other settings you can configure in the lower half of the Options window.

■ Pause before watch. This setting allows you to choose the length of time that must elapse before the Finder displays the busy wristwatch icon. This item is specified in 60ths of a second, but if you make it too short, the cursor will be constantly changing shape from the arrow to the wristwatch and back again, and will cease to be of any value. The default is 120.

■ Maximum open windows. This setting governs the number of windows that the Finder can open at one time. Increasing this number from the default 13 makes the Finder use more memory. If you are using MultiFinder, you may well have to increase its memory allocation.

■ Color Icon Style. This setting allows you to select whether your desktop icons are bordered with color or are filled in.

■ Color. Use this column of color bars to choose the colors that appear in the color menu in the Finder. This option appears only if you have installed color resolution.

Save
Settings
If you want to restore the default Finder settings, click on Defaults, and if you want to abort the Options selections, click on Cancel. Otherwise click on OK to confirm your choice of settings. To save your settings, remember to use Save from the File menu.

The other selections in the Special menu determine how text information is displayed on the desktop. The choices are as follows:

■ Font. Click on a font from the list showing the fonts available in the current system. By changing to another font,

you can alter the way the Finder displays most text, including icon titles and the information printed by the Finder when it creates a Print Directory.

■ Size. Next choose the size of the letters you want to use. If you ever have difficulty reading the desktop information, choose one of the larger type sizes.

■ Style. Finally, you can choose a style for the lettering as long as you are using the Text View. You can choose from or combine bold, italic, underline, outline, and drop shadow. This also applies to the view heading, Name, or Kind, depending on which type of view you are using.

THE FILE MENU

The options in the File menu are as follows:

■ Open. Use Open (Command-O) to select the Finder you want to configure. A standard dialog box opens unless you are using Directory Assistance, in which case the Directory Assistance dialog box opens. If you are already working with a Finder, Layout Plus first asks if you want to save those changes.

■ Save. When you have completed your configuration, use Save (Command-S) to store your changes in the Finder.

■ Revert. If you have made changes and then you decide that you liked the Finder better the way it was, use Revert (Command-R) to undo the last set of changes and reset the Finder.

■ Restore All Defaults. This option removes all of the Layout Plus changes made to a Finder and restores the Finder back into its original configuration. Several of the Layout Plus options can be individually reset back to their original state.

- Copy From. Use this option to copy the characteristics of one Finder to another Finder. A dialog box opens to allow you to select another Finder. When you select a Finder in this box, its characteristics are copied to the Finder you are working on.

- Quit. Use Quit (Command-Q) to exit Layout Plus. If you have made changes and forgotten to save them, a dialog box opens asking if you want to save the changes before you exit.

THE EDIT MENU

All of the commands in the Edit menu are grayed out except for Undo. Undo (Command-Z) removes the effect of the last selection you made. As soon as you click on Undo, it changes to Redo, just in case you change your mind and want to undo the last undo.

THE VIEW MENU

You can also use many of the selections available in the View menu to change the way in which the Finder displays information on the desktop.

- by Small Icon (Command-M). Use this selection to display items on the desktop as small icons. Figure 9.2 shows the Layout Plus window displaying regular-sized icons

The document icons shown in the Layout Plus window are not real icons; they are example icons used to show you how the icon spacing will look on the desktop when you have finished using Layout Plus.

Two of these dummy icons have special arrow symbols to help you select the best icon spacing for your desktop. You can change the horizontal or vertical arrangement of the document icons by
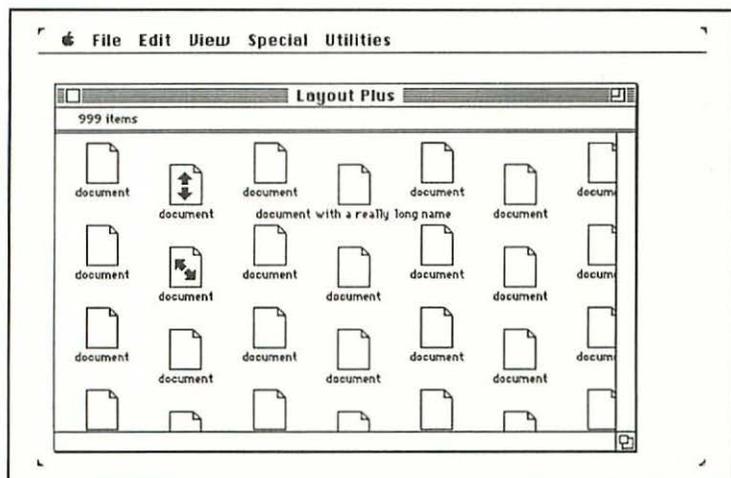
■ *Figure 9.2: The Layout Plus icon window*

dragging the icons with the arrows. By carefully arranging the icons, you can prevent folders with especially long names from overwriting their neighbors. Also, as you change the icon spacing, you can make either more or fewer icons fit into the same window space.

The Finder uses this new icon spacing when you issue a Clean Up command, when you create a new folder, and when you drag a folder to a new location and you have turned on Drag to Grid.

Clean Up

The other options on the View menu are as follows:

■ by Icon (Command-I). This is very similar to the previous choice, only the icons are the regular size. Drag the document shown with the diagonal arrows to move the documents laterally, and drag the document with the vertical arrows to reposition the documents vertically. Again,

the Finder will use this new spacing when it needs to place an icon.

■ by Text (Command-T). Use by Text to list the files and folders by name. Click on the large arrows at the bottom of this text window, shown in Figure 9.3, to left or right justify the information displayed in the corresponding column.

Drag the dotted vertical lines that separate each set of text to make the Name, Size, Kind, or Last Modified columns larger or smaller. These column sizes are also used when the Finder lists the contents of a folder as a Print Directory. The Finder does not show text if it is too wide to fit into the column; instead, an ellipsis in the column shows that text has been truncated and is hidden from view. You cannot change the order of these columns, insert a new column, or delete any of the existing columns.

■ Change Window Size. You can use this selection to choose the default size and position of any new window opened by

File   Edit   View   Special   Utilities

Layout Plus

Name	Size	Kind	Last Modified	
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17
My Document's Name	999K	document	Tue, Jun 25, 1991	22:17

■ *Figure 9.3: The View as Text window lists files and folders by name*

the Finder. You can reposition the window by dragging the header bar to a new location on the screen, and you can drag the size box in the bottom right corner to change the size of the window.

■ Default View. Use this selection to choose how the information in a new window will be displayed. Choose the view you like best from:

■ Small Icon

■ Icon

■ Name

■ Date

■ Size

■ Kind

■ Use Default Spacing. If you are using the icon view, this selection is Use Default Spacing; if you are using the text view, it becomes Use Default Tabs; if you have changed the default window size with Change Window Size, it becomes Use Default Window Size. In all three of these cases, the Use Default command cancels your previous selection of icon spacing, tabs, or a new window size or location and returns to the Finder default.

■ Lock To Grid. With this selection checked, any adjustments you make to the icon or small icon spacing are snapped to an invisible grid. If you want to be able to make small adjustments to icons on the desktop, make sure this selection is turned off. (This command toggles on and off.)

■ Date Format. You can make Layout Plus display the date in one of three formats. For example, a Tuesday in June could be displayed as 6/25/91, as Tuesday, June 25, 1991, or as Tue, Jun 25, 1991. When you are viewing by Text, you can

double-click in the Last Modified column in Layout Plus to cycle through each of these date formats until you find the one that you like the best.

With all this capability available to you in Layout Plus, you can easily design a desktop tailored to your own needs.

When you have completed all your changes, remember to save these settings with Save (Command-S) in the File menu.

If you want to use one of the other Norton Utilities, make your selection from the Utilities menu; otherwise, choose Quit (Command-Q) in the File menu to return to the Finder.

Using the Norton Disk Doctor

What can you do if your disk contains files or folders that you can't read or your startup disk won't start? You can use the Norton Disk Doctor to diagnose the problem and fix the unreadable files. The Norton Disk Doctor can find and fix almost any logical or high-level physical errors on your hard and floppy disks. The Norton Disk Doctor is very easy to use, in most cases is completely automatic, and certainly does not require large amounts of arcane knowledge about sectors and disk drive internals.

The Norton Disk Doctor is designed to work with the Macintosh Hierarchical File System (HFS) and will not work on the Macintosh File System (MFS) used by 400K floppy disks for 128K and 512K Macintoshes.

I do not go into great detail about the cause or nature of disk errors in this Step. Suffice it to say, you should launch the Norton

Disk Doctor after your Macintosh reports a disk error or doesn't start.

Networks

The Norton Disk Doctor will not fix disk problems over a network; however, you can use it to look for file-related problems. To repair an error on the file server, you must install the Norton Utilities on the file server; this will probably require that you shut down the network first.

LAUNCHING THE NORTON DISK DOCTOR

Sad Mac

If your Macintosh will not start from your usual startup disk, and you see the missing disk icon (a floppy disk with a flashing X through it) or the Sad Mac icon, you must launch the Norton Disk Doctor from the red Emergency disk or a backup copy of this disk.

Disk errors

If your Macintosh will start, but you are experiencing problems with files or folders after it has started running, you can run the Norton Disk Doctor from either the red Emergency disk or directly from your hard disk.

When you launch the Norton Utilities, you will see icons for the Norton Disk Doctor, UnErase, Format Recover, and Speed Disk in the startup window. Click on one of these icons to start the appropriate program running. You can also start one of these same four utilities by selecting them by name from the Utilities menu. Two other utilities are also available from this menu: the Norton Disk Editor and Layout Plus.

Click on the Norton Disk Doctor icon, or select it from the Utilities menu.

DIAGNOSING PROBLEMS
WITH NORTON DISK DOCTOR

A dialog box opens asking which of the disks connected to your
Macintosh you wish to work with. Click on Drive to change to
the next disk, and then click on Open to select the drive. You will
see the Norton Disk Doctor window open next, as shown in Figure 10.1.

The Norton Disk Doctor performs six tests in diagnosing and repairing a disk as this window shows:

■ Checking Volume Info. During this step the Norton Disk
  Doctor makes sure that a disk, or volume, can be mounted;
  that is, it checks that essential data can be loaded from the
  disk so that it can be displayed on the desktop.
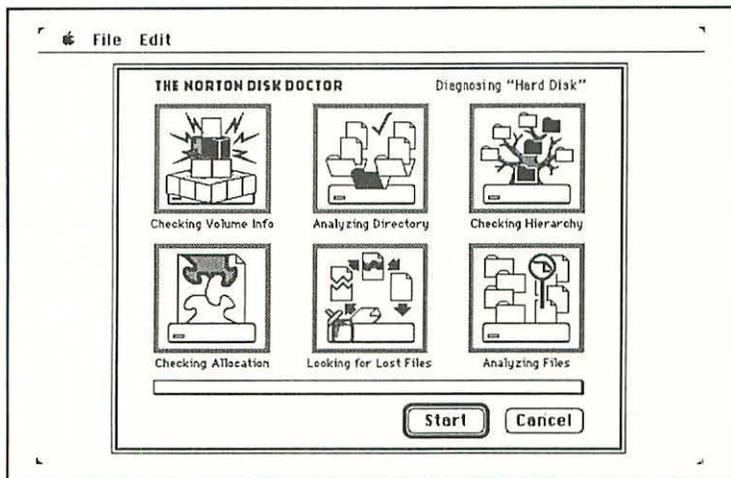
■ *Figure 10.1: The Norton Disk Doctor main window shows the six main
analyses performed on every disk*

■ Analyzing Directory. Next, all files and folders are checked to see that they can be opened. The Norton Disk Doctor fixes any folders that can't be opened.

■ Checking Hierarchy. All the directories are checked for consistent and correct information.

■ Checking Allocation. During this test, your disk is checked for areas on the disk that are assigned to more than one file at a time. These files are referred to as cross-linked files.

■ Looking for Lost Files. This part of the test looks for areas of the disk that are being used according to the bookkeeping information available but in actuality are not being used by any file. These areas are often known as "lost sectors."

■ Analyzing Files. Finally, every file on your disk is checked for damage, missing Finder icons, and several common viruses. This section of the tests can also locate duplicate copies of the Finder and the system.

Click on Start to begin the analysis. The horizontal progress bar shows how things are proceeding, and you can click on Cancel if you want to halt the tests. As each part of the analysis is made, the border around the appropriate icon changes. During the last phase of these tests, you will see the name of the disk being tested followed by your folder names at the bottom left of this window. Underneath this information is the name of the file actually being tested right now.

If the Norton Disk Doctor encounters a problem at any point in the tests, a window opens asking you if you want to fix the problem. Some of the problems will be very serious and you should fix them right away; others will be less serious, but go ahead and fix them anyway. Figure 10.2 shows one of these problem windows for a problem found during the Analyzing Files part of the test.

```
 ┌─────────────────────────────────────────────────────┐
 │  File  Edit                                          │
 │   ┌───────────────────────────────────────────────┐ │
 │   │                                               │ │
 │   │   A problem has been found on "Hard Disk"     │ │
 │   │        Finder information is inconsistent     │ │
 │   │  ...........................................  │ │
 │   │             Description:                      │ │
 │   │  The following files have invalid bundle resources.  Because of this, you may │ │
 │   │  be having trouble launching these files or other files from the Finder.       │ │
 │   │  Although this is not a major problem, you should choose to fix it anyway.      │ │
 │   │  ┌─────────────────────────────────────────┬─┐│ │
 │   │  │ Hard Disk:System Folder:Desktop Mgr     │▲││ │
 │   │  │                                         │ ││ │
 │   │  │                                         │ ││ │
 │   │  │                                         │ ││ │
 │   │  │                                         │▼││ │
 │   │  └─────────────────────────────────────────┴─┘│ │
 │   │  Do you wish to correct this problem?   610:14 │ │
 │   │  ┌────────┐  ┌──────┐          ┌──────┐       │ │
 │   │  │  Yes   │  │  No  │          │ Quit │       │ │
 │   │  └────────┘  └──────┘          └──────┘       │ │
 │   └───────────────────────────────────────────────┘ │
 └─────────────────────────────────────────────────────┘
```

- *Figure 10.2: If the Norton Disk Doctor finds a problem, a window opens asking if you want to fix it*

Click on Yes to fix the problem, No to ignore the problem, or Quit to leave the Norton Disk Doctor and return to the main Norton Utilities startup window.

