HYPERDRIVE™

GENERAL COMPUTER

Users'
Manual

Software and Hardware Version Numbers

Before beginning to use your HyperDrive for the first time, you should take a moment to record some valuable information about your unit. This information will be important if your HyperDrive should ever need service. Please run through the following steps:

1. Find the Manager application program in either the Startup drawer or from the Hyper-Drive System Software disk.

2. Run the Manager application by double-clicking it.

3. Go to the **Apple** menu and choose **About the HyperDrive Manager**.

4. Record the displayed information on the appropriate line below.

ROM # 410
Driver # 503
Boot track # 500
Manager # 570
Macintosh serial # 20403
Hard disk size 10

Note: If you should receive a system update for your HyperDrive (i.e., new Manager and HyperInstall applications), some of these numbers will change. After you have installed the new update, write the new numbers here.

Manual written by Seif/Mann Associates, Inc., Edited by Paul Moody, Malcolm Hobbs, Ruth Rose, and John Ison
Manual designed by Turnbull & Company.

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About This Manual

This manual is divided into four major sections. By reading the appropriate sections, you can quickly and easily begin using your HyperDrive Macintosh, regardless of whether you are an experienced or a first-time Macintosh user. (The HyperDrive Users Manual does not explain the basic operation of the Macintosh. For this information you should refer to your Macintosh Users Manual.)

QuickStart. A section for experienced Macintosh users that provides a brief discussion of how the HyperDrive Macintosh differs from the regular Macintosh. New HyperDrive users might want to review this section to get an overview of the HyperDrive's abilities.

Using HyperDrive. A section for all users, but particularly those who are new to the Macintosh. Once you've had some hands-on experience with the Macintosh, read this section to get detailed instructions on using the HyperDrive and all its functions. You'll learn how to manage your HyperDrive, make back-up copies of your documents, and keep your documents secure by "encrypting" them. You'll also find information about using and taking care of the hard disk and suggestions about what to do if something goes wrong.

Reference. This is a section for experienced HyperDrive Macintosh users that provides quick step-by-step instructions on how to use all the HyperDrive functions. After you become familiar with the QuickStart and—or Using HyperDrive sections of this manual, use the Reference section whenever you need to refresh your memory.

Problems, Questions, and Answers. A section for all users. Refer to it whenever you have a specific problem and have not been able to find the solution elsewhere in the manual.

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Introduction

*T*he HyperDrive Macintosh is just as easy to use as the regular Macintosh, and it lets you do all of the things you can ordinarily do with your computer—but with extraordinary speed and efficiency.

If you're using your Macintosh for the first time . . .

You should start with the Macintosh user's manual and pay particular attention to the first, third, and sixth chapters. These cover all the basic Macintosh techniques you will need to know in order to use your new Macintosh and its software. Key subjects in these chapters include how to create files and make changes as well as how to take care of the machine itself.

After spending some time with the Macintosh and learning how it works, you will be ready to use this manual, beginning with its "Using HyperDrive" chapter.

If you've used a Macintosh before . . .

Take a few minutes to get acquainted with your new HyperDrive, and you'll be ready to take advantage of its many expanded capabilities. Begin with QuickStart, designed expressly for experienced users. QuickStart outlines the new features of your HyperDrive Macintosh, so you can start using it right away.

As you experiment with the features of the HyperDrive Macintosh, don't worry about making mistakes. Feel free to try out the many options you now have. Your HyperDrive will warn you if you are about to do anything that might cause problems for the hard disk or your data.

Introduction

HyperDrive vs. HyperDrive 20

This manual covers the operation of both HyperDrive and HyperDrive 20. The only difference between the two is that HyperDrive 20 can store twice as much information as HyperDrive—20 megabytes instead of 10 megabytes. Operation of the two models is identical. All references to "HyperDrive" throughout the manual refer also to HyperDrive 20.

What You Receive With Your HyperDrive
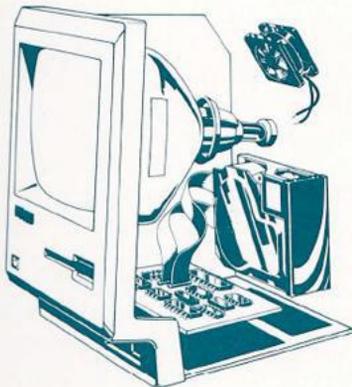
The HyperDrive components when installed in the Macintosh.

Your HyperDrive Macintosh consists of internal hardware and the software to run it. In addition to the hard disk drive inside your computer, your HyperDrive comes with two disks, labeled "HyperDrive System Software" and "HyperDrive System Software 2," and labels for your BackUp data disks.

You can begin using your HyperDrive right away because the System Software has already been installed by your dealer. The System Software disks that are provided are extra copies for you to use in case of emergencies. You will only use them if you have to reinstall the software onto the hard disk (see page 80).

Along with this manual you will find a Warranty Card which you should return to General Computer. By returning this card, you become a registered HyperDrive owner and are entitled to use General Computer's toll-free customer service number. Use this number to get answers to any questions or to resolve any difficulties you might subsequently have with your computer. As a registered owner, you will automatically receive notices of changes in or enhancements to HyperDrive.
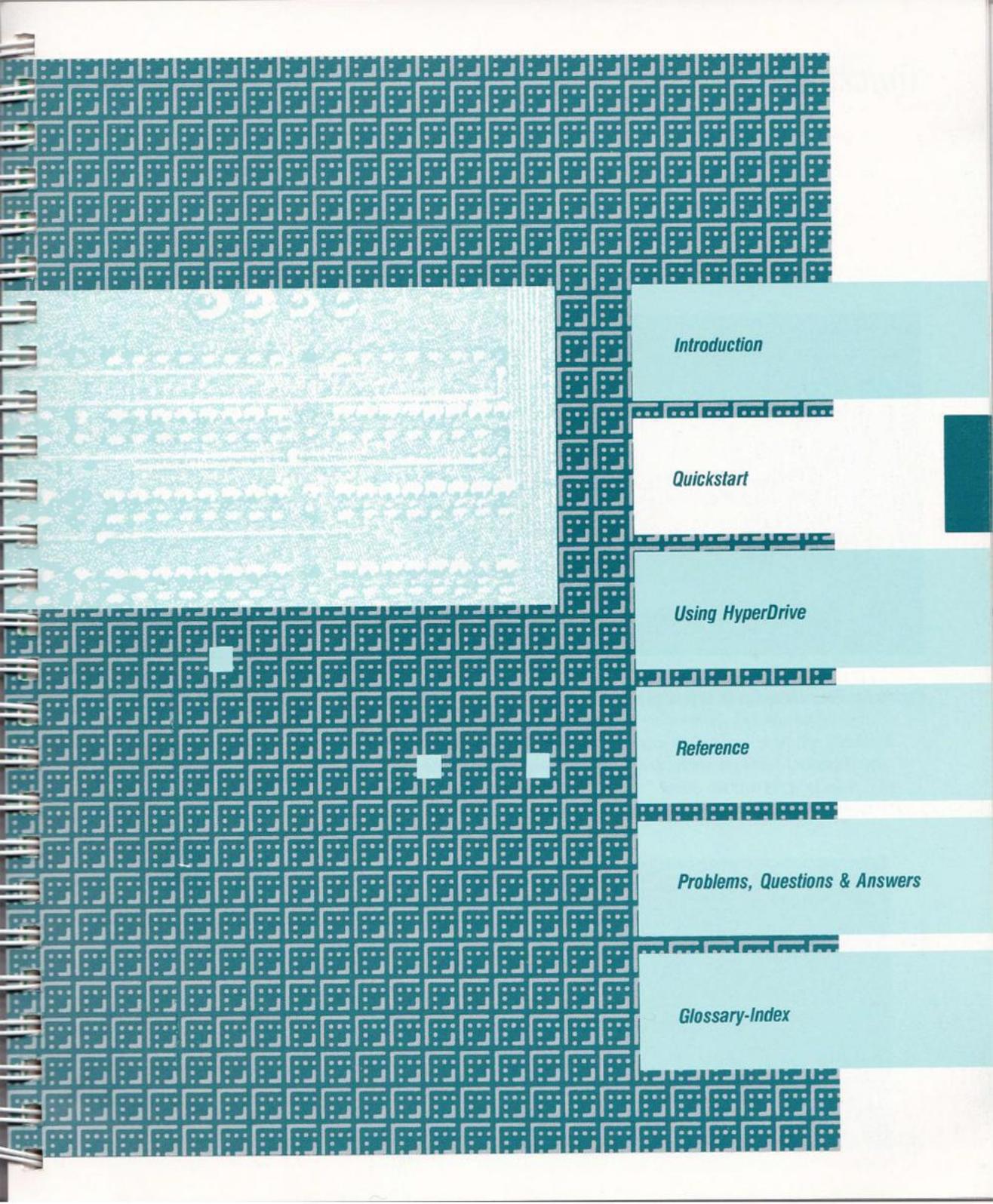
Quickstart

Q uickStart takes you through the major functions of your HyperDrive and describes the primary differences between a regular Apple Macintosh® computer and a HyperDrive Macintosh. If you are already familiar with the Macintosh, you probably need only to review this section and the Reference section. **If you have never used a Macintosh before, skip this section and start at "Using HyperDrive," page 28.**

An Important Note About HyperDrive 20

16000K available

HyperDrive 20 includes a hard disk drive which can store 20 Megabytes of information. In order to minimize the space used by a single document, the HyperDrive will allocate space for each document in blocks of 4 Kilobytes. This will limit the maximum size of a drawer to 16 megabytes, but will make the most efficient use of the space within each drawer. However, by dividing your data between two or more drawers, you will be able to fill the entire 20 Megabyte disk with data.

Caring for Your HyperDrive Macintosh

Your new HyperDrive makes your Macintosh a more sophisticated computer that requires some additional care. When it is switched off, the HyperDrive is just as portable as the original Macintosh. However, you should not move or jar the machine while it is switched on.

To prevent your HyperDrive Macintosh from overheating, avoid using it in direct sunlight or near any source of heat. In addition, don't block the air vents on top of your Macintosh. These vents permit air to circulate through the machine.

Switching on Your HyperDrive

To start your Macintosh as a HyperDrive, make sure that there are no floppy disks in the Macintosh disk drives. If a floppy disk is in either disk drive, your HyperDrive will start up as a regular 512K Macintosh.

Quickstart

The HyperDrive startup screen is the first sign that your Macintosh is starting-up as a HyperDrive.

The HyperDrive Desktop

The Finder desktop with a drawer icon.

The desktop that appears when you start up from the HyperDrive looks and acts very much like the regular Macintosh desktop. The major difference is in the kinds of icons that appear. Floppy disk icons on the Macintosh are mostly replaced by "drawer" icons on the HyperDrive. The only time you will see a floppy disk icon is when you insert a floppy disk.

Each of the drawer icons represents a "mounted" drawer—a section of your HyperDrive hard disk that acts just like a large floppy disk. The maximum number of drawers you can have mounted on your desktop depends on the amount of free space left on the hard disk, but it is usually between six and twelve. You will find, however, that the more drawers you have mounted, the slower the Finder (the Macintosh desktop manager) will run.

The Finder desktop with the startup drawer open.

The first drawer that appears on your desktop is the Startup drawer. It comes with your HyperDrive and includes all the application programs (application programs are later referred to as "applications") you need to run your HyperDrive. There are at least five icons in the Startup drawer: a System file and four management applications. The applications are HyperDrive Manager, HyperInstall, BackUp, and Security.

Using Applications with Your HyperDrive

All non-copy-protected applications (and some copy-protected ones) should be stored on your HyperDrive. (See "Using Copy-protected Applications," page 33.) This makes it very easy to use an application or to switch from one application to another. To begin using an application, you simply open the drawer that contains the application you want and then open the application itself.

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While in an application, you have access to all of the documents stored in the mounted drawers. If the document you want is in an unmounted drawer, simply mount that drawer (using the **Drawers** desk accessory) before selecting the **Open** menu item.

The drive button will allow you to look through each of your mounted drawers as well as any floppies in the disk drives.
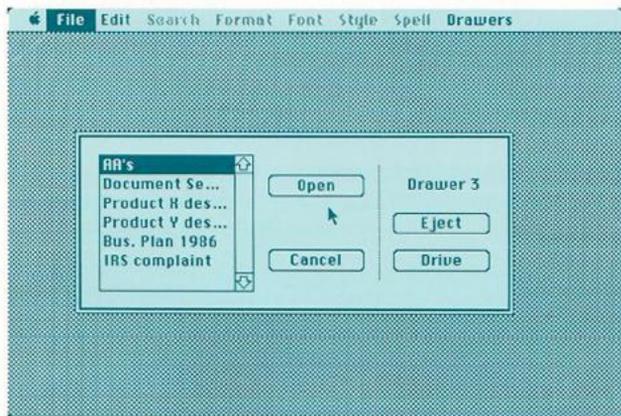
Page15 new pic

Getting Right to Work

Creating and Deleting Drawers
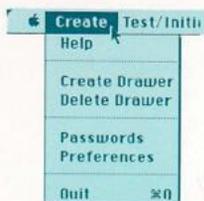
The Create menu from the HyperDrive Manager desktop.

Mounting and Unmounting Drawers

As you add more applications and create documents, you can use the Manager application to create additional drawers to hold your information. Each drawer can hold applications, desk accessories, documents, or any other information you want to keep in it. For example, you may place an application and all its documents in one drawer. Alternatively, you may keep all your applications in one drawer and use another drawer to store the documents created with each application.

To create or delete a drawer, choose **Create Drawer** *or* **Delete Drawer** *from the* **Create** *menu in the Manager application.*

When you create a drawer, it is automatically "mounted" on your desktop (i.e., it appears on your desktop and its files are accessible). You can make the HyperDrive run faster and reduce desktop clutter by unmounting the drawers you use infrequently.

To mount or unmount a drawer, choose the **Drawers** *desk accessory from the* **Apple** *menu. A special* **Drawers** *menu will appear at the right on the menu bar. Pull down that menu and choose the drawer you want to mount or unmount. (If you are using the Manager application, use the* **Drawers** *menu that already appears on the desktop menu bar.)*

Use the Drawers desk accessory to call up the Drawers menu item. You can mount and unmount drawers from this menu while in any application except the HyperDrive Manager (which already has a Drawers menu).

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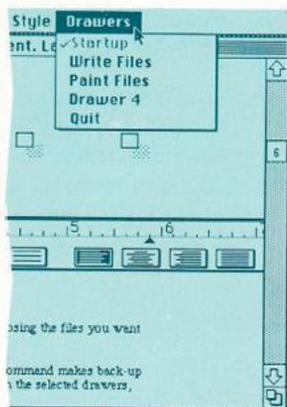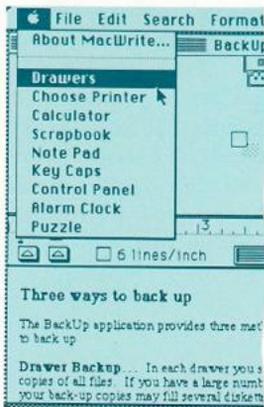
Getting Right to Work

Using Drawer and System Passwords

HyperDrive provides three different levels of security: system, drawer, and file. System and drawer security are controlled by the Manager application, and file security by the Security application.

Drawer passwords lock entire drawers, preventing unauthorized access to groups of files. A password assigned to the entire system overrides the password on any locked drawer and prevents anyone else from formatting or initializing the HyperDrive hard disk (which would delete all the information on the hard disk).

To assign a password to a new drawer, or to change or add a password to an existing drawer, choose **Passwords** *from the* **Create** *menu in the Manager application.*

Select what you want to password (either a drawer or the System).

```
 🍎  Create  Test/Initialize  Drawers


        Change password for which drawer?
          Startup        ⬆
          Write Files         ┌─────────┐
          Paint Files         │ Change  │
          Drawer 4            └─────────┘
          SYSTEM                ▶
                             ┌─────────┐
                             │ Cancel  │
                             └─────────┘

                           ⬇
```
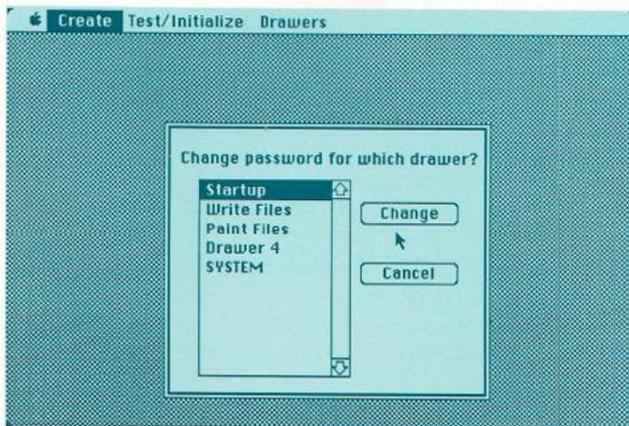
To create or change a system password, choose **Passwords** *from the* **Create** *menu in the Manager application. Click* **SYSTEM***; then click* **Change***. Type your old password or, if you don't have one yet, the words "system password" in the top box. Type your new password or, if you don't want one, type nothing in the bottom box. Click* **OK***.*

Getting Right to Work

Create Test/Initialize Drawers

Change Password:

Enter old password:

`Old password`

... then enter new password:

`New password`

[Cancel]   [OK]
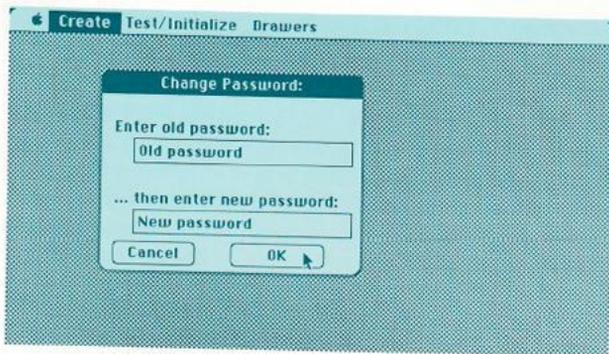
Encrypting Individual Files

The Security application protects individual files. Using a key provided by you, it scrambles the information on a file so that no one without the key can use that file.

To encrypt a file, open the Security application. From the list of decrypted files, click the name of the file you want to encrypt and then

Help

HyperDrive Security

Decrypted Files

Clipboard File
Create menu #3
DeleteDrawer...
Format/Initia...
HyperInstall ...
Imagewriter
Laser Prep
LaserWriter
Man. Apple m...
Man. Drawers...
Password DBo...
Password Sel...

Startup

[Eject]

[Drive]

Encrypted Files

[Encrypt >>]   [Quit]   [<< Decrypt]
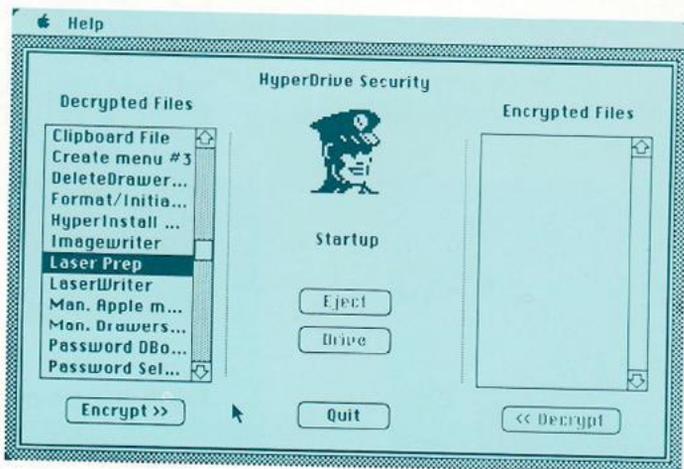
All encrypting and decrypting is done from this Security screen.

click **Encrypt**. *Type in your key carefully and then click* **OK** *(you will have to do this twice).*

To decrypt a file, *click the name of the file you want to decrypt from the list of encrypted files and then click* **Decrypt**. **Important:** *You must then enter your key exactly as you typed it originally (capital letters and small letters are interpreted differently).*

Using HyperInstall

HyperInstall is a special application that installs resources such as the Drawers desk accessory into any system file so that it will work with HyperDrive. You'll find the HyperInstall application icon in the Startup drawer.

The system file in the Startup drawer already has the information it needs to run on HyperDrive. Should you copy a system file from a floppy disk into any HyperDrive drawer or alter an existing system file (by installing additional desk accessories, for example), you will need to run HyperInstall on that drawer.

If you copy a system file from one HyperDrive drawer to another, you don't have to run HyperInstall if the system file has already had HyperInstall run on it.

To run HyperInstall, first copy the application into the drawer (or onto the floppy disk) containing the new or altered system file. Then double-click the HyperInstall icon. A message will appear indicating that the installation is taking place.

Installing the Print Spooler

The Print Spooler application allows you to print documents while using your computer to perform other tasks. When you ask for a document to be printed, the "image of the document" is written, or "spooled," from the machine's RAM onto the hard disk. When the printer is available, the disk image is sent to the printer. The number of documents that

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you can spool is limited by the amount of free disk space on your HyperDrive hard disk.