Finally, when all the tests are complete, you will see a clipboard on the screen showing a short report on the health of your disk. Areas checked include the boot blocks, the volume info block, the volume bit map, the directory or folder layout, and the file structure.

MAKING A PRINTED REPORT

Click on Done to return to the main Norton Utilities startup window, or if you want to see a more detailed report of the Norton Disk Doctor's findings, click on More Info to create a text report. A dialog box opens asking where you want to save the report. Part
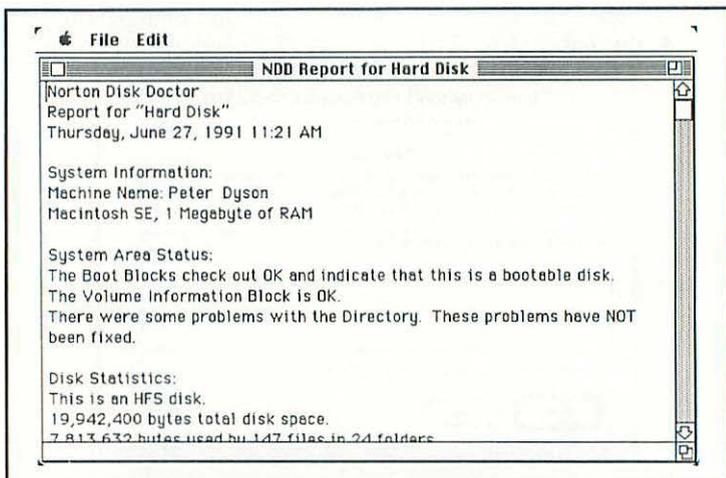
■ *Figure 10.3: The Norton Disk Doctor can make a detailed text report of its findings*

of a Norton Disk Doctor report for a hard disk is shown in Figure 10.3.

The report is a text file, so you can use TeachText or your favorite word processor to look at it. The report is dated and contains the following major headings:

■ System Information includes the type of Macintosh and the amount of main memory.

■ System Area Status lists the areas checked, and if one or more parts were found to contain errors and were fixed.

■ Disk Statistics lists the size and type of the disk, the amount of space occupied by files and folders, and the amount of remaining free space.

■ Disk Technical Information includes disk initialization and last modification dates; a count of the allocation blocks, or

sectors, on the disk; and the starting sector numbers of the volume bit map.

■ File Status lists the total number of files and the number with resource forks.

■ System Folder Details lists all the cdevs and INITs on the disk giving names and version numbers. It also shows details of the system, Finder, and MultiFinder.

■ Summary. Ideally the summary indicates that your disk is now in good shape.

If errors were found by the Norton Disk Doctor, they too are detailed under the appropriate heading in the report, along with an indication of whether they were fixed or not.

If your disk exhibited multiple disk errors, you should run the Norton Disk Doctor a second time. It is entirely possible that an error fixed by the Norton Disk Doctor was masking a second error that it did not fix. A second run through your disk will find all of these hidden errors if there are any, and it certainly will not damage anything.

LEAVING THE NORTON UTILITIES

Select Quit (Command-Q) from the File menu to leave the Norton Utilities. Remember that there is no Finder on the red Emergency disk; choose Restart or Shut Down when quitting the Norton Utilities.

Recovering Damaged Disks

Disk problems can take several different forms. For example, your startup disk might refuse to boot, causing the Sad Mac icon to appear on the screen. Perhaps you insert a disk you know contains important information and all you see on the screen is the message

```
This disk is unreadable: Do you want to
initialize it?
```

The Norton Disk Doctor can help you in both of these cases.

Remember that the red Emergency disk contains only the Norton Utilities application program and a system. It does not contain the Norton Help file, so the help system is not available to you when you are working from this disk. Proceed carefully.

RECOVERING A DAMAGED HARD DISK

Red Emer-gency disk

If your Macintosh refuses to start from your hard disk, insert the red Emergency disk into the disk drive and turn on your Macintosh. Your Mac should start; load the Norton Utilities, go straight to the utility's opening window, and click on the Norton Disk Doctor icon. When the Choose a volume to Diagnose dialog box opens, click on the Drive button (or type Command-D) until you see the name of your damaged startup disk, and then click on Open.

Check the connectors

If the name of your startup hard disk does not appear in the dialog box, click on Cancel and choose Quit from the File menu. Since there is no Finder on the red Emergency disk, a dialog box opens giving you the choice of Restart, ShutDown, or Cancel. Click on ShutDown, turn both your Macintosh and your hard disk off (especially if you are working with an external drive), and check that all the cables and connectors are securely attached.

Hardware problems

Turn on the disk drive and let it run for a few minutes before you try to load the Norton Utilities from the red Emergency disk for a second time. If your Macintosh still refuses to start, you probably have a hardware problem, and you should contact your computer dealer's service department.

After you click on the Open button in the Choose a volume to Diagnose dialog box, the main Norton Disk Doctor window appears, showing the six main tests that will be run on your hard disk. Click on Start, and watch for prompts on the screen.

Fixing disk problems

As the Norton Disk Doctor runs the tests and finds problems, dialog boxes open detailing what the program has found. You can choose to either fix or ignore the problem; however, you should follow the program's advice and let the Norton Disk Doctor fix all the problems that it finds.

When the Norton Disk Doctor finishes checking your hard disk, you will see a report card on the screen that details the areas of the disk that were checked. These include the boot blocks, the volume info block, the volume bit map, the directory layout, and the file structure.

If you want to see a more detailed report on your hard disk, click on More Info to save the report to a file. Remember that there is no room for this report file on the red Emergency disk; besides, this disk should always be kept locked, or write-protected, to prevent accidents. Click on Done to return to the main Norton Utilities window.

Report

When you are ready to leave the Norton Disk Doctor, click on Quit from the File menu. Then, because there is no Finder on the red Emergency disk, click on Restart or ShutDown in the dialog box and try once again to boot from your hard disk.

Next, the red Emergency disk is ejected. Ideally, your hard disk begins to start up and you see the Happy Mac icon on your screen.

Restart

If you are still having problems, try running the Norton Disk Doctor a second time. It is entirely possible that one of the problems fixed during the first pass was disguising another error that is now preventing a successful startup. Running the Norton Disk Doctor for a second time will find and fix this problem.

WORKING WITH DAMAGED FLOPPY DISKS

Assuming that you used the Norton Installer to load the Norton Utilities onto your hard disk, the whole help system is available to you before you actually start the Norton Disk Doctor. However, once you have launched the program, help is, once again, unavailable.

If you are working with a floppy disk, insert it into a floppy disk drive. Click on the Drive button (or use Command-D) until you see the disk you want to work with displayed in the dialog box. Click on Open, and when the main Norton Disk Doctor window appears, click on the Start button.

If the Norton Disk Doctor finds problems on the disk, you have the option of ignoring or fixing the problem; take this opportunity to fix any problems as soon as they are found.

If the Norton Disk Doctor cannot find your disk when you click on Open in the Choose volume to diagnose box, you may see the message

    Scanning SCSI bus...

as the program searches your system for more disk drives. If the program cannot find your hard disk, you probably have a hardware problem and should contact your dealer's service department. If the disk is a floppy disk, and the Macintosh cannot recognize it, you will have to use a paperclip to eject the disk. Alternatively, switch your Macintosh off and on again; the disk will be ejected as your Macintosh restarts.

SCSI BUS PROBLEMS

The Macintosh uses the Small Computer System Interface (SCSI) bus to connect high-speed peripheral devices like external disk drives. Sometimes bad connections on this bus can cause problems with these disk drives. You should not plug or unplug peripherals into SCSI ports while your Mac is running—shut down your Mac and turn off the power first. Also, most SCSI peripherals have two connectors so that they can be daisy-chained together. Plug the first connector into your Macintosh and the other connector into the next SCSI peripheral in the daisy chain. Up to seven

devices can be daisy-chained together at the same time, each with its own unique address. The last device in the chain must be properly terminated so that the connectors are not left open. Some newer devices are self-terminating, but others require a SCSI terminator be plugged into the connector.

Each device on the bus must have its own unique identification number. This is usually a switch on the back of the case; if two devices are set to the same number, your Mac will not be able to tell them apart, and this will disrupt the entire bus.

NORTON DISK DOCTOR AND MULTIFINDER

The Norton Disk Doctor will run under MultiFinder, but if you have a very large hard disk containing hundreds or possibly thousands of files, the Norton Disk Doctor may need more memory to run than is normally allocated to it by default.

Click on the Norton Utilities icon in the Finder, choose Get Info (Command-I) from the File menu, and then increase the Application Memory Size in the box at the bottom of the window.

Increase the Application Memory Size

To make more memory available, use the Finder rather than the MultiFinder.

Choose Set Startup from the Special menu, and select the Finder radio button. Now choose Restart in the same menu to reinitialize your Mac and make it load the Finder rather than the MultiFinder.

Use Finder

You can free up even more memory if you run the Norton Utilities in monochrome rather than in color.

If you are attempting to diagnose your startup disk, you cannot use MultiFinder; you will have to run the Norton Disk Doctor from the red Emergency disk in order to repair the disk.
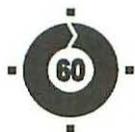
Unformatting Your Hard Disk

One of the most appalling prospects for a hard disk user is the idea of accidentally reformatting, or initializing, a hard disk—an operation that apparently destroys all the files and folders on the disk. With the Norton Utilities Format Recover, you can now rescue data from a reformatted hard disk.

The Macintosh itself has several built-in safeguards against accidentally reformatting your startup disk. If you use Erase Disk from the Special menu, you will see a dialog box containing the message

    That is the startup disk; it can't be erased.

Still, accidents will happen, and this is where Format Recover comes into its own.

HIGH- AND LOW-LEVEL DISK FORMATTING

Before you can use a disk, it must first be physically (or low-level) formatted, and then it must be logically (or high-level) formatted.

Physical &
logical
formatting

Physical formatting can take a long time to complete, whereas logical formatting is usually a relatively quick process. Unfortunately, hard disks and floppy disks are treated differently:

■ With hard disks, the physical format is usually done once, at the factory, and is never done again. The logical format is done next, and this logical formatting is what allows us to use the disk for storing files and folders.

■ In the case of floppy disks, the physical and logical formatting are done at the same time, when you use the Erase Disk command from the Special menu.

What can be confusing about all this is that the Erase Disk command in the Special menu performs both physical and logical formatting when you work with floppy disks, but it only does logical formatting when you work with hard disks.

Physical formatting overwrites and destroys all of the original data on the disk; logical formatting does not—it merely resets the bookkeeping information on the disk.

Logical
formatting
does not
destroy
hard disk
data

The original data is still on the disk, but there is no way of gaining access to it. This explains why Format Recover can rescue information from a reformatted hard disk but not from a reformatted floppy disk or from a hard disk that has been physically, or low-level, formatted.

LAUNCHING FORMAT RECOVER

If your hard disk has been accidentally reformatted, you must start
Format Recover from the red Emergency Disk, or better still, from
your backup copy of the emergency disk. You must run Format
Recover from the floppy disk because you cannot access your
hard disk copy of Format Recover.

Do this immediately, before loading anything to the hard disk. If
you try to load programs first, you may overwrite the vital File-
Saver information, in which case a complete recovery will be im-
possible. Format Recover is automatic and easy to use.

Recovering a
Hard Disk Using FileSaver Information

When you start up from the red Emergency disk, the Norton Utili-
ties are loaded, and you will see the Norton Utilities selection
screen.

Click on Format Recover. A dialog box opens asking you to
choose one of the four Format Recovery operations. Click on the
first radio button, Restore Formatted or Crashed Disk. The other
selections in this dialog box are described later in this Step.

Next, choose the drive or volume you want to restore by clicking
on the Drive button to cycle through all the disks attached to your
Macintosh and then clicking on Open when your hard disk icon is
displayed.

Format Recover first looks for FileSaver information on the
hard disk in an attempt to rescue your disk quickly. If FileSaver

information is present, Format Recover can use it, and you will see the dialog box shown in Figure 12.1.

Format Recover shows you when the FileSaver information was last updated, and asks

```
Do you want to completely restore the disk
using this information?
```

Your choices are as follows:

- Restore. Make this selection if you want to restore your hard disk using the FileSaver information.

- Keep Looking. Select this option to make Format Recover search your disk for more FileSaver information. A progress bar shows you the state of the search; click on Cancel to abort the search.

File   Edit

⊗ FileSaver information has been found for "Hard Disk".
Last updated: Jun 26, 1991 11:48 AM.

Do you want to completely restore the disk using this information?

Restore	Restore this volume.
Keep looking	Search for more recent FileSaver information.
Reconstruct	Recover the disk without using FileSaver information.
Cancel	Do not restore this volume.
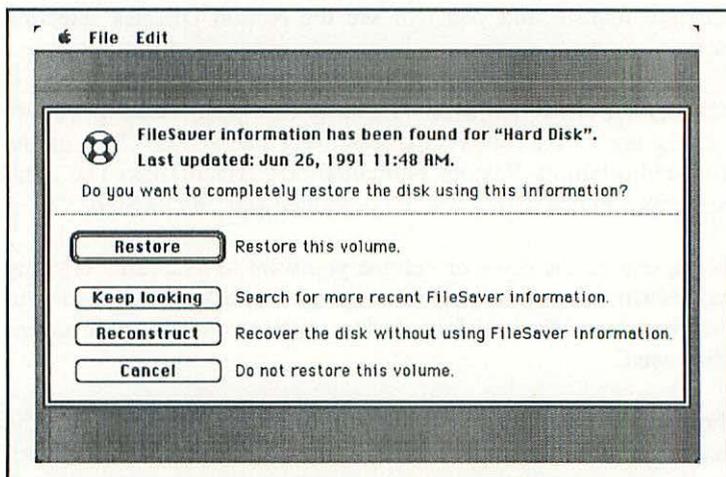
- *Figure 12.1: Format Recover uses FileSaver information to rescue your hard disk*

- Reconstruct. If you choose this option, Format Recover will try to recover as much of your disk as it can and will not use the FileSaver information. This process is equivalent to using the Norton Utilities UnErase program to rescue files and folders. In fact, the menus and dialog boxes will say UnErase instead of Recover.

- Cancel. Click on Cancel if you have changed your mind about recovering your disk. You return to the main Norton Utilities selection window.

Select Restore, and Format Recover will use the FileSaver information to rescue the files and folders on your hard disk. When the process is complete, you will see a dialog box containing the message

```
Successfully recovered the volume named
"Hard Disk"!
```

where "Hard Disk" is replaced by the name of your volume.

Recovering a Hard Disk Without FileSaver Information

If Format Recover was unable to find FileSaver information on your disk, you will see a window like that shown in Figure 12.2.

The window explains that Format Recover was unable to find FileSaver information. You may not have installed FileSaver yet, or if you did install it, the FileSaver information may be corrupted and unreliable. You have the following choices:

- Search Disk. Choose this option if you think that FileSaver information should be on the disk. Format Recover will try to find the information a second time.

■ Reconstruct. If Format Recover is unable to find FileSaver information, your best alternative is to click on Reconstruct and perform an UnErase on the files and folders on your disk.

■ Cancel. Select Cancel to return to the main Norton Utilities selection window without recovering anything.

Click on Reconstruct, and Format Recover will do the best job it can of recovering your files. How to use UnErase is covered in Steps 13, 14, and 15 and will not be described in detail here. However, you can select individual files or folders by clicking the mouse or groups of files by dragging the mouse, or you can use Select All from the Edit menu to recover all the files on your disk. Click on UnErase to start the rescue process. If you use this


```
 ┌ ́  File  Edit                                              ̄
 │                                                             │
 │  ┌─────────────────────────────────────────────────────┐  │
 │  │                                                       │  │
 │  │  (◉)  No FileSaver information found for "Hard Disk".  │  │
 │  │  ─────────────────────────────────────────────────   │  │
 │  │  Format Recover was unable to locate any FileSaver    │  │
 │  │  recovery information. If the Norton                   │  │
 │  │  FileSaver INIT was installed before the time of the   │  │
 │  │  crash or accidental format, the recovery              │  │
 │  │  file may have been erased or corrupted. Your best     │  │
 │  │  choice then is to Reconstruct the disk.               │  │
 │  │                                                       │  │
 │  │  How would you like to proceed?                       │  │
 │  │  ┌────────────┐                                       │  │
 │  │  │ Search Disk │  Try to search this disk again for   │  │
 │  │  └────────────┘  FileSaver information.               │  │
 │  │  ┌────────────┐                                       │  │
 │  │  │ Reconstruct │  Recover the disk without any        │  │
 │  │  └────────────┘  FileSaver information.               │  │
 │  │  ┌────────────┐                                       │  │
 │  │  │   Cancel    │  Do not restore this disk.           │  │
 │  │  └────────────┘                                       │  │
 │  └─────────────────────────────────────────────────────┘  │
 │                                                             │
 └─────────────────────────────────────────────────────────────┘
```

■ *Figure 12.2: Format Recover gives you different choices if FileSaver information is not present*

technique, some files may not keep their original names, and you may have to work with them to restore their names.

Installing Disk Protection

The second option in the Format Recover opening window lets you create a new FileSaver file for a disk. Select the Install Disk Protection radio button, and click on OK. You will see the current FileSaver settings shown in the next window. If you want to change to another disk, click on Drive. There are three checkboxes in the lower part of this window. These checkboxes are very similar to the FileSaver control panel settings:

- Volume Protection. Check this box to create a file containing details of your disks. Format Recover will use this information if you ever attempt a recovery operation after an accidental format of your hard disk. To keep the information in the recovery file as up-to-date as possible, you should install and use FileSaver as I described earlier in Step 4.

- File Protection. Use this selection to save information on files as you delete them. UnErase can use this information when rescuing deleted files. You can also select how many deleted files you want to keep track of at a time. The default number is 500 files. Keeping track of this number of files will occupy approximately 50K of disk space—about 100 bytes are needed to keep track of each file.

- SaveComments. Turn this option on, and the Finder's Get Info comments are saved and not lost each time you rebuild the desktop.

Click on OK when you have made your selections, and you return to the Norton Utilities main selection window.

Manually Updating
the Disk Protection Information

You can update the FileSaver file manually if you click on the Update Disk Information radio button. Click on OK, and you will see the message

    1 FileSaver info file was found and was
    updated successfully.

Click on OK to return to the Norton Utilities main selection window.

Restoring the Finder's Comments

Finally, if you select the Restore Finder Comments radio button, you can ensure that the Finder's Get Info comments will be restored after a desktop rebuild and will not be lost. After you select the drive you want to work with, a horizontal progress bar indicates the search for comments, and you are returned to the main Norton Utilities selection window.

Choose Quit (Command-Q) to leave the utilities and return to the Finder.

Quick UnErase

Deleting files is easy, often much *too* easy. On the Macintosh, you delete a file by dragging it to the trashcan icon in the lower right-hand corner of the desktop.

As long as you don't empty the trash, and the trashcan icon is still bulging, the file is still there and can be retrieved very quickly. The trashcan is a folder just like the other folders on your desktop. Double-click on the trashcan icon to open it just as you would any other folder. Now you can drag the file back into the folder of your choice. However, if the trashcan is not bulging or you used Empty Trash from the Special menu, the file has been deleted.

Trashcan

HOW FILES ARE DELETED

There are several ways of deleting files on the Macintosh. Emptying the trashcan is one way, but the Mac doesn't always wait for you to do it. Sometimes, if the Mac needs the space occupied by the trashed file, the Mac may delete the file automatically.

Similarly, the contents of the trashcan are dumped when you launch a new application or shut down your Macintosh. Some applications give you the option of deleting files directly without putting them in the trash first. When this option is available in a program, it is often found in the File menu, and it doesn't usually give you a second chance. As soon as you click on the OK button the file is deleted—or is it?

WHAT HAPPENS WHEN YOU DELETE A FILE?

Before describing how UnErase does its job, I want to explain exactly what happens when you do delete a file using one of the mechanisms described above. When you delete the file or empty the trash, the actual data is not removed from the disk; it is still there in its original location. Only the information needed to locate the file and display its icon are actually removed from the disk. In technical terms, the file manager examines the catalog tree to find where the file was stored and marks these blocks as available blocks in the volume bit map. Then the record for the file is removed from the catalog tree. This explains why you cannot display the file on the desktop or see its icon in the Finder. No data is actually changed until the Mac is told to write another file over the same disk space. As long as the information in the file is not overwritten, it can be recovered quite easily.

WHAT HAPPENS WHEN YOU ADD A NEW FILE?

When you add a new file to your disk, the Macintosh looks for the next available area of free space on your disk. If the file is small enough to fit into this area of free space, the Mac simply slots it in.

However, if the file is too large, the Mac splits it up into several pieces, recording it into areas on the disk that are not numbered consecutively. In other words, the file becomes fragmented.

Saving the new file on the disk destroys a deleted file's data. If the new file is larger than the old one, the old file is completely obliterated. If the new file is smaller than the old one, some unknown amount of the old file will remain on the disk until it is finally overwritten by some future write-to-disk operation.

The longer you wait, and the more you use your disk before attempting a recovery operation, the slimmer your chances become of making a complete recovery.

The most important point to remember about file recovery is you must not save anything on the disk until you have completed the recovery operation.

Do not even install the Norton Utilities on your hard disk; instead, you should launch UnErase from the red Emergency disk. Install the complete package of utilities on your hard disk only when the recovery process is completely finished. By following this rule, you will not overwrite the erased file's data, and you will increase the chances of a complete recovery.

USING UNERASE
TO RECOVER DELETED FILES

If the deleted file is a short file, there is an excellent chance that UnErase will be able to restore it on the first attempt. However, if the file is badly fragmented or part of it has been overwritten by another file, the chances of a full recovery are substantially less, and a completely overwritten file cannot be recovered by any utility program.

*Don't
install the
utilities yet*

If you want to recover a deleted file and you have not yet installed the Norton Utilities onto your hard disk, you should shut down your Mac and restart using the red Emergency disk.

If you installed the utilities before deleting the file, or you want to recover a file accidentally deleted from a floppy disk, double-click on the Norton Utilities icon to start the program.

In either case, when the main Norton Utilities window opens, choose UnErase, and you will see the window shown in Figure 13.1.

First, choose the disk or volume that contains the deleted files that you want to recover. Click on the disk icon or the Drive button, or type Command-D to cycle through all the drives connected to your Mac.
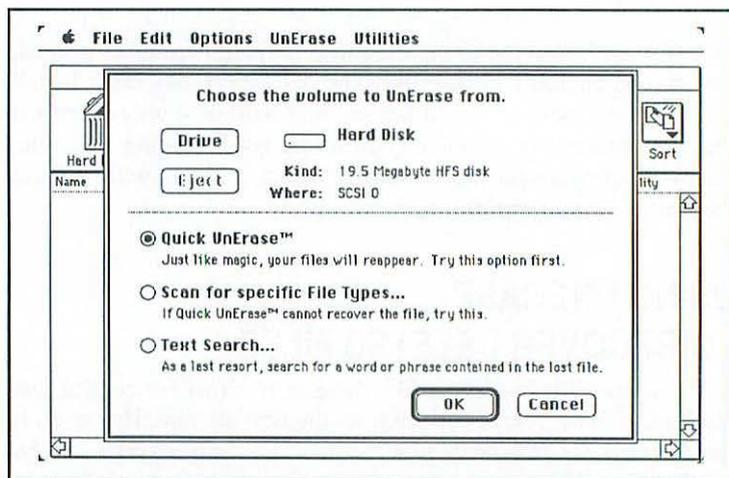
■ *Figure 13.1: Choose the disk or volume that you want to unerase files from*

If you are using FileSaver, a message box opens telling you that UnErase is looking for FileSaver information to help with the recovery process. (File recovery without using FileSaver information is described in later Steps.)

When you have selected the correct drive, note that there are three recovery-option radio buttons shown in the lower half of this window.

If you are using FileSaver (described in Step 4), select the Quick UnErase radio button, and click on OK to continue.

The other two radio buttons shown in this window, Scan for Specific File types and Text Search, are described in Steps 14 and 15 respectively.

THE UNERASE WINDOW

Now you will see the main UnErase window as Figure 13.2 shows.

UnErase collects a list of all the files it can find using the File-Saver information that could be candidates for unerasure and displays them in the main part of the UnErase window. This scrollable list includes the file or files that you are looking for, but it also includes a lot of other files, many of which you will not be interested in at all. Programs such as Microsoft's Excel create many temporary files as part of their normal operation, but you would not want to recover any of these files. Information on each file is listed in seven columns from left to right across the window.

■   Name. Name of the file.

■   Data. Size in K of the file's data fork.

■   Rsrc. Size in K of the file's resource fork.
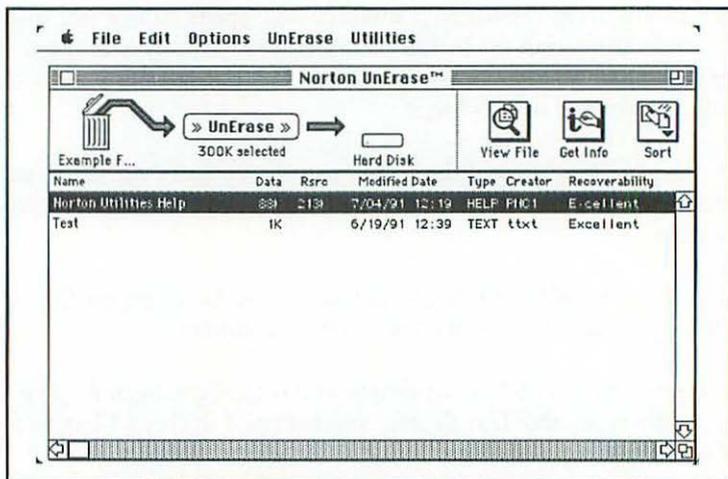
■ *Figure 13.2: The main UnErase window*

- ■ Modified Date. Date and time the file was last changed.

- ■ Type. File type.

- ■ Creator. The four-letter code that identifies the creator of the file.

- ■ Recoverability. This is the prognosis for the recovery, ranging from Poor, to Fair, Good, Very Good, and Excellent in increasing order of the likelihood of a successful recovery. A rating of Excellent usually means that no part of the file has been overwritten, and the file can usually be completely recovered. This column will display information other than the recovery prognosis later in the unerase process.

All this information helps you to track down the file you want to unerase. If the list is too long to fit into the window, click on the scroll bars to move through the list.