To work, the Print Spooler requires a one-time-only installation:

Begin by copying **Spooler Install** *from the HyperDrive System Software disk into the Startup drawer if it is not already there. Then open* **Spooler Install** *and choose the serial port where your printer is connected. Click the* **Install** *button. After the Finder screen reappears, switch your machine off and then on again.*

When installing the Print Spooler, select the port where the printer is connected and click install.

```
    Print Spooler Installer               # -0.45
    This application will install the Print Spooler onto
    your HyperDrive.  Spooling will take effect the
    next time you power on the HyperDrive.


  2048K Available for spooling

                                  [ Install ]    [ Remove ]

  Printer connected to:

   ○ 📞    ◉ 🖨                            [ Cancel ]
```
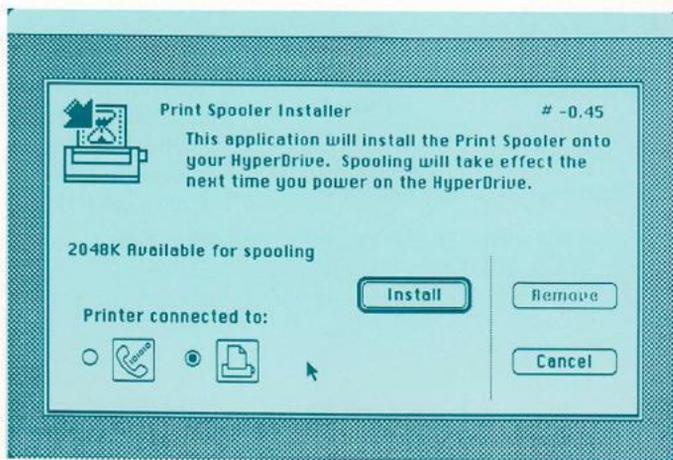
Making Back-up Copies

It's extremely important to make back-up copies of your documents, just in case something happens to the originals. The BackUp application provides everything you need to make back-up copies of your files, restore them to the hard disk whenever you need them, compare the originals with the back-up copies, and keep records of your back-up activities.

Getting Right to Work

```
┌──────────────────────────────────────────────┐
│ ▽▽▽ Help                                       │
│ This application allows you to:                │
│                                                │
│ 🖥→💾   make 'Backup' copies of your HyperDrive  [ Help ] │
│        drawers and files.                      │
│                                                │
│ 💾→🖥   'Restore' drawers and files from         [ Help ] │
│        previous HyperDrive backups.            │
│                                                │
│ 💾?🖥  'Compare' drawers and files against      [ Help ] │
│        previous HyperDrive backups.            │
│                                                │
│ ▨      print 'Records' of your BackUp activities. [ Help ] │
│                                                │
│                                    ( Continue ) │
└──────────────────────────────────────────────┘
```
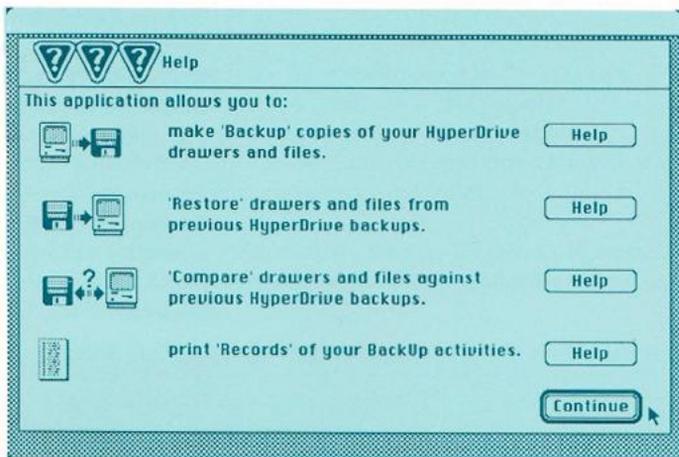
Backup

The Backup menu of the application allows you to make back-up copies onto floppy disks, onto an external hard disk,

The Backup in progress screen shows how many disks are needed, and the current status of the backup.

```
┌──────────────────────────────────────────────┐
│ 🍎 File  Backup  Restore  Compare  Drawers      │
│ 🖥→💾   Full Drawer Backup                      │
│                                                │
│  Backup in progress.                           │
│      18 of 50 files have been backed up.       │
│      0 of 3 backup disks have been completed.  │
│      Drawer:  Startup                          │
│      File:    HyperInstall                     │
│                                                │
│      💾 💾 💾                                    │
│                                                │
│                                                │
│                                    [ Cancel ]  │
└──────────────────────────────────────────────┘
```
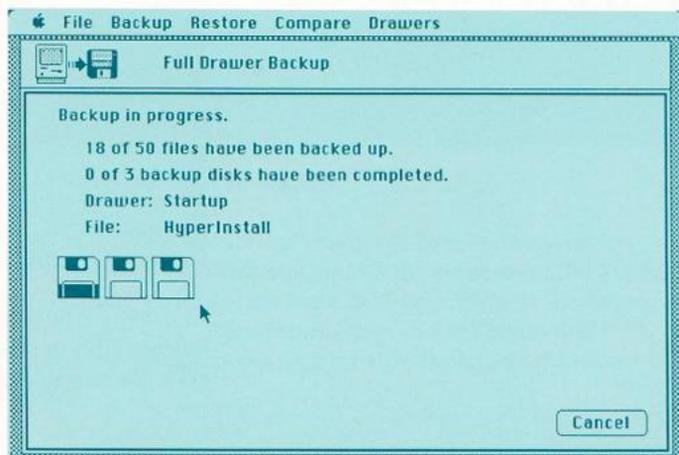
or onto the HyperDrive hard disk itself. You can back up any sized file onto floppy disks, even a file that is too large for a single disk. You can back up entire drawers, all the newly created or changed files in a drawer, or individual files that you select.

To make back-up copies, choose **Drawer Backup**, **Incremental Backup**, *or* **File Backup** *from the* **Backup** *menu in the BackUp application and follow the instructions there.*

Restore

Restore allows you to restore files to your hard disk (or to floppies) that were copied by the BackUp application. You can restore individual files or entire drawers (including folders) from previous back-up copies you have made.

The restore in progress screen shows how many files have been restored and will ask for data disks by name.
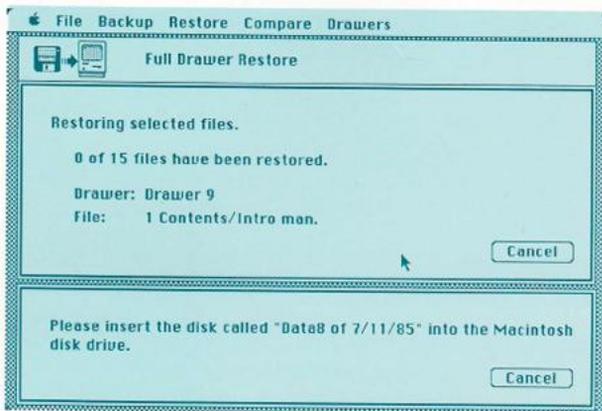
To restore files to your hard disk, choose **Restore Drawers** *or* **Restore Files** *from the* **Restore** *menu in the BackUp application and follow the instructions there.*

Compare

Use **Compare** to see if the information on a back-up floppy disk exactly matches the information on the HyperDrive hard disk. Then you can determine whether or not you have already made back-up copies of documents on the hard disk. You can compare entire drawers or individual files.

To compare drawers or files, choose **Compare Drawers** *or* **Compare Files** *from the* **Compare** *menu in the BackUp application and follow the instructions there.*

The compare in progress screen shows the result of each compare.

 File   Backup   Restore   Compare   Drawers

Individual File Compare

Comparing selected files.

   1 of 2 files has been compared.

Drawer: Drawer 9
File: Dialog Box Parts
That file is not on the HyperDrive.

Skip

Next

Cancel

○ Stop after each file.
◉ Stop only when files are different.
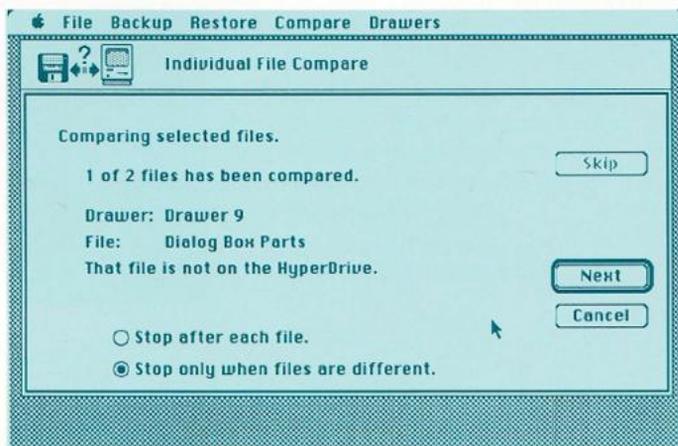
Print Master and Print Journal

The BackUp application automatically keeps records of your back-up activities. **Print Master** lists the contents of the Master file, naming each file that has a back-up copy and the drawer that it came from. **Print Journal** lists all the Backup and Restore operations performed on a particular set of back-up files.

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Getting Right to Work

⌘ File Backup Restore
Help
Glossary

Print Master... ⌘M
Print Journal... ⌘J

Options... ⌘O

Quit ⌘Q
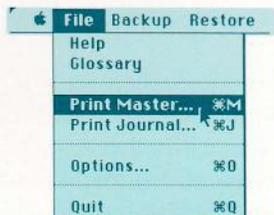
Both Print Master and Print Journal can be viewed on the Macintosh screen, printed on an Imagewriter, or saved as Macintosh text files.

To print or view Print Master or Print Journal, choose **Print Master** *or* **Print Journal** *from the* **File** *menu in the BackUp application and follow the instructions there.*

⌘ File Backup Restore Compare

Print Master...

Contents of Master

From Drawer "Startup"

07/11/85 --- ...job*27
07/11/85 --- Clipboard File
07/11/85 --- Copy of System
07/11/85 --- DeskTop
07/11/85 --- Finder
07/11/85 --- HyperInstall V1.26
07/11/85 --- ImageWriter
07/11/85 --- Manager 5/29

Continue   Cancel
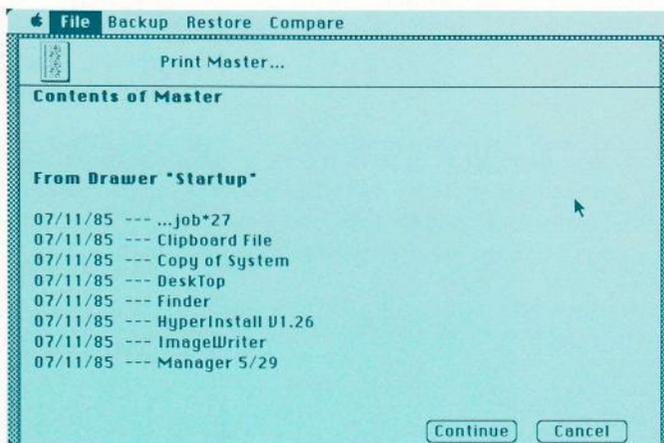
Print Master and Print Journal reveal the activities performed on a backup set.