Also, you can click on the Sort icon at the top right of the window to rearrange the files listed in the main UnErase window. You can choose to sort your files by one of the following criteria:

- by Name
- by Date
- by Size
- by Kind
- by Type
- by Creator

To see more information about a specific file, click on the file to highlight it and then click on the Get Info icon at the top right of the main window, or choose Get Info (Command-I) from the Options menu. A dialog box opens as shown in Figure 13.3.
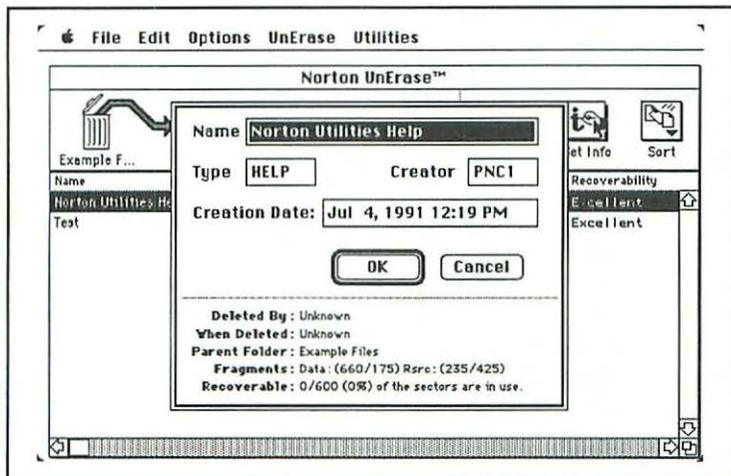
- *Figure 13.3: The Get Info dialog box*

The top half of the dialog box contains information similar to that found on the main UnErase window, including the file name, the file type, the name of the application program that created the file, and the create date.

Advanced information

In the lower half of the window, you will see the name of the program that deleted the file, the time and date when it was deleted, the name of the parent folder, details of how the file is divided between the data fork and the resource fork, and finally, the amount of the file that is recoverable. This last entry also details the number of sectors originally occupied by the file that are now in use by another file. Click on OK or Cancel when you have seen enough.

View File

Sometimes you need to examine the actual contents of a file to determine that it really is the file you are looking for. Click on View File, or choose View File (Command-O) from the Options menu to look at the file contents.

The success of viewing a file depends on the file type. If the file is a text file, you will probably be able to make sense of the file contents, but if the file is any other kind of file, it will just look like random characters on the screen.

Click on the radio buttons at the bottom of the View File window to choose between displays of the data fork, the resource fork, or the resource map for the file. If the file is too big to fit in memory, UnErase will tell you and ask if you want to load just the first 150K of the file. Click on Done to return to the main UnErase window.

UNERASING FILES

Now that you have located the file or files that you want to recover, choose the disk where you want to write the files after you

have recovered them. Most of the time you will want to store them on a different disk from the original disk, especially if the original disk is badly damaged.

If you are recovering files from a floppy disk, store the recovered versions on your hard disk, and if you are recovering files from your hard disk, store them on a floppy disk. By doing this, you prevent the first file recovered from overwriting other areas of the disk that may be needed to recover other files later on.

Destination disk

Click on the disk icon in the top center of the window to cycle through all the disk drives connected to your Macintosh, or choose Change Destination Volume from the Options menu and select a destination disk to receive the unerased files (see Figure 13.2).

When you have selected the first file you want to recover and the disk you want to write the recovered file to, click on the UnErase button at the top left of the window, or type Command-S. The graphic in this part of the window shows the recovery process flowing from the trashcan on the left, through the UnErase icon, to the destination disk that you have chosen to receive the unerased files.

If you try to recover a file to its own disk, a window containing a warning message opens. This message reminds you that if you proceed, you might inadvertently overwrite the area of the disk in use by another file, thus preventing you from making a complete recovery of this file later. Click on Cancel to return to the main UnErase window without recovering the file so that you can select a different destination disk, or choose Continue to recover the file to its own disk.

When the file has been successfully unerased, the text under the Recoverability column changes to Recovered. Choose the next file

for recovery and click on the UnErase icon once again, repeating this process until all your files have been recovered.

Recovered Files

The files rescued by UnErase are placed inside a folder called *Recovered Files* in the root directory of the destination disk. Each UnErase session makes its own folder inside Recovered Files, usually called by the same name as the original disk that contained the deleted files. For example, if you deleted a file from a floppy disk called Examples, you will find a folder called *Examples* inside the Recovered Files folder.

If you want to store the recovered files somewhere else, use Change Destination Folder from the Options menu to choose another folder on the destination disk.

When you have completed all your file recovery operations, click on Quit from the File menu to leave UnErase and return to the Finder.

FILE RECOVERY
WITHOUT FILESAVER PROTECTION

File recovery is almost a certain thing when FileSaver information is available, but if you are not using FileSaver protection, see Step 4 for a description of how to configure it using the control panel.

If FileSaver information is not available for your disk, you will see this message box open when you choose the drive in UnErase.

```
FileSaver protection was not enabled for
this disk, so only a few files were found
to Quick-UnErase. Try the other two UnErase
methods for better results.
```

Because the methods used by UnErase are completely non-destructive (as long as you use a different destination disk) unlike methods used by other utilities or on other computer systems, you can try to recover a file using each of the methods available in UnErase and compare the results.

Recovering files in groups is covered in the next step, Step 14, and identifying files for recovery by using a text search is described in Step 15.

UnErasing Groups of Files

If you have erased files from a disk that did not have FileSaver protection enabled, UnErase may not be able to find all of your deleted files when you use the Quick UnErase option. However, there is still a very good possibility that your files can be recovered if you use the second option in UnErase, Scan for specific File Types.

If you want to recover a deleted file and you have not yet installed the Norton Utilities onto your hard disk, remember to shut down your Macintosh and restart using the red Emergency disk. This way you will not accidentally install the Norton Utilities on top of the file you are trying to recover. You should install the Norton Utilities onto your hard disk after the recovery operation is complete.

If you installed the utilities before you erased the document you want to recover, you can run the Norton Utilities from your hard disk as normal.

SCANNING FOR SPECIFIC FILE TYPES

In either case, when the main Norton Utilities window opens, click on UnErase, and select the disk you want to work with by clicking on the drive icon or the Drive button, or by typing Command-D. Now select the Scan for specific File Types radio button, and then click on OK.

Next, the window shown in Figure 14.1 opens. This window lists all the different applications that you can have UnErase search for; all you need to know in order to recover a file is the name of the application program you used to create the document in the first place.

＊ File Edit Options UnErase Utilities

Norton UnErase™

Hard Disk

Name

Choose which file types you wish to search for:

Acta 2.0 document
Acta 3.0 document
All Resource files
Any plain-text file
Business Filevision
Cricket Presents file
CricketDraw file
Dollars and $ense 4.0 file
FileMaker file
Filevision IV
Freehand file

Sort

erability

Select All ⌘A

Options...

Do It

Cancel

▪ *Figure 14.1: The UnErase window allows you to specify file types*

UnErase can recover files made by the following applications:

Acta 2.0	MacDraft PICT	MORE 3.0
Acta 3.0	MacDraw	MORE II
Business Filevision	MacPaint 1.0	Omnis 3
Cricket Presents	MacPaint 2.0	PackIt archive
CricketDraw	MacProject II	PageMaker 2.0
Dollars and $ense 4.0	MacSqz!	PageMaker 3.0
	MacWrite	PowerPoint
FileMaker	Macwrite 5.0	QuickMail address book, form, and group
Filevision IV	Microsoft Excel file and chart	
Freehand		
Full Impact	Microsoft Word 3.0	StuffIt archive
FullWrite Professional	Microsoft Word 4.0	SuperPaint
	Microsoft Works 2.0 DB, WP, and SS	WingZ
MacCalc data		Write Now 1.0
MacDraft		Write Now 2.0
	MORE 1.0	

UnErase can also recover categories of files or documents such as Any plain-text file, a TIFF file, or even the Norton FileSaver data file. These categories of files are listed below:

All Resource files

Any plain-text file

GIF picture file

Hypercard stack

MacServe volume

Norton FileSaver data file

PICT2 file

PostScript file

TIFF file

To highlight your selection in this list, click on the application name or document category name you need. You can choose several options in the list if you wish to recover several different kinds of files at the same time. Hold down the Shift key as you click on additional file types. If you don't remember the name of the application program you used to create the file, click on the Select All button or use Select All from the Edit menu (Command-A) to choose all the options in this list. If you click on Select All, the whole list will be highlighted, and UnErase will search for files made by all of these applications.

CONFIGURING THE SEARCH OPTIONS

Next, click on the Options button, and you will see the window shown in Figure 14.2.

There are three radio buttons on this window. They allow you to specify the range of the search.

- Search erased data space only

- Search occupied file space only

- Search Entire Disk

CONFIGURING THE ADVANCED OPTIONS

Click on the Advanced Option checkbox to open the lower half of the Options window where you will see more checkboxes for additional UnErase search criteria, as Figure 14.3 shows.
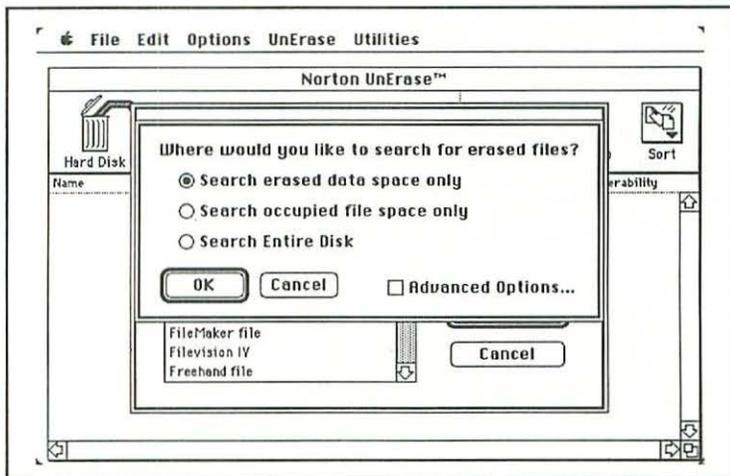
- *Figure 14.2: The Options window allows you to define the area of the disk to search*
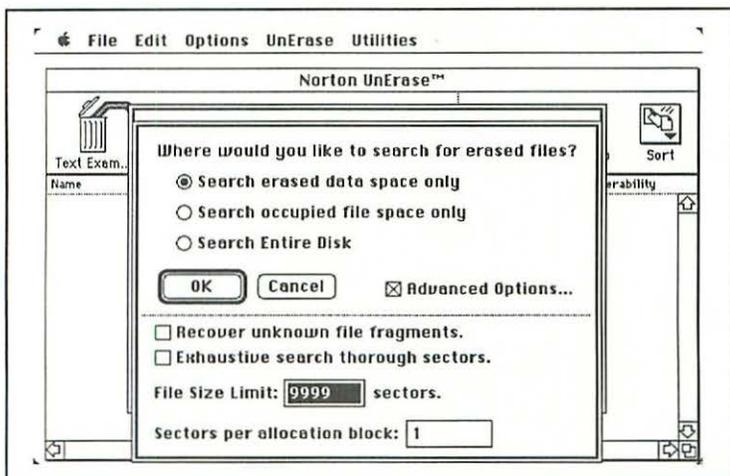
- *Figure 14.3: The Advanced Options dialog box allows you to further specify the range of the search*

The lower half of the Options dialog box contains these two checkboxes:

- Recover unknown file fragments. If you check this option, UnErase converts any unknown file types or file fragments that it finds into text files. Then you can use TeachText or your favorite word processor to look at the fragments and decide if they are worth keeping.

- Exhaustive search through sectors. Check this box to make UnErase perform an extensive search through all parts of each sector on your disk. However, this search may try to pick up some nonexistent file types.

Finally, there are two data entry boxes at the bottom of this dialog box where you can set two more UnErase parameters:

- File Size Limit. Here you can enter a file size limit for the search, expressed as a maximum number of sectors, where a sector is 512 bytes. If you know that you do not have any files bigger than a certain size, you can make UnErase limit the scope of its search.

- Sectors per allocation block. If your disk is very badly damaged, it may have lost some of its bookkeeping information, including the number of disk sectors that make up an allocation block. Most hard disks smaller than 20MB have one sector per allocation block, hard disks in the 20MB to 60MB range have two sectors per allocation block, and disks that are larger than 60MB have three sectors per allocation block. Enter the number of sectors per allocation unit for your disk into this box.

Click on OK when you have completed your selections to return to the application selection dialog box. Then you can click on the Do It button to start the search process running.

A window opens containing a progress bar that shows you how far along UnErase is in the search process. When the search for the file types you requested is complete, the documents available for recovery are listed in the main UnErase window, but their names are given in terms of the original application you selected for recovery. For example, if you started out to recover a TeachText file and you selected Any plain-text file in the application selection window, you will see the file listed as

`?Any plain-text file 00`

A second text file would be called ?Any plain-text file 01, the third Any plain-text file 02, and so on. The Data and Resource size, Modified Date, Type, Creator, and Recoverability columns all contain information appropriate to the documents that UnErase found.

Move the highlight onto the file or document you want to recover, and then click on UnErase or select UnErase from the UnErase menu (Command-S). You can also select more than one file by using Shift-click. When UnErase has completed its work, the word *Recovered* appears in the recoverability column.

The documents are not unerased to their original location on the disk but are recovered into a folder named after the application you originally selected. For example, if you are recovering Teach-Text text files, the files will be recovered into a new folder called Any plain-text files inside the Recovered Files folder located in the root directory of your hard disk. You can rename these files and relocate them on your hard disk as you wish.

If you want to store the recovered files somewhere else, use Change Destination Volume to specify another disk or use Change Destination Folder to put them in a different folder. Both of these selections can be found in the Options menu.

If UnErase does not find any files corresponding to the application you selected, you will see a message box open containing the message "No files were found to UnErase." Click on OK to dismiss the message box.

If you are certain that there are still erased files on the disk in question and you cannot recover them using Scan for specific File Types, try using UnErase's text search option, described in the next Step.