Default Drawers

The Default Drawer

The Default drawer contains the system and finder currently running your HyperDrive. This drawer is represented by the uppermost drawer icon on the Finder desktop. If the HyperDrive is running off the system contained on a floppy disk, then that disk can become the Default disk. In this case, your HyperDrive will be running as a regular 512K Macintosh, and all icons appear as floppy disk icons.

Changing the Default Drawer

There are two ways to change which system file the HyperDrive (or Macintosh) is running.

1. run any application in a drawer or disk that contains both a System and a Finder file; or

2. hold down both the Command key (cloverleaf) and Option key while double clicking on the Finder icon in the desired drawer or disk. Either of these steps will move the icon for the desired drawer or disk into the uppermost right corner of the Finder desktop.
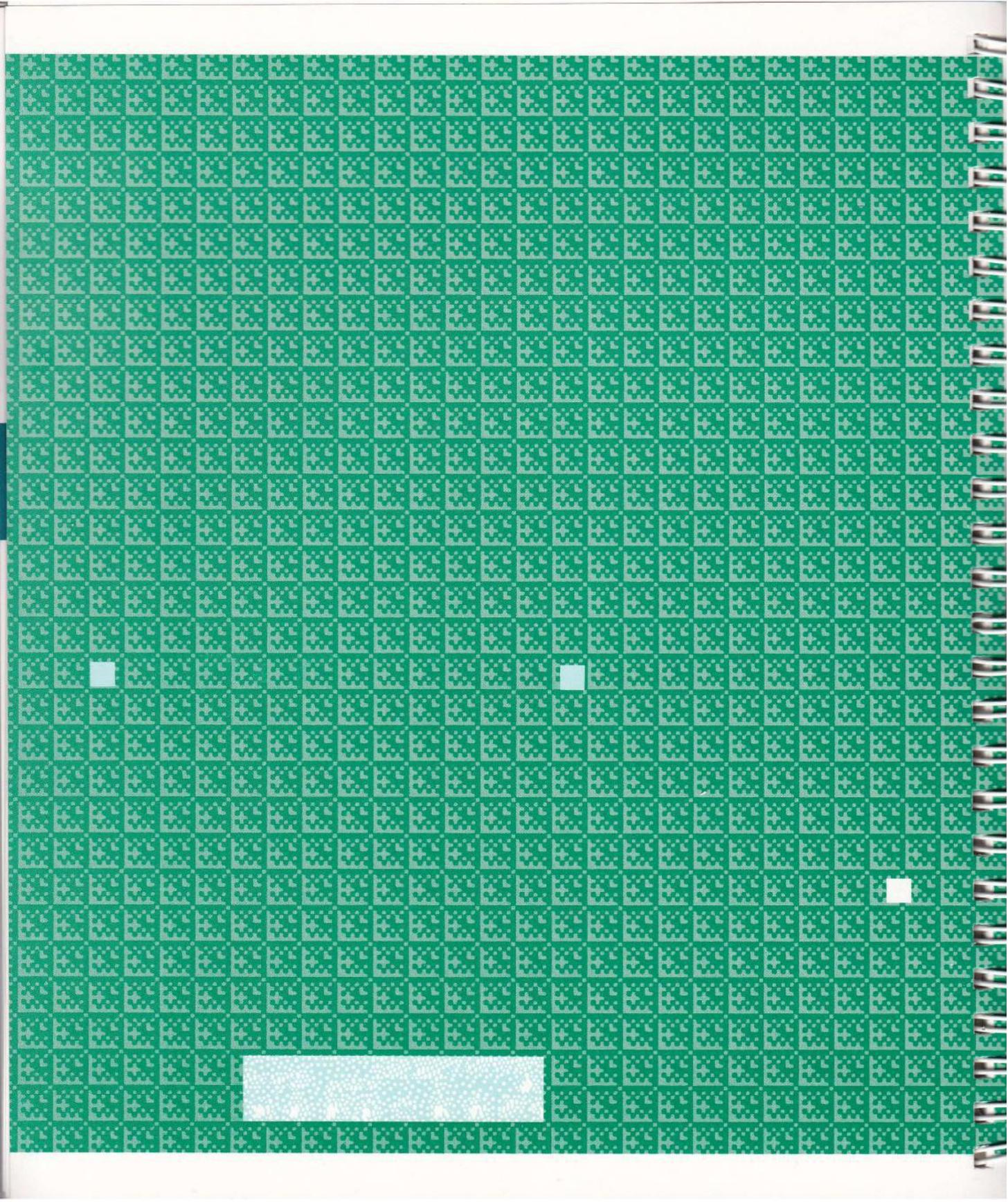
Using HyperDrive

*I*f you have not had much experience with the Macintosh, this section of the manual is for you. If you are an experienced Macintosh user and have read "QuickStart," you may also wish to read this section. It contains background information as well as step-by-step instructions for using all of the HyperDrive functions.

Caring For Your HyperDrive

Your new HyperDrive makes your Macintosh a more sophisticated computer that requires some additional care. Here are a few simple guidelines.

Take a few minutes to review Chapter 6 of the Macintosh user's manual, "Taking Care of Your Macintosh." That chapter contains care guidelines for the Macintosh computer, its disk drives, keyboard, mouse, and disks.

Don't pick up, move, or jar your HyperDrive Macintosh while it is running. When switched off, your machine is fully portable—just as it was designed to be. However, to avoid damaging the hard disk, be gentle whenever you move or set down your Macintosh.

To prevent overheating your Macintosh, avoid using it in direct sunlight or near any source of heat. Also, don't block the Macintosh's air vents, which permit air to circulate through the machine.

An Important Note About HyperDrive 20

16000K available

HyperDrive 20 includes a hard disk drive which can store 20 Megabytes of information. In order to minimize the space used by a single document, the HyperDrive will allocate space for each document in blocks of 4 Kilobytes. This will limit the maximum size of a drawer to 16 megabytes, but will make the most efficient use of the space within each drawer. However, by dividing your data between two or more drawers, you will be able to fill the entire 20 Megabyte disk with data.

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Using HyperDrive

What's Inside Your HyperDrive Macintosh

Power Supply.
Controller Board.
Hard disk.
Fan.
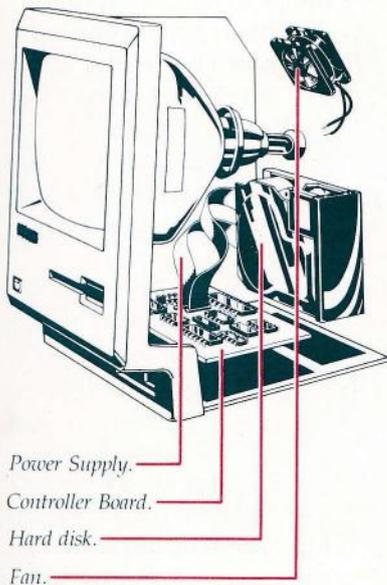
Switching On Your HyperDrive

The primary components added when a HyperDrive is installed into a Macintosh are a hard disk for data storage, a controller board, a power supply, and a fan for cooling.

Hard Disk. The hard disk is actually two metal disks that spin constantly at 3600 rpm while your HyperDrive is on. Four wafer-thin recording "heads" write information on and read information from the hard disk. This assembly is enclosed in an airtight protective case which is shock-mounted inside the Macintosh.

Controller. The electronics needed to control the hard disk drive and transfer data to and from the Macintosh are contained on a single printed circuit board.

Power Supply. The hard disk drive and its controller consume more power than a regular Macintosh can supply. An additional power supply is added to meet these requirements.

Fan. The fan circulates air through your Macintosh and is on whenever your computer is on. It removes any extra heat created by the operation of the hard disk.

Make sure your Macintosh is plugged in and the mouse and keyboard are connected.

1. *Switch on your HyperDrive Macintosh without a disk in either floppy disk drive.*

If you see this startup screen, you know that your Macintosh is starting-up as a HyperDrive.

The Startup drawer icon, Finder trash can icon.

2. After several starting screens, a drawer icon named Startup will appear in the upper right corner of your screen. (If it does not, see "Starting Hyper-Drive from a Disk," page 80.) Depending on the Startup options you may have chosen (see "Preferences," page 44), additional drawer icons or windows may also appear on your screen.

Leaving a disk in either drive will cause one of two things to happen. If the disk has a system or Finder file, your HyperDrive Macintosh will start up as a regular 512K Macintosh and will not give you access to the hard disk. If the disk has no system or Finder files, your Hyper-Drive will eject the disk and then start up.

A drawer is a collection of documents, application programs (tools, such as MacWrite or MacPaint, for manipulating information; hereafter referred to as *applications*), systems files and folders stored on the hard disk. For example, one drawer might contain all the files you'd normally store on a specific floppy disk. Each time you create a new drawer (see "Creating Drawers," page 38), it is mounted—available for use—and you'll see the drawer icon on your desktop whenever you are in the Finder application.

3. *If the Startup drawer is closed, open it by double-clicking the icon (i.e., place the arrow on the icon and press the button on the mouse twice in rapid succession).*

The Startup drawer contains all the software you need to manage and run your HyperDrive Macintosh. The icons in the StartUp window represent the drawer's contents. There are at least five items—a System folder and four applications—that allow you to manage the information on your HyperDrive hard disk. These applications are the Manager, HyperInstall, BackUp, and Security. You'll find out about all of these applications later in this section of the manual.


```
 File  Edit  View  Special

            Startup
  5 items          632K in disk       9368K available

  System Folder  Manager  HyperInstall  BackUp  Security
```

System folder.
Manager.
HyperInstall.
BackUp.
Security.
Open drawer icon.

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Copying Files to the Hard Disk

*T*hink of the hard disk as a very large version of a floppy disk. It does the same thing: It holds Macintosh applications (programs), documents, and folders. The hard disk, however, can hold many times more information. By storing your files on the hard disk, you can move quickly from one application to the next without having to find and insert a floppy disk.

You may eventually want to copy all of your regularly-used applications and documents onto the hard disk. You can copy individual files from a floppy disk to the hard disk using the same copying procedure as on a regular Macintosh (drag the file icons over the drawer icon and release).

You can also copy an entire floppy disk into a drawer. Simply drag the floppy disk icon over the drawer icon and release the mouse button. **Important: Copying an entire floppy disk into a drawer completely replaces the contents of the drawer with the contents of the floppy disk. All of the information originally in the drawer will be lost.**

Copying Applications and Documents

The first files you'll probably want to copy to the hard disk will be Macintosh applications and the documents created by them. The following example uses MacPaint, but all applications and documents are copied the same way.