Select Quit from the File menu to close UnErase and return to the Finder. Remember that there is no Finder on the red Emergency disk, so you should choose Restart or Shut Down.

Unerasing Using Text Search

If both Quick UnErase and Scan for Specific File Types have failed to recover your lost documents, things do not look good. However, there is one more option in UnErase that you can use as a last resort: Text Search. You can use Text Search to browse through your disk looking for text that matches a specific text string, and once you have found it, attempt to recover that part of the document or file.

Often, recovering documents or files is not as straightforward as it seemed in Steps 13 and 14. All or part of the file may have been overwritten by another before you realize that you want to recover the erased file. Several factors determine whether recovery is possible, including the length of the new and erased files and the existence or nonexistence of the erased file's bookkeeping information.

The single most important aspect of this kind of recovery operation is how much you know about the original contents of the file.

If you know nothing about the file, it may be impossible to determine when you have recovered it completely.

If the file is an application program file, running only the recovered portion can lead to unpredictable—and unpleasant—results. The only safe way to proceed in this case is to delete the partial file and reload the entire file from the original disks or your backup set.

If you can remember a word or a phrase that the file contained before it was deleted, you can search for that word or phrase using Text Search.

To start UnErasing with Text Search, launch the Norton Utilities as described in previous Steps: either from the red Emergency disk if you have not yet installed the utilities, or directly from your hard disk if the utilities were installed before you deleted the file you are now trying to recover.

When you see the main Norton Utilities window, click on UnErase, and then select the disk drive or volume that you want to unerase from. Click on the disk icon or on the Drive button, or type Command-D to change to the next drive mounted on your Macintosh.

When you have chosen the disk drive to unerase from, next select the Text Search radio button, and then click on OK to dismiss this dialog box.

ENTERING THE SEARCH TEXT

The Text to Search For dialog box opens next, as Figure 15.1 shows.
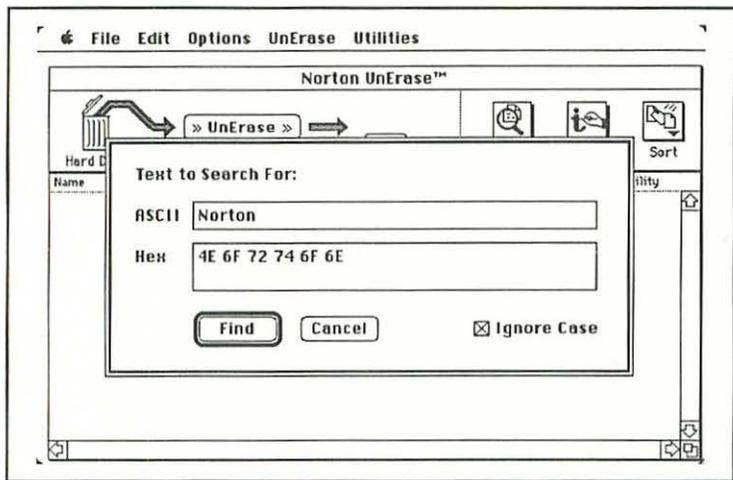
* Figure 15.1: In this dialog box, enter the word or phrase you want to search for

Type in the word or words you want to UnErase to look for into the upper box labeled ASCII. As you type in the characters, you will see their hexadecimal equivalents appear in the lower box labeled Hex. Alternatively, if you are a programmer and you think in hex, click on the Hex box to enter the text directly into this box in hex. UnErase translates the characters into ASCII and displays them in the ASCII box above.

ASCII or Hex

If you are not sure if the words you are looking for in the file are in upper- or lowercase, make sure that the Ignore Case checkbox is checked, and UnErase will look for both.

Upper- or lowercase

In other words, *norton*, *Norton*, and *NORTON* will all be treated the same if the Ignore Case box is checked. If you want to be very precise in the search, remove the check mark to make the search

become case specific, where Norton and NORTON are not the same. Click on Find to start the search.

As UnErase looks for the search text, a horizontal graph shows progress, and a count of all the matches found is shown under this bar. (UnErase searches only the erased portion of the disk.)

When the search is complete, the file fragments containing the search text are listed in the main UnErase window. These file fragments are titled *?TextSearch* followed by the first 16 characters of the text you were looking for contained inside quotation marks. For example, if the search text was *Norton,* the first file in the list will be called ?TextSearch"Norton" 00. Click on View File, or use View File (Command-O) from the Options menu to look at the contents of the file before you go on to complete the recovery process. This way you can make sure that you are recovering the right thing. Remember that View File can only show you the first 150K of a file, and it cannot display graphics files.

USING THE UNERASE MENU

There are several selections in the UnErase menu that you can use to reconstruct or rebuild files, piece by piece. If the original file has been partially overwritten, you might still be able to recover some portion of the file and save yourself some time; however, this usually only applies to text files.

Program
files

Since program files are so complex, and program code must be absolutely correct in order to function properly, a partial recovery of a program is more of a hindrance than a help.

Before using the UnErase menu, place the highlight over the file you want to work with, and then choose the selection from the

menu. The first three selections in the UnErase menu apply to complete files or documents; the last three selections apply only to the text portion of a file. The menu contains the following selections:

- UnErase is the same as the UnErase button in the main UnErase window.

- Save As allows you to select the file name you want to use when the file is recovered. If you are using Directory Assistance, a dialog box opens that gives you all the power of Directory Assistance in creating new folders, changing to another disk, and so on.

- Append To lets you add the contents of the file you are about to recover to the end of another file. You can use this option to add recovered word processor text to the end of an already existing word processor file.

- Save Text Only strips the text component out of a file and recovers that text portion, discarding the rest. You might try this as a last resort, especially if your recovery attempts on a file are going badly. You may lose the formatting information held in a word processor file, but you may be able to recover some usable text, and this method is a lot faster than retyping the entire document over again.

- Save Text As allows you to specify a new name that will be used to save the text. Again, a Directory Assistance dialog box opens so you can specify folder and document name, as needed.

- Append Text To allows you to join the text you have recovered to the end of an existing document. In this way, you can accumulate several text fragments and join them together into one file. You can use your word processor to rearrange the order of the fragments inside the file if necessary, once the recovery is complete.

Using these selections, you can recover pieces of an erased file, join the fragments together as you go, and reconstruct the file by hand. This can be a long and tedious process, but the tools provided here by the Norton Utilities go a long way towards making the process as straightforward and simple as it can be.

Be careful if you are unerasing to floppy disk, as UnErase does not tell you the amount of free space available on the destination disk; you can occasionally select more files for recovery than will fit onto a floppy disk.

MULTIPLE UNERASE SESSIONS

There are two powerful selections in the File menu that you can use during a recovery operation: Start Over and Close.

■   Start Over (Command-N) allows you to open several UnErase sessions, one on top of the other, and you can even use a different recovery technique in each session. Because UnErase does not recover files back to their original location, nothing on the original disk is ever changed. You can try several different rescue methods on the same file or group of files and keep the results that you think represent the best of all the methods.

■   Close (Command-W) closes the currently active UnErase session and activates the previous session.

Quit   Use the selections in the Utilities menu to change to one of the other Norton Utilities. When you have finished using UnErase, choose Quit (Command-Q) from the File menu to return to the Finder if you launched the utilities from your hard disk. Remember that the red Emergency disk does not contain a Finder, and you will have to choose Restart or ShutDown instead.

A FINAL NOTE ON FILE RECOVERY

As you now know, file recovery is by no means certain. Many aspects of the recovery process influence the success of any recovery attempt. The file recovery process can be difficult; indeed, recovery of program files can prove quite impossible under circumstances where part of the file has been overwritten. However, the chances are that the file can't be recovered by anyone if you can't rescue it using the Norton Utilities.

Unfragmenting Your Hard Disk

Speed Disk is one of the most important and often-used of all the Norton Utilities. Before describing how to use Speed Disk, you need to understand a little about how disks work in the Macintosh and how your files may become fragmented over time.

The smallest number of bytes that can be read or written to a disk is a single sector of 512 bytes. Files are written to the hard disk in groups of sectors. When you write a file to the disk, it occupies the first set of sectors available. The second file you write occupies the next group of available sectors. Then, if you modify the first file by increasing its size, the Mac cannot push the second file farther down the disk to make space for the larger first file. Instead, the Mac fragments this file by splitting it into two pieces. As you add, modify, and remove files in your day-to-day work, your hard disk slowly becomes more and more fragmented. The Mac was designed to work this way, and most of the time, the system works well.

The potential problem with fragmentation is that the disk heads have to move to different locations on the disk to read or write to a fragmented file. This takes more time than reading the same file as a series of consecutive sectors. By reducing or eliminating fragmentation, you can restore the original level of performance of your disk.

Another benefit of unfragmenting a disk is that the Mac is less likely to fragment files that you subsequently add to your disk. If you should delete and then try to unerase any of these added files, your chances of success would be higher because unfragmented files are usually easier to unerase. On the other hand, unfragmenting, or optimizing, your disk will probably make it impossible to recover any files that were deleted before the optimization. The reason for this is that Speed Disk moves data by rewriting it to new locations, and it will probably write over any erased files in the process.

Unfragmenting your disk by hand is time consuming

To remove the effects of file fragmentation, all the files on your disk must be rearranged so that they consist of consecutive sectors. You can do this yourself by copying all the files and folders to backup disks, reformatting or reinitializing the hard disk, and reloading all the files back onto the hard disk; but that would be a tremendous amount of tedious work. It is much easier to use Speed Disk.

PRECAUTIONS
TO TAKE BEFORE USING SPEED DISK

There are several precautions you must take before you run Speed Disk on your hard disk:

■ If there are files on your disk that you know you don't want, throw them into the Trash. Speed Disk can work more efficiently using the extra disk space.

■ Completely back up your hard disk in case of incompatibility between Speed Disk and some of your applications.

■ Make sure that you have the original distribution disks for any software that is copy-protected so that you can reinstall it if necessary. Some copy-protection schemes make use of hidden files that may be moved by Speed Disk.

■ Speed Disk will not allow you to optimize your startup drive. If you usually start your Mac from your hard disk, you should launch Speed Disk from your copy of the Norton Applications disk instead.

■ Make sure there are no open or active files on the volume you want to optimize.

■ If you use MultiFinder and you have a large hard disk with more than 4,000 files, consider increasing Speed Disk's Application Memory size from the default 600K. Choose the Speed Disk icon, select the Get Info (Command-I) command from the File menu, and increase the value shown in the Application Memory Size box at the bottom of the window. Speed Disk will run faster with more memory allocated.

■ If you use Virtual, be sure to turn off virtual memory before running Speed Disk.

RUNNING SPEED DISK

Remember to start Speed Disk from the Norton Applications disk if you want to unfragment files on your startup hard disk. You can look at the files on your startup disk with Speed Disk, but you cannot unfragment them. You can start Speed Disk by double-clicking on the Speed Disk icon in the Norton Utilities folder, or if you start the Norton Utilities, you can choose Speed Disk from the list in the Utilities menu.

There are two ways to use Speed Disk: you can use the default Easy mode, or you can select Go to Expert in the Options menu to use all of Speed Disk's advanced features.

Using the Easy Level

The Speed Disk window is shown in Figure 16.1.

The top part of the window contains a map of the selected drive, showing the used and free areas of the disk. The black (or colored) areas represent files and folders, and the free areas are shown in white. The display is scaled according to the capacity of the disk selected: the smaller the disk, the greater the amount of magnification shown by this display.
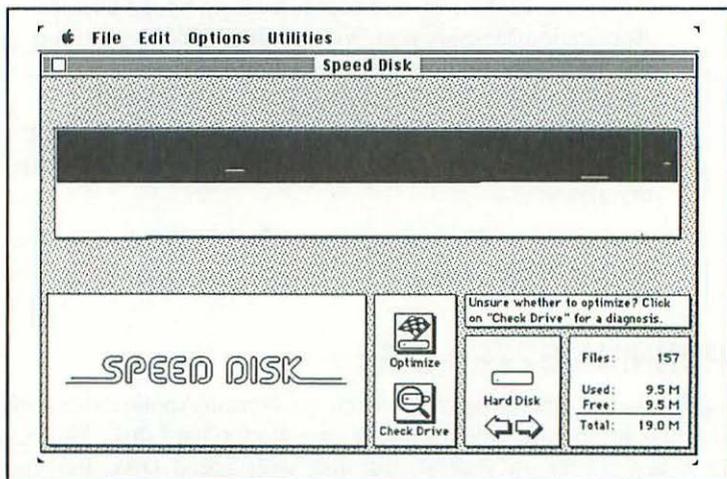
■ *Figure 16.1: The Speed Disk window in the default Easy mode*

Below this is the logo or display area. When you are optimizing a disk or checking a drive, this area shows the progress made as a bar graph; the rest of the time it displays the Speed Disk logo.

There are two buttons in the next box: Check Drive and Optimize. Check Drive is used to read folder and file information from the hard disk, and Optimize actually starts the unfragmentation process going. Always use Check Drive if you are considering optimizing your disk; after all, optimization may not always be necessary.

If you click on Optimize and the selected drive is your startup disk, or it is locked, or you have left files open, you will see a dialog box telling you why the optimization process cannot continue.

The last three boxes in this window are the diagnosis area. Here you will see information about the selected drive, including Speed Disk's assessment of the amount of fragmentation on the selected disk and the program's recommended course of action.

Speed Disk uses seven levels of messages, ranging from "No Need To Optimize—this disk is in great shape!" to "This Disk Is Dangerously Fragmented." Each message indicates more fragmentation than the last. These messages are displayed above the disk icon in the diagnosis area of the Speed Disk window. Speed Disk also gives you an indication of the performance increase you will see when the optimization is complete.

Speed Disk knows when optimization is not needed

Click on the arrows in the drive selection area below the disk icon or press the Tab key to change to another drive. Then click on Check Drive to evaluate the amount of fragmentation on this new disk, and you will see one of Speed Disk's seven messages summarizing the status of the files on the disk.

The last box in this part of the window shows the number of files on the selected disk, as well as the amount of space in use by files and the amount of free space. All these totals are given in megabytes.

Select Show Pencil (Command-P) from the Options menu to see the animated pencil display during optimization; the pencil indicates reading and writing and works only in black and white display mode.

Click on Optimize when you are ready to start Speed Disk working on your disk. A horizontal progress bar appears in the logo area measuring the optimization process from 0 to 100 percent. You will also see a message above the bar describing the current activity, such as "Optimizing applications." The main display area indicates the placement of files on the disk by moving the black blocks that represent your files. If you turned on the pencil, you will also see an animated display of disk reading and writing. When the optimization is complete, Speed Disk plays a chime to let you know it is done. This means you can leave your Mac running, and as long as you stay within earshot, you will hear when the optimization is complete.

Go to
Expert

To use Speed Disk's advanced features, click on Go To Expert (Command-E) in the Options menu. You will see several things change in the Speed Disk window. After you have chosen Go To Expert from this menu, that selection automatically changes to Go To Easy. You can also double-click in the left side of the Speed Disk logo to switch into Expert mode.

Using the Expert Level

Figure 16.2 shows the Speed Disk window in Expert mode.

 File   Edit   Options   Explore   Utilities

Speed Disk

5,844	Norton Utilities		Largest Free Contiguous 5.9 M File Fragmentation 4.34%

Optimize

☐ Directory ☐ Document
☐ System ☐ Desktop
☐ Init/cdev ☐ Defective
☐ Font/DA ☐ Unknown
☐ Application ☐ Free

Check Drive

Hard Disk

⟨⟩ ⟨⟩

Files: 115
Used: 6.2 M
Free: 12.7 M
Total: 19.0 M
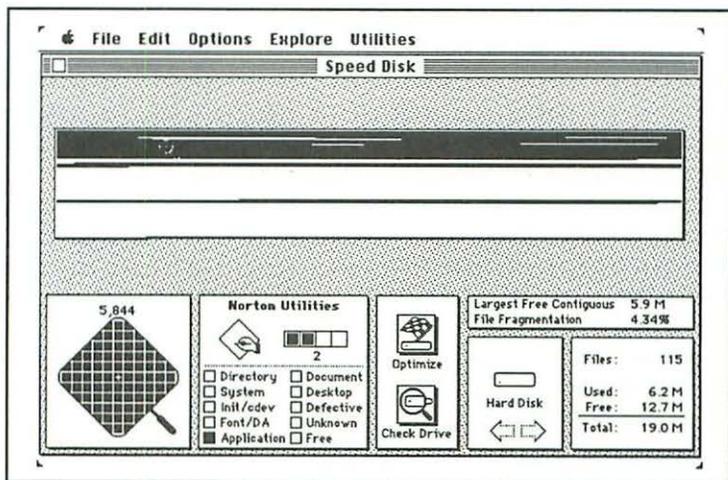
- *Figure 16.2: The Speed Disk window in Expert mode*

The main part of the Speed Disk window does not change in Expert mode and shows the display of the occupied and free parts of the disk. However, the logo area in the lower left part of the Speed Disk window splits into two boxes. The left box shows a magnifying glass, and the right box shows a list of file types. If you move the cursor into the display area at the top of the window, it changes into a small magnifying glass, and an enlarged view of the file that the cursor is on appears in the large magnifying glass box at the bottom of the window. The number of the block at the center of the magnifying glass is shown above this display. If the magnifying glass goes outside the borders of the disk display, the blocks are dimmed.

The file (or folder) name, icon, and type under the crosshairs of the magnifying glass are shown in the box next to the large magnifying glass, along with the number of fragments that the file is

divided into. The information changes as you move the magnifying glass from one file to the next. The small checkboxes and list of file types indicate the kind of file that the magnifying glass is currently examining. For example, if you move the magnifying glass onto the light-colored free or unoccupied area of the disk, the check mark moves to the Free box at the end of the list; if the magnifying glass stops over a document, you will see the familiar document icon, and the check mark moves to the Document box. In Figure 16.2, the Norton Utilities application is broken into two fragments.

If you are using color on your Macintosh and you click on one of these small file-type checkboxes, you can select the color used to denote these different types of files.

All the selections in the Options menu are toggles—they don't do anything when you initially select them, but they affect the way that the optimization is done when you start optimizing. A check mark to the left of the menu item indicates that the setting is toggled on; select the item a second time to toggle the selection off again.

If you choose Prioritize Files from the Options menu, Speed Disk arranges your files into the following order:

- Directory: directories or folders
- System: system files
- Init/cdev: startup documents and control panel devices
- Font/DA: fonts and desk accessories
- Application: application files
- Document: document files
- Desktop: desktop files

- Defective: defective files

- Unknown: unknown file types

- Free: free, unused disk space

Prioritizing files ensures a completely optimized disk; however, the optimization may take a little longer to complete.

If you do not use Prioritize Files from the Options menu, Speed Disk arranges your files into any convenient order. This is most obvious if you are using color, as Speed Disk uses different colors to differentiate between file types.

If you select Verify Media from the Options menu, Speed Disk will isolate and mark any bad blocks it finds during the course of the optimization so that they will never be used in the future. Similarly, if you select Verify Data from the Options menu, Speed Disk will check that the data written to disk is accurate.

Although choosing these two options will slow down the unfragmentation process somewhat, I recommend you select both of them to give yourself the greatest level of confidence in your data after the optimization.

If you select Turbocharge (Command-T) from the Options menu, you can make the optimization run faster. Turbocharge turns off the on-screen animation and also forces Speed Disk to work in black and white, even if you are using color. You can also double-click on the file information box (the second box from the left) to switch in and out of turbo mode.

Click on the Optimize button when you have made your choices in the Options menu and you are ready to start unfragmenting your files.

*Don't start
optimizing
until all
options
are set
correctly*

The Speed Disk window during optimization at the Expert level is the same as it was at the Easy level with two additional pieces of information. The elapsed time the optimization takes is shown below the horizontal progress bar, which replaces the large magnifying glass during optimization. Information about the actual file being optimized is displayed in the file information area (the second box from the left).

Optimization can take a long time, especially if you are unfragmenting a large disk containing hundreds of files. Monitor the progress bar to get an idea of how long the entire process will take.

When you started the optimization, the Optimize button changed into the Stop button. You can click on Stop if you want to halt the unfragmentation process early, but you will probably have to wait for Speed Disk to reach a convenient point before it can stop.

EXPLORING WITH SPEED DISK

You can use three of the selections in the Explore menu without doing a complete disk optimization. The selections are Check Drive, Check Media, and Check Files.

- Check Drive, (Command-D), is identical in function to the Check Drive icon at the bottom of the main Speed Disk window. Use it to read data from the selected disk and to calculate the percentage of file fragmentation and the size of the largest single area of free space on your disk.

- Check Media, (Command-M), is similar in function to the Verify Media selection. You can run Check Media any time you like without doing a full optimization, whereas you can only run Verify Media as part of an optimization.

- Check Files, (Command-F), confirms that the bookkeeping information contained on your disk actually matches the

files and folders written there. If you find serious errors, consider using the Norton Disk Doctor to correct them before running the optimization.

To get the most out of Speed Disk at the Expert level, you should either:

- Run Check Media and Check Files from the Explore menu manually before you start the optimization, or

- Toggle the setting for Verify Media in the Options menu to on. All files are verified automatically every time you run an optimization.

You can use Largest Free Contiguous (Command-L) to find the size of the largest single area of free disk space on your disk. This can sometimes be important for applications using virtual memory, as they need large areas of disk space to use as swap space.

When you have finished using Speed Disk, select Quit (Command-Q) from the File menu to return to the Norton Utilities startup screen or to return to the Norton Utilities folder.

Editing Your Disks

The Disk Editor lets you examine and edit any part of a floppy or hard disk, sometimes even if the Macintosh refuses to recognize the disk. As you would expect, you can use the Disk Editor to look at folders and documents, but you can also look at information that is harder to get at, such as the catalog and extents trees where the Mac keeps bookkeeping information for all your files.

The Disk Editor also lets you view disk information in its native (that is, correct) format. For example, the boot block information is in a format that is tailored to that specific data; the extents tree and the catalog tree use an entirely different format; and so on.

The Disk Editor enables you to peer into the dark corners of your disks and review information that is not normally accessible without a great deal of complex programming.

The Disk Editor is a very powerful tool for looking at the structure of your disk, but you can also use it to change the information on your disk. If you make a mistake in this kind of operation, you

may change an application so that it will no longer run as you expect it to. Be very careful when using the Disk Editor, and don't save anything back to the disk unless you are absolutely certain that you know what you are doing.

If the Disk Editor surprises you by opening a dialog box asking if you want to write the changed sectors to the disk, just click on the Cancel button.

VIEWING AND EDITING THE CONTENTS OF YOUR DISKS

Launch the Norton Utilities by double-clicking on the icon, and when the main Norton Utilities window opens, select the Norton Disk Editor from the Utilities menu. Because the Disk Editor is considered an advanced option, it does not have an icon on the main Norton Utilities window.

Choose a drive

When the Disk Editor opens, choose the disk you want to work with by clicking on the drive icon or the Drive button, or by typing Command-D; then click on Open when you have chosen the drive. The Disk Editor quickly examines the contents of your disk, and then opens the Directory window as Figure 17.1 shows. The contents of your directory will look a little different.

The scrollable list in the lower half of the window lists the contents of your disk, folders, and documents. The organization of your disk is shown in graphical form on the left side of this window. The right side of the window lists the sizes of the data and resource forks, the types, the creators, and the dates that the files were last modified. Click on an entry to select it, and double-click on a folder to toggle the folder open and closed.
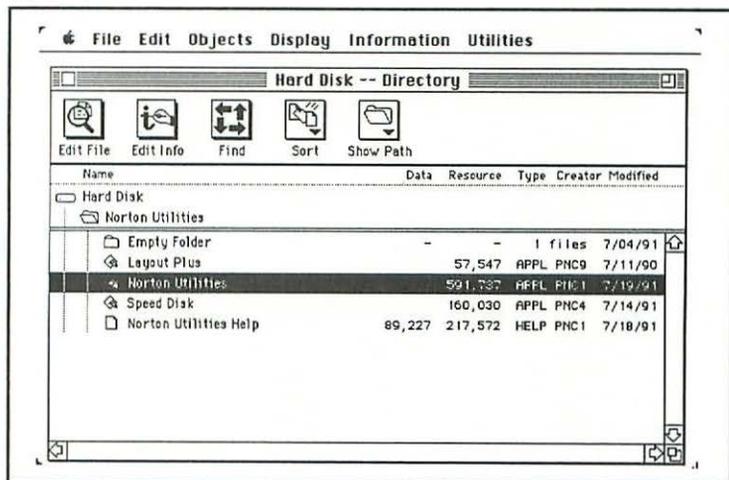
■ *Figure 17.1: The Disk Editor Directory window*

USING THE DISK EDITOR BUTTONS

There are five buttons at the top of this window. From left to right they are as follows:

Edit File

Move the highlight to the file you want to examine, and click on Edit File. Alternatively, you can also double-click on the file itself. If you choose the Norton Utilities file, you will see a window like the one shown in Figure 17.2.

The file is displayed sector by sector, 512 bytes at a time. At the top of the window are indicators of the file's absolute position on the disk and the position of the displayed sector inside the file.
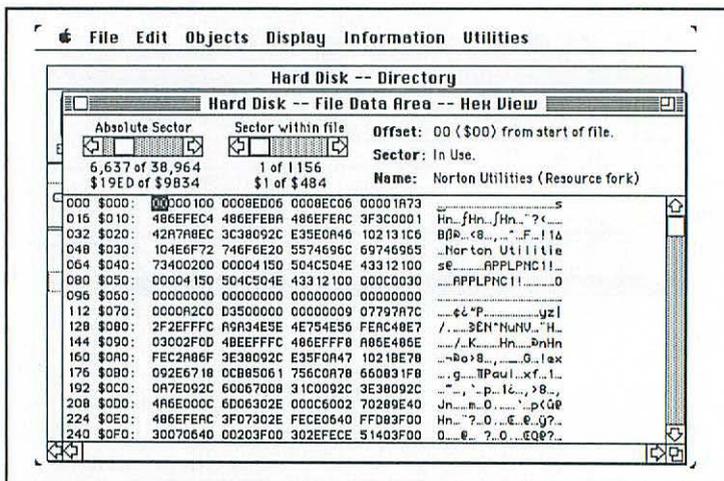
- *Figure 17.2: The Edit File window*

Use the scroll bars to move from sector to sector on the disk or to move from sector to sector inside the current file.

In the main part of the window, the leftmost columns of figures show the location of the data in terms of a byte count (in decimal and hexadecimal) from the beginning of the sector. The central area of the window shows the data in the file as two-digit hex numbers. Each line in the window displays 16 bytes of information. On the right side of the window, these same 16 bytes are shown in ASCII form. Any nondisplayable characters are shown in this text portion of the window as dots.

Hex and decimal

Both the hex and text parts of this window have their own cursor: the block cursor is active, and the underline cursor shows the corresponding position in the other half of the window. When the block cursor is in the hex part of the window, you can edit the file

by entering hexadecimal values. When the block cursor is in the text part of the display, you can just type a character from the keyboard.

You can move through the data in this window by using the scroll bars on the right side of the window or by using the arrow keys. When you make a change to one side of the display, the other side is updated automatically. Any changes you make in the hex portion are automatically displayed in the text area, and vice versa.