1. *Insert the floppy disk containing the MacPaint application into one of the Macintosh's disk drives.*

2. *If it is not already open, open the floppy disk icon by double-clicking it.*

3. *Drag the MacPaint application icon from its window into the Startup window (or Startup*

Copying Files to the Hard Disk

drawer icon, if the window is closed).

When you release the mouse button over the Startup drawer window or icon, the Macintosh will copy MacPaint into that drawer. The next time you want to use MacPaint, just open that drawer and select MacPaint from the window. You don't have to insert the floppy disk again.

Do not put too many files in the same drawer, as this will slow down the Finder.

Using Copy-protected Applications

Most major applications are copy-protected in one form or another. The software that comes with your HyperDrive Macintosh is not, however, and may easily be copied onto the hard disk.

Some copy-protected applications can also be copied onto your hard disk. From then on, however, whenever you open the application, it will ask you to insert a master or original version of the application. After you insert the requested disk into the Macintosh's built-in floppy-disk drive, you can use the version stored on your hard disk. This version will run at the increased speed of the hard disk.

Some applications use very sophisticated copy-protection that does not allow the application to be copied at all. Ask your dealer or the software's manufacturer about an application's ability to be copied onto a hard disk.

If an application cannot be copied to the hard disk, you can increase its operating speed by removing the system folder from the disk. This forces the disk-based application to use a system stored on your hard disk.
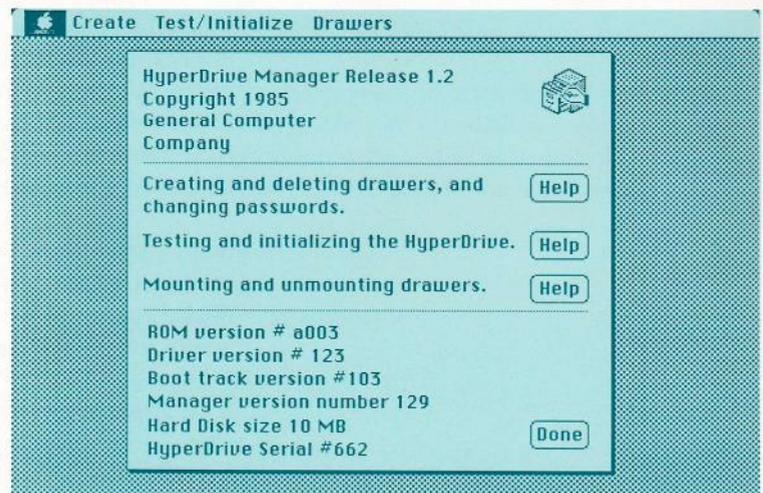
Using the Manager Application

The Manager provides everything you need to manage your hard disk. With the Manager you can create, delete, mount, unmount, and assign passwords to drawers. You can also initialize and format the hard disk and test its integrity.

The 'About the Manager Application' Window

The **About the Manager Application** window on the Apple menu contains important information about versions of the HyperDrive software and hardware contained on your HyperDrive. Should your HyperDrive need service, this information will be valuable in helping your dealer or General Computer diagnose the problem. The inside front cover of this manual has a space for you to note this information. Please write down the figures that appear in the window. **Note:** If you should should receive a system update for your HyperDrive (i.e., new Manager and HyperInstall applications) some of these numbers will change. After you have installed the update, you should update the version numbers.

The 'About the Manager' window contains HyperDrive software and hardware version numbers that are very useful when and if your HyperDrive needs emergency service.


```
 Create  Test/Initialize  Drawers

  HyperDrive Manager Release 1.2
  Copyright 1985
  General Computer
  Company

  Creating and deleting drawers, and     [ Help ]
  changing passwords.

  Testing and initializing the HyperDrive.  [ Help ]

  Mounting and unmounting drawers.       [ Help ]

  ROM version # a003
  Driver version # 123
  Boot track version #103
  Manager version number 129
  Hard Disk size 10 MB                   [ Done ]
  HyperDrive Serial #662
```
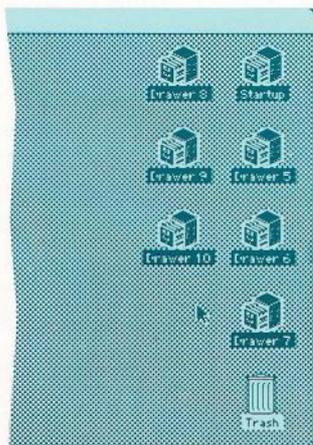
About the Manager Application also contains brief directions for running the application itself. Click the **Help** button next to the function for which you want instructions.

Where to Keep the Manager Application

The Manager is usually kept in the drawer that contains the System folder. If you have more than one drawer containing System folders, you may also want to have a copy of the Manager in each of those drawers so that it will always be available to you.

File Drawers

The hard disk acts as a large file cabinet that can have many individual file drawers. Up to now you've used your hard disk as a file cabinet with one big drawer, the Startup drawer. That drawer contains MacPaint (if you added it earlier), files (including the Manager application), and any documents you have copied or saved there. Although this single-drawer cabinet may be sufficient for a while, you'll eventually want to create additional drawers.

There are many advantages to using multiple drawers. They allow you to:

The use of several drawers can simplify your filing needs and keep your HyperDrive running at maximum speed and efficiency.

- **organize your files into a system that is logical for you.** For example, you might want to reserve a drawer for each application. Then you could use the same drawer to store all the documents you create with that application. Alternatively, you might find it easier to keep all applications in a single drawer and maintain separate document drawers for each application.

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- **increase the number of files the hard disk can hold.** Each drawer can expand up to 16 megabytes or up to the storage capacity of the hard disk. The maximum number of files in any drawer, however, is usually limited to approximately 128. (To allocate space for up to 512 files in a drawer, see "Preferences in the Manager Application," page 44.)

- **allow each user to have his or her own drawer.** To ensure privacy for multiple users, your HyperDrive Macintosh will allow you to assign passwords to entire drawers, insuring the privacy of your files while permitting you to share your HyperDrive Macintosh with other users.

Recommended Drawer Organization

We recommend that you use the Startup drawer to keep only the System folder. Set up a second drawer to keep all your applications, fonts, desk accessories, and the Scrapbook. For each application, create a corresponding storage drawer, and use that drawer to keep all the documents you create with that particular application. This arrangement allows you to make full-drawer back-up copies of your documents without making back-up copies of the applications (which seldom change).

Dynamic Drawer-sizing

You don't have to worry about setting the size of your drawers. HyperDrive continually adjusts the sizes of drawers to accommodate the files kept in them.

HyperDrive's drawers do not expand in single bytes but in blocks of space, 256 K bytes at a time. As soon as you create a drawer, you reserve 256 K of disk space—even if you only place 10 K of information in the drawer. Just one byte over 256 K reserves another 256 K of disk space.

To see how much space has been used and how much is available, open a drawer and look at the top of the window.

The number of kilobytes (K) occupied by this drawer appears at the top of the window. To the right is the amount of unused space remaining (see "An Important Note About HyperDrive 20," page 28).

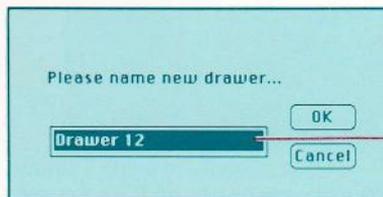*It is normal for different drawers to show different amounts of free space.*
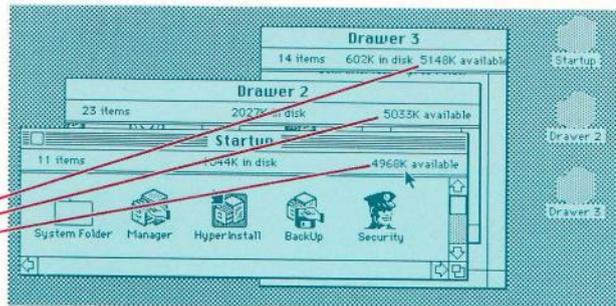
When Drawers Show Different Amounts of Free Space

Any drawer can expand to 16 megabytes or the remaining storage space on the hard disk. The space available to any drawer reflects the amount of space remaining on the hard disk plus the unused part of the last 256K block assigned to that drawer. Since other drawers do not have access to the 256K block most recently assigned to a drawer, all drawers will usually show different amounts of free space. Generally speaking, when minor differences (less than 256K) occur in the available space, you have nothing to worry about.

Large discrepancies occur when you throw away many files from a drawer. The hard disk has free space, but that space is unavailable to the other drawers because it has not yet been returned to the pool of free space. Running the Manager application automatically returns as much of the available space as possible to the pool (for more information, see "Optimizing the Disk Space" page 81).

Using the Manager Application

Creating Drawers
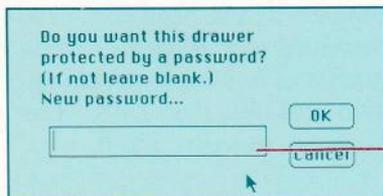
Create | Test/Initi
Help

Create Drawer
Delete Drawer

Passwords
Preferences

Quit ⌘Q

Please name new drawer...

OK

Drawer 12

Cancel
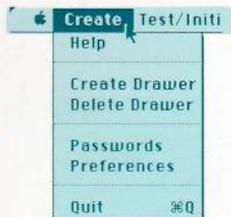
Type in the name for your new drawer. You can also rename drawers on the Finder desktop the same way you change the name of a file or disk.

Do you want this drawer protected by a password? (If not leave blank.) New password...

OK

Cancel

Enter a password if you want this new drawer protected. You can always change or remove the password by selecting Password... from the Create menu.

1. *Open the Manager application.*

2. *Pull down the* **Create** *menu and choose* **Create Drawer**.

3. *Type in the name of the new drawer.*

   If you do not type in a name, the name that appears in the box will be assigned to the newly created drawer.

4. *Click* **OK**.

5. You will be asked if you want to assign a password to this drawer.

   If you want to control access to this drawer, type in a password. If you don't want a password for this drawer, leave the password blank.

   Do not forget your password. You'll need it whenever you want to mount this drawer.

6. *Click* **OK**.

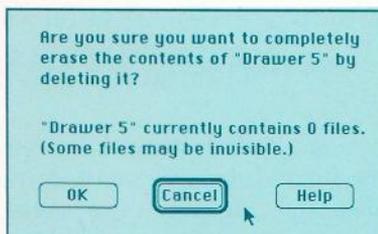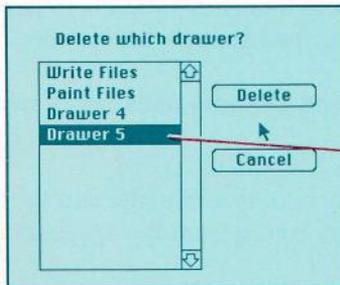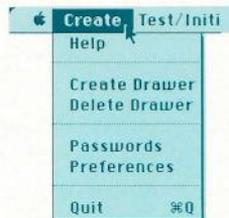   Your new drawer is now created and mounted.

7. *Choose* **Quit** *from the* **Create** *menu.*

Your new drawer is now ready to receive any files you want to place in it. You can change the name of the drawer by selecting the drawer's icon on the Finder desktop and simply typing in a new name.

Using the Manager Application

If you place a system file in the new drawer, be sure that the new system file will work with HyperDrive. If the system file came from the Startup drawer, it is already usable with HyperDrive. If you copied it from any floppy disk other than the HyperDrive System Software disk, you must run the HyperInstall application on it (see "Using HyperInstall," page 51).

Deleting Drawers

Create, Test/Initi
Help

Create Drawer
Delete Drawer

Passwords
Preferences

Quit   ⌘Q

Delete which drawer?

Write Files
Paint Files
Drawer 4
Drawer 5

Delete

Cancel

Are you sure you want to completely erase the contents of "Drawer 5" by deleting it?

"Drawer 5" currently contains 0 files. (Some files may be invisible.)

OK   Cancel   Help

This is your last warning before a drawer is deleted. Do not worry about the Invisible files as these are system files and will be recreated when they are needed again.

1. *Make back-up copies onto disks of all the files from this drawer you want to save (see "Making Back Up Copies," page 61), or place them in another drawer.*

2. *Open the Manager application.*

3. *Pull down the **Create** Menu and choose **Delete Drawer**.*

   You'll see a list of all the drawers on your Hyper-Drive.

4. *Choose the drawer you want to delete, then click its name.*

5. *Click **Delete**.*

   If the drawer you want to delete has a password, you will be asked to supply the password. If you do not know the password or have forgotten it, you can override the drawer password by typing the system password instead.

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Using the Manager Application

6. As an extra security measure, you'll be asked if you are sure you want to do this.

   Click **OK**.

Mounting and Unmounting Drawers

To keep your HyperDrive running as fast as it can, you should mount only the drawers you need. You can always mount more drawers as you need them. With only a few drawers mounted, your HyperDrive will enter and exit applications faster because the Finder has to search through fewer files.

All mounted drawers appear on the Finder desktop whenever you use your HyperDrive. When you unmount a drawer, it is kept out of sight until you mount it again.

Whenever the drawers menu is not on the menu bar, you can call up this menu by selecting Drawers from the Apple menu.

You can mount or unmount a drawer by using either the Drawers desk accessory or the Manager application.

Mounting and Unmounting Drawers with the Drawers Desk Accessory

Using the Drawers desk accessory will allow you to change the status of a drawer without exiting from the application you're using.
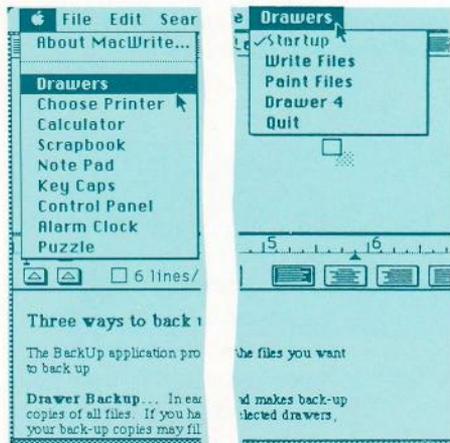
The Drawers menu is always the menu item at the far right. It allows you to mount and unmount drawers without leaving an application.

1. *Pull down the* **Apple** *menu and choose* **Drawers**.

   A **Drawers** menu will appear as the rightmost menu on the menu bar.

2. *Pull down the* **Drawers** *menu and choose the name of the drawer you wish to mount or unmount.*

   The checked drawers are already mounted; the drawer in use is checked and dimmed and may not be unmounted.

Mounting and Unmounting Drawers with the Manager Application

Although you can more easily mount and unmount drawers with the Drawers desk accessory, you should use the Manager from time to time to optimize the disk space (for more information, see "Optimizing the Disk Space" page 81)."

1. *Open the Manager application.*

2. *Pull down the* **Drawers** *menu and choose the name of the drawer you wish to mount or unmount.*

   Mounted drawers have check marks in front of their names; unmounted ones do not.

   When you choose a drawer, its status changes: A mounted drawer will be unmounted, an unmounted drawer mounted. (You can pull down the **Drawers** menu again to see the result.)

3. *Choose* **Quit** *from the* **Create** *menu.*

Using Drawer and System Passwords

You can safeguard the data stored on your hard disk by using two types of passwords: The Drawer password allows you to lock individual drawers. The System password prevents anyone else from formatting or initializing the HyperDrive and lets you into any locked drawer.

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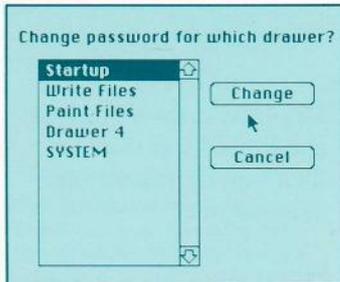
Drawer Passwords

Whenever you create a drawer, you have the option of locking that drawer by assigning a password to it. You can also add or change a password on an existing drawer by following these steps.

1. *Open the Manager application.*

2. *Pull down the* **Create** *menu and choose* **Passwords**.

   You'll see a list of all your drawers.

3. *Click the name of the drawer whose password you want to create or change. Click* **Change**.

4. *If you are changing an existing password, type the original password in the top box.* (You can use upper- and lower-case letters interchangeably.) *Leave the box blank if you are creating a password for this drawer.*

5. *Type the new password in the bottom box.*

6. *Click* **OK**.

   Pressing Return or Enter after you type in a password cancels that password.

   Whenever you try to mount a locked drawer, you will be asked to supply the password.

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Furthermore, locked drawers will not be automatically mounted on power-up regardless of the preferences set (see page 44).

System Password

The system password lets you mount any drawer on your HyperDrive, whether you know its password or not. Whenever a drawer password is requested, you can override it by typing the system password.

You must use the system password to initialize or format the hard disk, two procedures that will remove all the information from the hard disk.

Creating or Changing a System Password

When you first use your HyperDrive, a system password will have already been set for you. This password is, logically enough, "system password." You will want to change this password soon after you begin using your new HyperDrive.
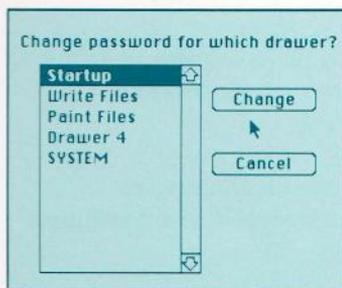
1. *Open the Manager application.*

2. *Pull down the* **Create** *menu and choose* **Passwords**.

   You'll see a list of all drawers.

3. *Choose* **SYSTEM**; *then click* **Change**.

Change password for which drawer?

Startup
Write Files
Paint Files
Drawer 4
SYSTEM

Change

Cancel

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Change Password:

Enter old password:

```
Old password
```

... then enter new password:

```
New password
```

[Cancel]   [OK ▶]

1. *Type your old system password in the top box. If you are creating a system password for the first time, type the words "system password."*

2. *Type your new system password in the bottom box. If you do not want a system password, leave this box blank.*

    Leaving the bottom box blank deletes all passwords.

3. *Click* **OK**.

Auto Disk Optimization

Every time a file is thrown away or deleted, a small amount of unused disk space remains in the drawer. Each time you run the Manager application, it performs a basic optimization of the mounted drawers, including the default drawer. This auto-optimization is good for recovering the unused space that is at the end of the memory allocation for each drawer. It does not however, recover unused space that occurs throughout entire drawers. To recover this unused space, you must run the Manager and select the **Optimize Disk...** command from the **Create** menu (see "Optimizing Hard Disk Space", page 81).

Preferences in the Manager Application
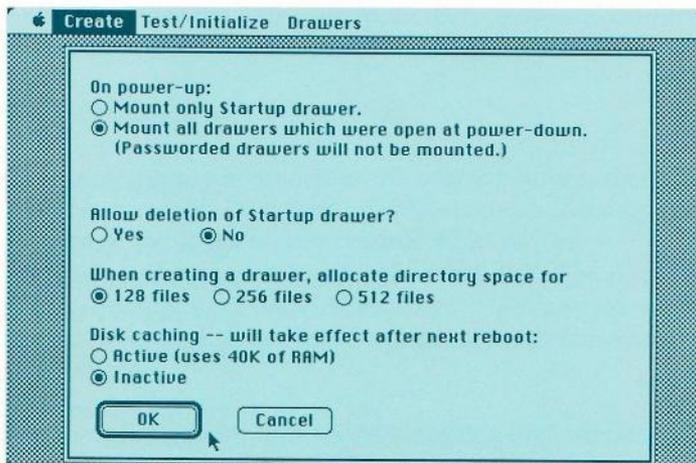
The HyperDrive Manager application has a number of settings that you can change to suit your own preferences. The "factory" settings include the following:

- On power-up, the desktop will mount all drawers mounted when you last used your HyperDrive Macintosh (except drawers with passwords).

- The Startup drawer cannot be deleted.

- The maximum number of files in a drawer is 128.

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Using the Manager Application

The Preferences screen allows you to customize the Manager software.

```
 Create  Test/Initialize  Drawers

    On power-up:
    ○ Mount only Startup drawer.
    ● Mount all drawers which were open at power-down.
       (Passworded drawers will not be mounted.)

    Allow deletion of Startup drawer?
    ○ Yes        ● No

    When creating a drawer, allocate directory space for
    ● 128 files   ○ 256 files   ○ 512 files

    Disk caching -- will take effect after next reboot:
    ○ Active (uses 40K of RAM)
    ● Inactive

    [    OK    ]      [   Cancel   ]
```

- Disk caching is on.

To change the settings, choose **Preferences** *in the* **Create** *menu of the Manager application.* Then make your choices based on the following information.

Automatic Mounting on Power-up

If you want your HyperDrive to mount only the Startup drawer on power-up, click the button beside the first command.

The Manager application must be in the Startup Drawer.

If you want your HyperDrive to mount all the drawers that were mounted when it was last shut off (except drawers with passwords), *click the button beside the second command.*

If you've made the second choice (choosing to mount all drawers) and for any reason do not want drawers mounted automatically, just hold down the mouse button as you switch on your HyperDrive

Macintosh. When the desktop appears, only the Startup drawer will be mounted.

Allowing Deletion of Startup Drawer

Normally, you are protected from deleting the Startup drawer. In rare circumstances, however, you may need to delete it: It may become unreadable, for example, and you may want to replace it.

Just click the **Yes** *button to allow the deletion of the Startup drawer.*

For your protection, "Yes" is a temporary setting; the next time you enter the Manager application, it will have reverted to "No."