If you make any changes to the file, you will be asked if you want to save them when you try to change to another sector or when you try to close the window. A dialog box opens asking if you want to

```
Save changes to this sector?
```

Be very sure that you want to write your changes to the disk before you click on Save; otherwise click on Discard or Cancel.

Edit Info

Every file and document on your disk possesses certain attributes, including whether it is visible on the desktop, whether it has an icon, and the time and date that it was created and last modified. You can click on Edit Info to look at or to change this information for any particular file. Figure 17.3 shows this window for the Norton Utilities file.

At the top of the window, you will see the file name, the file type (APPL for application program, FNDR for Finder, INIT for a startup document, cdev for a control panel device, and so on), and creator listed. You can change any of these entries by clicking on the appropriate box and typing in your new text.
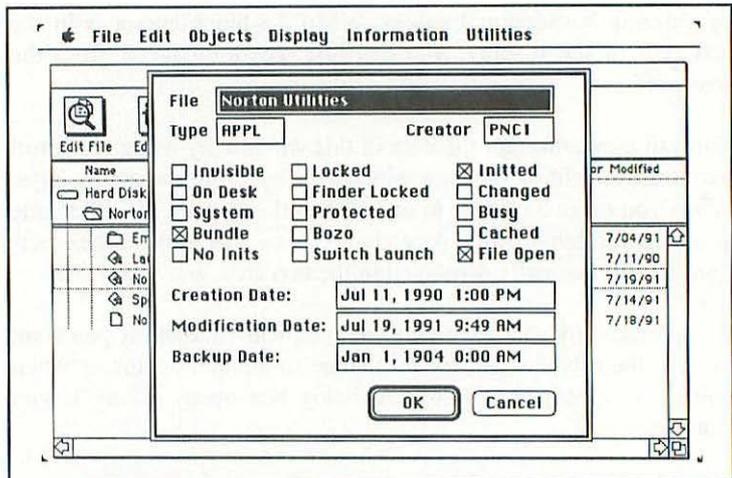
■ *Figure 17.3: The Edit Info window*

In the center of the window you will see either 9 checkboxes if you are working with a folder or 15 checkboxes if you are working with a file. These attributes are usually maintained by the Finder or by your application programs—there is no need to change them under normal circumstances. These checkboxes represent the file attributes, as follows:

■ Invisible. The file or folder is not visible in the Finder or in most file dialog boxes. The Desktop file is an example of an invisible file.

■ On Desk. The file has been dragged out of its disk or folder and placed on the desktop.

■ System. One of a group of special files used by the system. The system file, the Finder, and the Clipboard are examples of system files. You cannot change the name of a file with this attribute.

■ Bundle. This attribute tells the Finder that the file has information that should be read into the Desktop file.

■ No Inits. This box is checked if an INIT or cdev has no INIT resources within it. It is also checked if an application program can be opened for read-only use on a network.

■ Locked. This file can be opened and read but cannot be changed or modified. You can set this attribute using the Finder's Get Info dialog box.

■ Finder Locked. The file cannot be changed or deleted. This is set in the Locked checkbox in the Get Info dialog box.

■ Protected. This file cannot be copied, duplicated, or moved.

■ Bozo. This is a residual attribute left over from an early form of copy protection; it is no longer used by Apple. This attribute is also known as the No-Copy attribute.

■ Switch Launch. Indicates that the system on the disk from which this application was originally launched becomes the active system. Apple's Installer is an example of a program that behaves this way.

■ Initted. This attribute is set by the Finder when it has seen the file.

■ Changed. The file has been changed or modified in some way.

■ Busy. This attribute is temporarily set when the file is in use.

■ Cached. The file is suitable for storing in the RAM cache.

■ File Open. The file is currently open.

Finally, at the bottom of the window, you will see the file's create date, last modification date, and backup date. Click on OK or Cancel to dismiss the dialog box.

Find

Click on the Find icon to open a dialog box that allows you to search your disk for a specific file. Enter the name or as much of the name as you can remember, and then click on Find or press Enter.

Sort

When you click on the Sort icon, you will see a submenu that lets you sort the entries in the Directory window by one of the following:

- by Name
- by Date
- by Size
- by Kind
- by Type
- by Creator

Show Path

When you click on the Show Path icon, the Disk Editor shows you how to get to the currently selected file or folder. You will see the file, the folder that the file is in, and so on all the way up to the name of the disk itself.

CHOOSING AN OBJECT

The Disk Editor can access disk information in several different ways. Files can be accessed in terms of name, allocation units, or sectors, so the next step in using the Disk Editor is to specify an object to work with.

If the Disk Editor has the Directory window open when you choose a new object, a new window opens to display the information you have asked for. There is often more information than will fit in a specific window, so use the scroll bars to move through the data. You can also click on a specific entry in the lower portion of each of the following windows to read a brief text description of the item.

Use the
scroll bars

Use one of the first seven entries in the Objects menu to specify what you want to look at. Choose from the following:

■   Boot Blocks. This displays the information contained in the boot block (information that the Mac reads at startup time).

■   Volume Info Block. This area of the disk contains additional information about the disk you are working with.

■   Extents Tree Header. This part of the disk contains information concerning the layout of files on your disk.

■   Extents B-Tree. This shows the actual contents of the Extents Tree, one node at a time. Click on the Up, Down, Left, or Right buttons to move through the nodes on the tree.

■   Catalog Tree Header. The Catalog Tree keeps track of all the file and folder names and locations. This information is used by the Finder.

■   Catalog B-Tree. This shows the actual information kept in the Catalog B-Tree. Click on the Up, Down, Left, or Right buttons to move through the nodes on the tree.

■   Directory. This is the default Disk Editor window display, and it is the mode that the Disk Editor starts up in.

The next three selections in the Objects menu allow you to select the sector you want to view.

Decimal or hex

- Read Previous Sector (Command-<). Reads and displays the contents of the previous sector on the disk.

- Read Next Sector (Command->). Reads and displays the contents of the next sector on the disk.

- Read Sector (Command-R). Use this selection to specify the number of the sector you want to read and display. First click on either the Decimal or the Hex radio button to tell the Disk Editor which numbering system you will be using. Then enter a number for one of the following:

  - Sector Number

  - Allocation Block

  - Catalog B-Tree Node

  - Extents B-Tree node

  - Byte Offset within File

Click on Read to read and display the item you specified, or click on Cancel to dismiss the dialog box.

The final selection in the Objects menu lets you write your changes back to your disk again, replacing the original contents with your changes. Be careful—this can be *very* dangerous.

- Write Sector. Use this selection to write your changes back to disk again.

USING THE DISPLAY MENU

Once you have chosen the object you want to look at using the Disk Editor, you can also choose how you want that object to be displayed.

- Resource Fork. When you look at a file using the Edit File icon, choosing Resource Fork displays the file's resource

fork if it has one. The resource fork contains information on fonts used, dialog boxes, and so on. Not all documents have resource forks, but all applications do.

- Data Fork. When you examine a file using the Edit File icon, selecting Data Fork displays the file's data fork if there is one. Most documents do have data forks; many applications do not.

- View in Hex. This selection displays the currently selected object in hex on the left of the window and in ASCII on the right.

- View in ASCII. This selection displays the current object in ASCII only. The hex byte count shown in the hex display is also removed. Nondisplayable characters are shown as dots.

- View As. This selection contains a short submenu that lets you change the way that the current object is displayed. This is especially useful if the object you are examining is badly damaged and you want to look at it using a different format. Choose from the following:

  - Boot Block
  - Volume Info Block
  - B*Tree Header
  - Extents Tree
  - Catalog Tree
  - AutoView

When the AutoView selection is checked, the view changes automatically, displaying the object you are looking at in the correct

format. If AutoView is not selected, new objects are shown in the currently selected format only.

- Current Folder. This is the default Disk Editor view, and it shows a directory listing of the currently selected folder.

- All Files Flat. This selection ignores the hierarchical structure you have imposed on your disk and shows you all the files on your disk as though they were all in the same directory. Then you can sort this list by name, date, size, and so on.

- All Files Outline. This selection shows you all files in all folders and indicates the hierarchical relationships between them graphically.

USING THE INFORMATION MENU

The Information menu contains two selections:

- File Information (Command-I). This selection opens the same dialog box you see if you click on the Edit Info icon at the top of the main Disk Editor Directory window.

- Disk Information. This selection opens a dialog box showing information about the current disk, including its size, the amount of used and free space, and the number of files and folders on the disk. Click on the close box in the upper left to dismiss this dialog box.

In the next two Steps, we will look at specific ways you can use the capabilities of the Disk Editor.

Changing File Attributes

This Step concentrates on why you might want to change file attributes, and it shows you how to change them using the Disk Editor. (Refer back to Step 17 for a detailed description of file attributes.)

USING THE DISK EDITOR

You can use the Disk Editor to look at or change any of the file attributes attached to a file or to a folder. Launch the Norton Utilities by double-clicking on the icon, and when the main Norton Utilities window opens, select the Norton Disk Editor from the Utilities menu. Place the highlight on the file or folder you want to work with in the main Disk Editor Directory window, and then click on the Edit Info icon at the top of the window. Alternatively, click on the file or folder, and use File (or Folder) Information (Command-I) in the Information menu to open the window. The file attributes are shown as columns of checkboxes in the center of this window. There are 15 attributes associated with each

file or document, and 9 of these attributes also apply to each folder. The following attributes apply to both files and folders:

- Invisible
- On Desk
- System
- Locked
- Finder Locked
- Bozo
- Initted
- Changed
- Busy

and the following attributes are associated only with files:

- Bundle
- No Inits
- Protected
- Switch Launch
- Cached
- File Open

The creation date, modification date, and backup date are also associated with both files and folders.

MAKING A FILE OR FOLDER INVISIBLE

Application programs differ in their response to hidden files; some will list them in the standard file dialog boxes and others will not. The Desktop file is a common example of a file that is hidden for

a very good reason—hiding the file makes it difficult to delete by accident.

To look at the Desktop file, first click on the hard disk icon at the top of the scrollable area of the Disk Edit Directory window and change to the root level of the hard disk. In the list of files and folders, you will see a file called Desktop with a creator called ERIK and a type called FNDR. Now click on the Edit Info icon to list all the attributes for this file. Note that only the Invisible checkbox is checked for this file.

You can use Edit Info in the Disk Editor to change the hidden attribute on a file, but you should resist the temptation to make too many files hidden, as the saying "out of sight, out of mind" will become painfully evident. There is little point in hiding applications, as you will forget them, and other people will be unable to use them. If your disk is getting cluttered with applications that you do not use, don't hide them. Instead, copy them to a floppy disk so that you can recover the disk space for something more useful.

CHANGING OTHER FILE ATTRIBUTES

When a document is created, its creator and type are specified by the application program that made it. The creator is a four-letter code that identifies the application. Creator codes are registered with Apple so that no two applications will assign their files the same creator code. The Finder uses this code to associate documents with their applications. This is how it is possible to double-click on a document and have the correct application loaded.

The file type is another four-letter code identifying the format of the file. This code enables applications to list only the files that they can work with when you use the standard file dialog boxes to open or save files. Folders do not have file types or creators.

You can use the Disk Editor to look at or change either or both of these codes. Place the highlight on the file you want to work with in the Disk Editor Directory window, and then click on the Edit Info icon at the top of the main window. Alternatively, place the highlight on the correct file, and use File Information (Command-I) in the Information menu to open the window. The file type is shown at the top left, and the file creator is shown at the top right of the window directly under the file name box.

There are two reasons why you might want to modify these attributes. First, if an application assigns the file type or creator incorrectly, or if the attributes are lost or damaged in some way, you may have to correct them manually. Second, if you modify the file type, you allow different applications to open or try to open the file.

If you want to read a Microsoft Word file but don't have the application on your Macintosh, you can change the file type from WDBN to TEXT, and then any text editor, even TeachText, can open the file and read it. All the formatting information in the file will be lost of course, and some garbage may appear in its place, but the basic text information would be available. In any case, editing the garbage out of a text file is usually a lot faster than retyping the entire document.

Also, if you have a word processor document that is damaged so that you cannot open it with the original application, you may be able to recover some information from the file if you convert it from its original type into a TEXT document.

Similarly, changing the file type on a bit-mapped graphic file to MPNT (MacPaint) is an often-used trick.

There is no advantage to manipulating most of the other file attributes; they are there for a specific purpose, and changing them may make some unexpected and possibly unpleasant things happen.

Searching for Data

You can use the Disk Editor to search for specific files on your disk, but you can also use it to look for text strings inside those files. This means that you can locate documents from their contents rather than by their names.

Just like the Norton Disk Doctor, the Disk Editor was not designed to work with the older MFS (Macintosh File System) disks, and if you try to mount such a disk, the Disk Editor responds with an error message.

USING FIND

If you are in the main Disk Editor Directory window, you can click on the Find icon, or use Find (Command-F) in the Edit menu to open the dialog box shown in Figure 19.1.

Enter the name of the file you want to search for, or alternatively, just enter a few characters if you want to make the search more general. For example, you can enter *nort* into this dialog box to
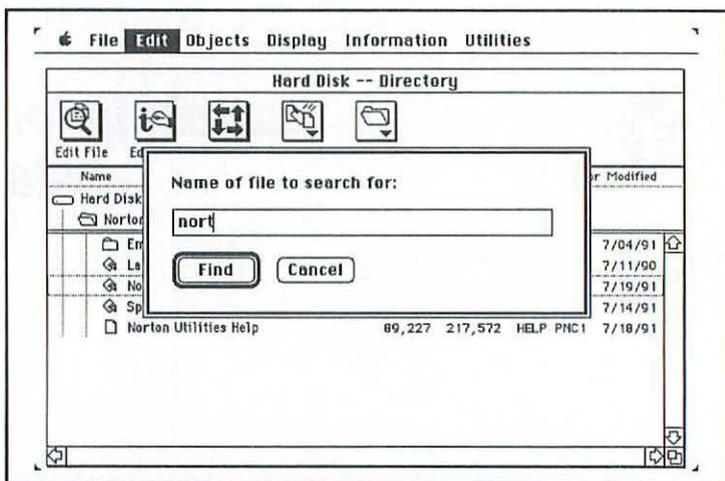
* Figure 19.1: Enter the name of the file you want to search for into the dialog box

find all the files with those four characters in the file name, and the Disk Editor will list all the files that have *nort* as part of their name.