Setting the Maximum Number of Files a New Drawer Can Hold

This preference gives you the opportunity to determine how many files you want to have in each new drawer you create. Although the size of each file can expand up to the available disk space, the number of files in each drawer is limited. The limit is preset at approximately 128 files per drawer. You may override this number by choosing a directory large enough for either 256 or 512 files. This size change will apply only to drawers you create after setting the directory size.

There is one possible disadvantage to having a directory larger than 128 files. While you are using certain applications requiring large amounts of memory, there may not be sufficient memory to use the Drawers desk accessory to mount and unmount drawers with large directories. However, you

can always use the Manager application to mount or unmount drawers.

Disk Caching On or Off

This preference, effective after the next power-up, turns disk caching on or off. Disk caching is the process of using a portion of the RAM (approximately 40 K) to store recently-used information from the hard disk. The next time the Macintosh needs that information, it will use the version stored in the disk cache RAM, speeding up the operation significantly.

The only time that a user might want this preference turned off is when using an application that actually utilizes the entire 512K of RAM.

Reinitializing the Hard Disk

Reinitializing the hard disk clears it of all files and drawers and prepares it to receive new information. You might want to reinitialize the disk, for example, in order to clear it of all existing files, or to eliminate information that has become disordered or unusable.

The Difference Between Format and Initialize

In the rare event that you need to reinitialize your HyperDrive, you are presented with two choices: Format and Initialize. Initialize wipes the disk clean of all information almost instantly, allowing you to start over with an empty disk right away. Format also wipes the disk clean but does more than Initialize does, so it takes a few minutes.

Always try Initialize first. It is quick and will work unless the most basic format information has somehow been lost from the HyperDrive hard disk.

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If Initialize does not solve the problem, try Format. Format rewrites low-level technical information, such as track and sector locations, onto the hard disk. After formatting is done, the Manager automatically initializes the hard disk. Unfortunately, Format also wipes out the "map" of bad spots on the hard disk. Your HyperDrive will automatically test the disk after formatting, recreating the "map" of bad spots.

Think carefully before reinitializing. It will permanently erase all the information you have on the hard disk.

Before you reinitialize the hard disk, be sure to **make back-up copies on disks** of everything you want to save (see Making Back-up Copies," page 61). Then,

1. *After removing any disks that may be in your HyperDrive Macintosh, switch off your Macintosh.*

2. *Insert the HyperDrive System Software disk that came with your HyperDrive.*

3. *Switch on your HyperDrive Macintosh.*

4. *Open the HyperDrive System disk icon.*

5. *Open the Manager application.*

6. *Choose* **Initialize disk** *from the* **Test/Initialize** *menu.*   You'll see the first of a number of warnings reminding you that you will lose all your files if you reinitialize the hard disk.

```
🍎  Create  Test/Initialize  Drawers
              Help      ↖
              Run Disk Test
              Initialize Disk
```

```
          WARNING!

Initializing the HyperDrive will
erase all information stored
there. All drawers will be lost.

Enter system password...

[                    ]

  [ Cancel ]  [ Format ]  [ Initialize ]
```

*When you see this screen, it is your
last chance to cancel before initializing
or formatting the hard disk (which
erases all the data on the disk).*

If, after seeing all the
warnings, you choose Ini-
tialize, the hard disk will
be wiped clean of all infor-
mation.

7. A box will appear asking
   whether you want to initialize
   the hard disk or format it. *We
   recommend that you choose*
   Initialize *the first time.*

8. *Enter the system password.*

9. *Click* **Initialize**.

If you initialized the hard disk because you had problems with
it, and those problems continue, *repeat the steps outlined above
but click* **Format** *instead of* **Initialize**.

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Using the Manager Application

Testing the Hard Disk

You can check the condition of the hard disk any time you think there may be something wrong with it. If, for example, you can't copy files onto the disk or if the applications don't work, then you should perform a hard-disk test.

The test takes about 25 to 50 minutes depending on disk size. You can stop the test at any time by clicking the **Abort** button.

Testing the disk is *not* destructive to information stored on the disk. However, you do risk losing information when you perform a hard-disk test. As each disk sector is tested, information on that sector is temporarily held in memory and then returned to the sector. If for any reason power is shut off during the test, the information in memory would be lost. So to be on the safe side, make back-up copies of your files (see "Making Back-up Copies," page 61), and

DO NOT SHUT OFF, DISCONNECT, MOVE, OR IN ANY OTHER WAY DISTURB YOUR HYPERDRIVE MACINTOSH WHILE A HARD-DISK TEST IS TAKING PLACE. YOU WILL LOSE INFORMATION IF THE MACINTOSH IS TURNED OFF DURING THE TEST.

1. *Open the Manager application.*

2. *Pull down the* **Test/Initialize** *menu and choose* **Run Disk Test**.

After the disk test is complete, a message will tell you how many 512 byte blocks were found to be defective. It is considered normal to have 1 bad block per Megabyte of hard disk storage space. However, your HyperDrive can compensate for up to 64 (128 for a 20Mb hard disk) bad blocks. If the number of bad blocks should ever approach this number, see your dealer for service.

Currently testing cylinder 1 of 305

Bad sectors 0

Abort

You can abort a disk test at any time without damage to the data. It is considered normal to have as many as 10 bad sectors on the hard disk.

Using HyperInstall

When to Use HyperInstall

H yperInstall is a special application that installs resources (such as the Drawers desk accessory) into any system file so that it will work with the HyperDrive. You'll find the HyperInstall application icon in the Startup drawer.

The system file in the Startup drawer already has the information it needs to run on HyperDrive. Should you copy a system file from a floppy disk into any HyperDrive drawer or alter an existing system (by installing additional desk accessories, for example), you will need to run HyperInstall on that drawer.

If you copy a system file from one HyperDrive drawer to another, you don't have to run HyperInstall if the system file has already had HyperInstall run on it.

You must run the HyperInstall application when

- you copy a System file from a disk to a drawer;

- you add desk accessories to or delete them from a system file;

- there is no **Drawers** selection in the Apple menu.

In addition

- Run HyperInstall each time you run any other installation programs.

Running HyperInstall

1. *Mount the drawer that contains the new or modified system file.*

2. *If a copy of the HyperInstall is not in that drawer, copy it from another drawer or from a floppy disk*

Using HyperInstall

Installing HyperDrive utilities
Please wait...

The HyperDrive screen while HyperInstall is updating the system.

by dragging its icon onto the drawer.

3. *Run the HyperInstall application by double-clicking on it.*

You'll see a message indicating that the HyperInstall application is running. After this, the desktop will reappear.

When the desktop returns, the drawer containing the new or modified system file should be the first drawer in the uppermost right corner. If it is not the top drawer, *run an application from that drawer, quit immediately, and then rerun the HyperInstall application.*

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Using the Print Spooler

*T*he Print Spooler is an application that allows you to print documents with an Imagewriter printer while performing other tasks. When you ask for a document to be printed, the "image of the document" is written, or "spooled," from RAM into any empty space on the hard disk. When the printer is available, the image is sent from the disk to the printer. The number of documents that you can spool is limited by the amount of free space on your HyperDrive.

Since the Print Spooler application temporarily uses the available free space on your HyperDrive as a buffer, the more disk space that's available for spooling, the larger your print buffer can be. Conversely, the smaller the available space, the slower printing will be, as the Print Spooler will have to spool smaller pieces of the document to the hard disk. If there is not enough disk space, the Print Spooler application will not work. In this case, you will be not be able to work while a document is being printed.

Installing and Removing the Print Spooler

The Print Spooler application requires a one-time-only installation. After that, the only way to disengage it is by following the directions below for removing it.
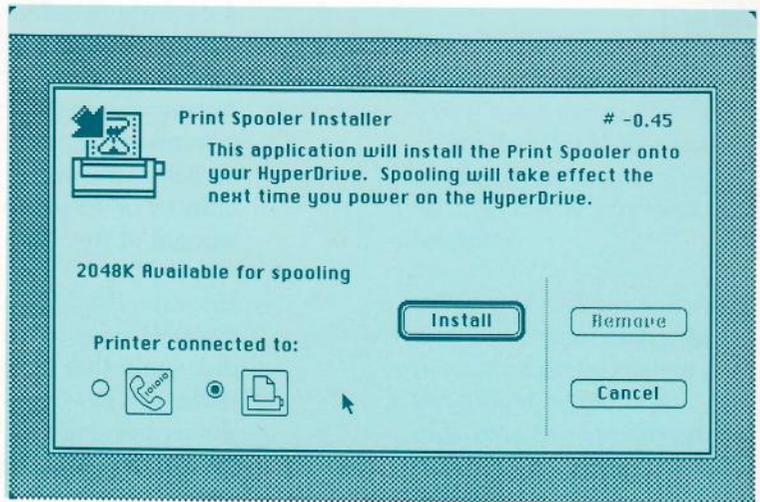
To install the Print Spooler application,

1. *Copy the Spooler Install application from the floppy disk onto your Startup drawer (if it is not already there).*

   The icon for the Spooler Install application is a picture of a printer with an hourglass.

2. *Run the Spooler Install application by double-clicking on it.*

   A dialog box will appear telling you the version number and amount of free space left on your HyperDrive.

Using the Print Spooler

For selecting the port where the printer is connected, and installing the Print Spooler to the selected port.

```
┌─────────────────────────────────────────────────────┐
│  ▓▓                                                   │
│  ▓▓   Print Spooler Installer            # -0.45      │
│  ▓▓   This application will install the Print Spooler │
│  ▓▓   onto your HyperDrive.  Spooling will take       │
│       effect the next time you power on the HyperDrive.│
│                                                        │
│   2048K Available for spooling                         │
│                                   ┌──────────┐  ┌──────────┐ │
│   Printer connected to:           │  Install │  │  Remove  │ │
│                                   └──────────┘  └──────────┘ │
│      ○  ☎      ◉  ▢         ▶          ┌──────────┐ │
│                                        │  Cancel  │ │
└─────────────────────────────────────────────────────┘
```

3. *Choose the port where your printer is connected.*

4. *Click the* **Install** *button.*

5. *After the desktop reappears, switch your HyperDrive off and then on again.*

   Check and change the Choose Printer desk accessory so that it agrees with the print spooler just installed.
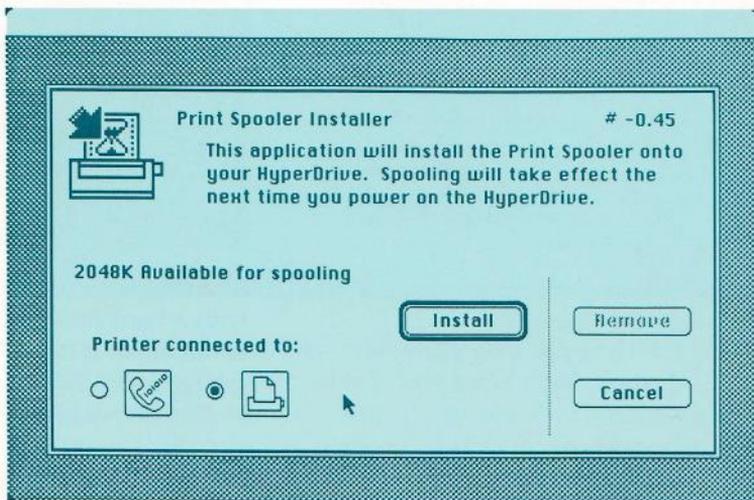
If you wish to change the serial port where the printer is connected, simply rerun the Spooler Install program, indicating the new serial port. Make sure that you also respecify the port using the Choose Printer desk accessory.