Find changes slightly if you are using one of the other windows instead of the Directory window. For example, if you have chosen Boot Blocks from the Objects menu, and AutoView in the Display menu is turned on, you will see the information in the Boot Blocks displayed in its native format on your screen. Now if you select Find from the Edit menu, a different dialog box opens, this time asking you to type in the text string you want to search for, as shown in Figure 19.2.

Enter your search string in ASCII into the upper box, or enter the string directly in Hex into the lower box. However you choose to enter the search string, it is converted into the other system and
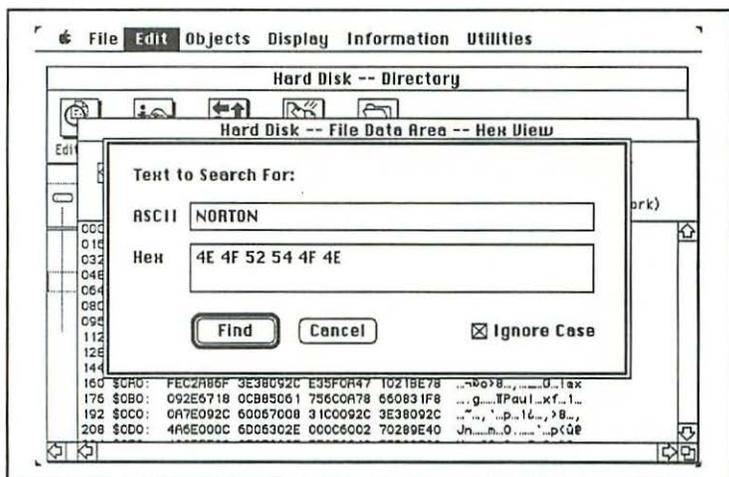
■ *Figure 19.2: Enter your search text into either the ASCII or the Hex box*

displayed in both boxes at the same time. Check the Ignore Case checkbox to search for upper- and lowercase equivalents of your string.

Click on Find or press Enter to start the Disk Editor searching the current object for the string you entered. When the search string is found, you can use Find Again (Command-A) in the Edit menu to repeat the search as many times as you like.

If you try to edit a file that is fragmented into too many pieces for the Disk Editor to handle, you may see the message

```
Warning: that file is too fragmented to
search. Run SpeedDisk to defragment your disk.
```

You should follow the advice given in the message and consolidate your files using SpeedDisk.

The other selections in the Edit menu remain grayed out and are unavailable in the Disk Editor.

USING THE FILE MENU

You can use the first three entries in the File menu to open and close files and volumes, as follows:

■ Open File (Command-O). You can use this command to choose a file from a Directory Assistance open dialog box, as shown in Figure 19.3.

 You can choose to open either the data fork or the resource fork in this dialog box, even though the data fork is the default setting. Click on Cancel to dismiss the dialog box.

■ Open Volume. Use this selection to open a new disk, or volume. A standard disk selection dialog box opens where
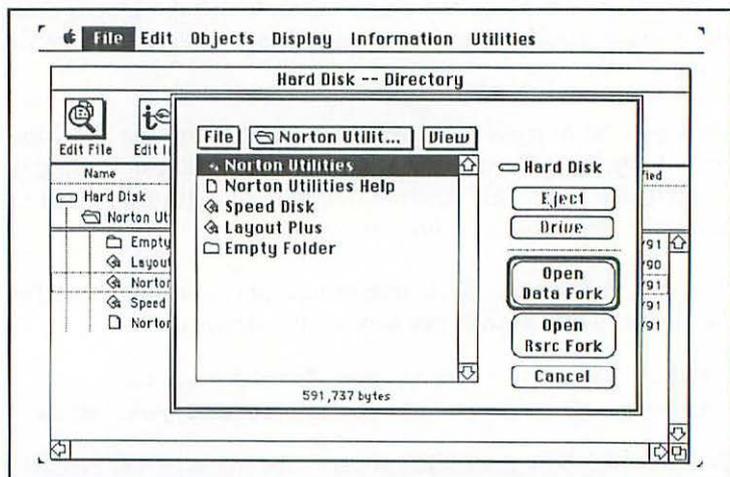
■ *Figure 19.3: Select a file to open from the Directory Assistance dialog box*

you can click on the drive icon or the Drive button, or type Command-D to cycle through all the disks connected to your system.

■ Close (Command-W). Use this selection to close the current window when you have finished working in it. This is the same as clicking on the close box in the upper left corner of the window.

The remaining entries in the File menu are the usual Page Setup and Print selections.

At the end of your Disk Editor session, click on Quit (Command-Q) from the File menu and you will return to the Finder. If you have made changes to a file and not saved them, the Disk Editor opens a dialog box asking if you want to

`Save changes to this sector?`

The Disk Editor will not let you exit if you still have some unfinished editing. Click on Save to write your changes back to disk; click on Discard to abandon your changes, quit the Disk Editor, and return to the Finder; or click on Cancel to dismiss the dialog box. Choose one of other programs from the Utilities menu if you want to work with one of the other Norton Utilities, or choose Main Menu to go to the main Norton Utilities menu window.

Rebuilding
Your Desktop

The Desktop file is an ordinary Macintosh file used by the Finder to store information about all the other files and folders on the disk. It holds icons and information from the BNDL resource of applications whose Bundle bit was set, as well as the Get Info comments from all of those files. The Desktop file also keeps track of all open folder and disk windows and their positions.

The Desktop file is an invisible file and is not displayed during normal Finder operations, although you can see it if you use the Disk Editor. The fact that it is invisible makes it very difficult to delete by accident.

Each time you access a disk, or alter or modify a file, document, or folder, the Desktop file is updated. The Desktop file is accessed each time a disk first appears on the desktop, and again when the Finder returns to the desktop.

The Desktop file was designed before the Macintosh could use a hard disk, before the HFS (Hierarchical Filing System), and

before the Macintosh could access large numbers of files. The common use of larger and larger hard disks has imposed a terrible strain on the Desktop file, and this has made it very slow and the source of many problems. Because of this, the Desktop file will probably be replaced in later versions of the Macintosh system software.

As you work with your Macintosh by adding, modifying, and removing files, the Desktop file can become more and more fragmented, slowing down its operation. It is possible that the file can be damaged so that the Finder forgets which application a document belongs to. You may see the message

```
The file <name> could not be opened/printed
(the application is busy or missing).
```

when you know that the application is neither busy nor missing.

Because the Desktop file plays such an important role in proper operation of the Finder and other system software, a damaged Desktop file can cause a variety of other problems, and you may see the

```
Disk has minor problems, do you wish to repair
it?
```

dialog box. When this happens, you are really being asked if you want to rebuild the Desktop file. If you answer yes to this question, the Macintosh actually recreates the Desktop file from scratch.

You can also rebuild the Desktop file yourself if you hold down both the Command key and the Option key as you turn on your Macintosh. Some of your startup documents may be interrupted by this key sequence; click on the appropriate buttons and

continue to hold down the Command and Option keys. After the
Welcome to Macintosh message, a dialog box opens with the
message

```
Are you sure you want the desktop rebuilt on
the disk "Hard Disk"? (This may take a few
minutes.)
```

as Figure 20.1 shows.

Click on OK to recreate the file, or click on Cancel to dismiss the
dialog box. It usually takes two to three minutes to remake
the Desktop file because the Finder has to read every file on
your disk.

The new, unfragmented Desktop file will be read much faster, and
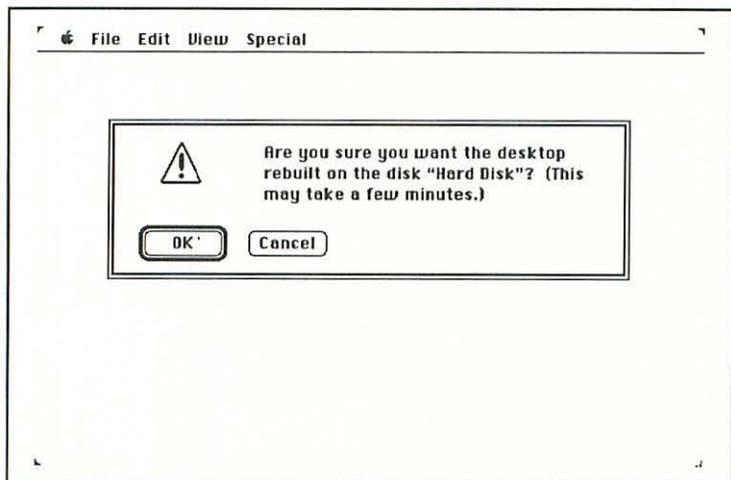
⬛ *Figure 20.1: This dialog box appears if you hold down the Command
and Option keys as you restart your Macintosh*

when you return to the desktop, it will appear more rapidly than before unfragmentation. So remember, if your Macintosh is growing sluggish, rebuild your Desktop file.

USING FORMAT RECOVER AFTER REBUILDING THE DESKTOP FILE

Rebuilding the Desktop file makes the desktop appear more quickly, but it also destroys any comments you have added to your document's Get Info boxes. If you installed FileSaver before you rebuilt the Desktop file, you can use Format Recover to restore these comments.

If you want to restore the Finder's Get Info comments to your startup disk, remember to launch the Norton Utilities from the red Emergency disk; you cannot use Format Recover on your startup disk. Choose the Format Recover icon in the main Norton Utilities window, and in the next dialog box, click on the Restore Finder Comments radio button at the bottom of the dialog box. Then click on OK. The next dialog box asks you which disk you want to restore the Desktop comments on. Click on the drive icon or Drive button, or press Command-D to change to the correct drive, and then click on Open. A dialog box opens showing the progress of the search for Finder comments. When the process is complete, you return to the main Norton Utilities menu window.

The next time that you use the Finder's Get Info command on a particular document, you will see that your comments have been reinstated in full.

Index

■ ■ ■ ■ ■ ■ ■ ■ ■

unformatting, 73–80
unfragmenting. *See* Speed
  Disk
displaying
  characters, 41–46
  disk contents, 122–125,
    129–130
  edited objects, 130–132
  files and folders, 25–26,
    35–36, 55–56, 85–88, 128
distribution disks, copying, 2–5
double-clicking mouse, 9
duplicating files and folders, 25

E

easy level for Speed Disk,
  112–114
Edit menu with desktop, 54
editing
  characters, 46–48
  disks. *See* Norton Disk Editor
Emergency disk
  for damaged hard disks,
    68–69
  for Finder, 71
  and Format recover, 75
  help on, 67
  and installation, 3, 5–6
  for UnErase, 83–84, 93
End key, 10, 15
Enter key, 10–11
Erase Disk command, 74
Escape key, 11
expert level for Speed Disk,
  114–118

exploring with Speed Disk,
  118–119
extents trees
  editing, 121
  headers for, 129

F

Fast Find, 2, 5
  for browsing through files,
    35–37
  for finding files, 33–35
  for launching applications,
    39–40
  for moving files to Desktop, 39
  for searching through folders,
    37–39
File menus
  for customizing desktop,
    53–54
  and Directory Assistance,
    24–25
  for searches, 140–141
file open attribute, 127, 134
files. *See also* disks
  adding, 82–83
  attributes for, 125–127,
    133–136
  browsing through, 35–37,
    101–107
  deleting, 25, 81–82
  Directory Assistance for,
    23–27
  displaying, 25–26, 35–36,
    55–56, 85–87, 128
  duplicating, 25

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Files:	147
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Total:	19.0 M
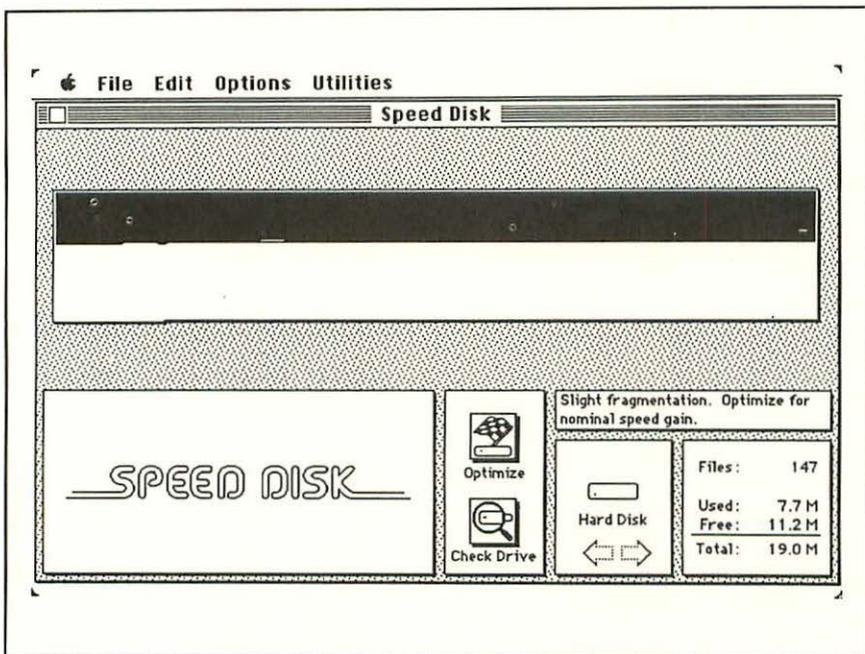
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