Using the Print Spooler

To remove the Print Spooler application,

1. *Run the Spooler Install
    application (from the Startup
    drawer) by double-clicking on it.*

2. *Click the **Remove** button.*

3. *After the desktop reappears,
    switch your HyperDrive off and
    then on again.*

*For selecting the port from where
the Print Spooler should be removed,
and for removing the Print Spooler
from the selected port.*

Print Spooler Installer   # -0.45

This application will install the Print Spooler onto
your HyperDrive. Spooling will take effect the
next time you power on the HyperDrive.

2048K Available for spooling

Install   Remove

Printer connected to: Cancel

Using the BackUp Application

What is BackUp?

You will probably use your hard disk to store many, if not all, of your valuable files. As with floppy disks, it's important to make back-up copies of these files periodically to prevent accidental loss of data.

The BackUp introduction screen. This screen can be turned off by using the Options selection from the BackUp File menu.
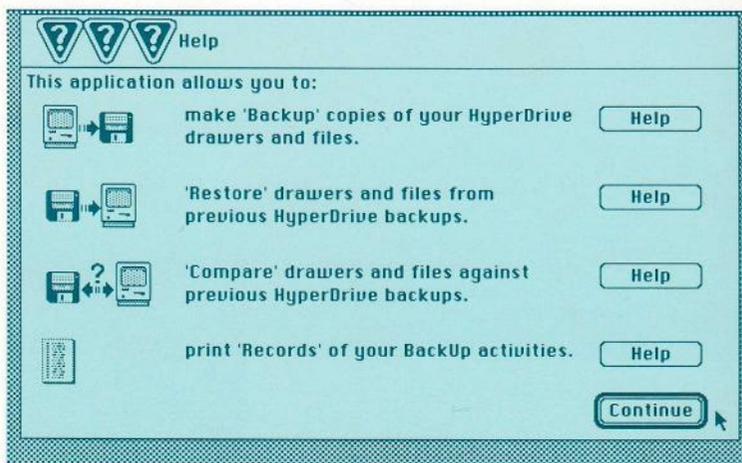
Making back-up copies of your work is especially important with a hard disk because so much information is stored there at one time. It is also useful for reference: As you edit files on the hard disk, keeping back-up copies will enable you to refer to older versions of these files.

The BackUp application that comes with your HyperDrive Macintosh provides you with a powerful, convenient way to make back-up copies of HyperDrive files. Then, if you should lose valuable information from your HyperDrive hard disk through human error or electrical or mechanical problems, you can easily replace that information by using BackUp.
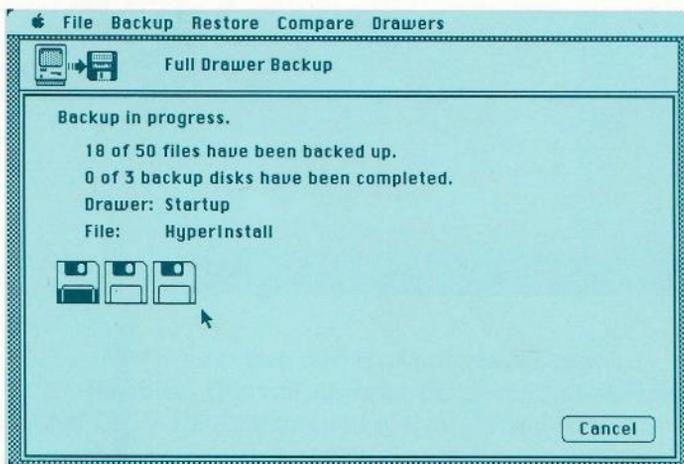
Where to Keep the BackUp Application

The BackUp application icon should be in the Startup drawer. If it is not, you can copy it there from the HyperDrive System Software II disk.

Using the BackUp Application

What the BackUp Application Allows You to Do

The Backup in progress screen keeps you informed of the current status during backups.

- **With BackUp you can back up your HyperDrive files or drawers for safekeeping.** You can even make back-up copies of files that are too large for a single disk: The BackUp application will put as much as it can on one disk and then tell you to insert another one. It also keeps track of which disks are holding your files.

```
 File  Backup  Restore  Compare  Drawers
┌──────────────────────────────────────────────┐
│ ⌨▶💾    Full Drawer Backup                     │
│ ┌────────────────────────────────────────────┐│
│ │ Backup in progress.                        ││
│ │    18 of 50 files have been backed up.     ││
│ │    0 of 3 backup disks have been completed.││
│ │    Drawer: Startup                         ││
│ │    File:    HyperInstall                   ││
│ │                                            ││
│ │   💾 💾 💾                                  ││
│ │            ▶                               ││
│ │                                            ││
│ │                              [ Cancel ]    ││
│ └────────────────────────────────────────────┘│
└──────────────────────────────────────────────┘
```

You always have a choice of where you want to store your back-up copies. To save old versions of documents, for example, you can make back-up copies onto Macintosh floppy disks, external hard disks, or even the HyperDrive hard disk itself.

*Note: You can make back-up copies of only those drawers that are currently "mounted" (visible on the desktop). If a drawer you want is not mounted when you start the BackUp application, simply mount it using the **Drawers** desk accessory under the **Apple** menu.*

- **restore the back-up copies of your files or drawers onto your HyperDrive** whenever you need them. Usually,

Using the BackUp Application

Restore produces a new file with "(From BackUp)" added to the original name so you'll know the origin of the file. However, you can have files restored to replace existing files by using **Options** from the **File** menu before you restore the files. If you do this, the back-up files will be copied over the originals and you will lose any changes made in the original files since you made the back-up files. Only files copied by the BackUp application can be returned to your HyperDrive by Restore.

The Restore in progress screen keeps you informed of the current status during restores.
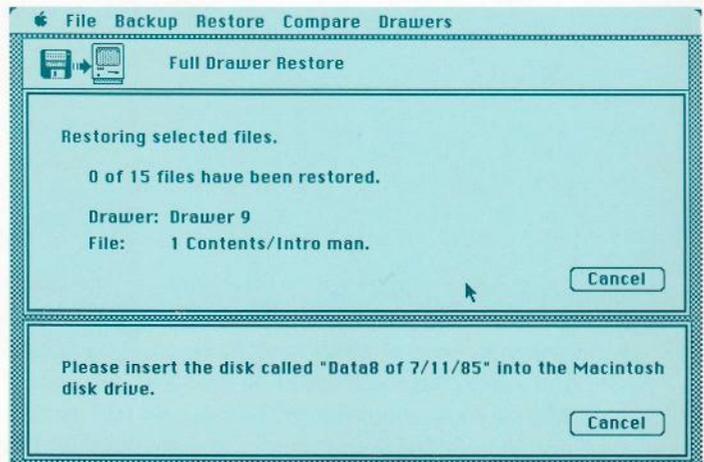
• **compare the files on your HyperDrive with the back-up copies of those files.** This assures that the back-up versions of the files are identical to the HyperDrive versions.

Using the BackUp Application

 File   Backup   Restore   Compare   Drawers

Individual File Compare

Comparing selected files.

1 of 2 files has been compared.

Drawer: Drawer 9
File: Dialog Box Parts
That file is not on the HyperDrive.

[Skip]

[Next]

[Cancel]

○ Stop after each file.
◉ Stop only when files are different.
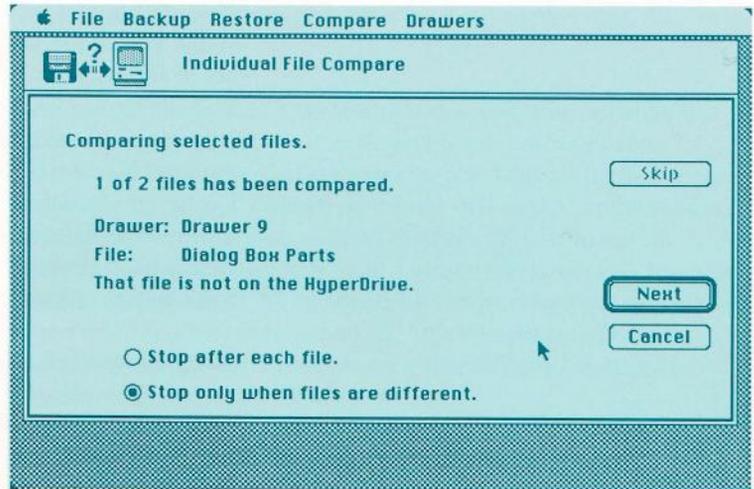
Good Back-up Habits

It's good practice to develop a routine for making back-up copies of your files. This will allow for the efficient safekeeping of your files with the least amount of thought and concern.

Make back-up copies frequently.

ONCE A WEEK

If your files have taken a long time to create or would be difficult or impossible to replace, or if you intend to keep using them in the future, you should probably make back-up copies on a daily basis. If the files are not as important, then making back-ups once a week might be enough.

Use two sets of back-up disks.

When using **Drawer Backup** (see page 61), you may want to use a double back-up system. Make your first drawer back-up onto one set of disks. Then, when you make your second drawer back-up, use a second set of disks. From then on, alternate sets of disks whenever you make a drawer back-up.

Using the BackUp Application

If something happens to the HyperDrive or your floppy disks while you are making back-up copies, you'll have the previous set to fall back on.

You may also want to make an archival set of files to keep in storage. Make a full set of back-up files and write "Archival Copy" on the label. Slide the write-protect button on the back of the disk. The write-protect will allow you to read from the disk, and it prevents anyone from writing over any information that is on it.

Keep complete back-up records.

Always label your disks. As soon as you begin making back-up copies, the number of disks you need will appear on the screen. You can label the disks while the BackUp application is running.

How Back-up Copies are Saved

Back-up copies of your HyperDrive files are saved as a Master file and one or more Data files. A Master file is a "table of contents" for a set of saved files. It keeps track of where the back-up copies are located. If you put back-up copies onto floppy disks, you'll have to use a Master disk plus one or more Data disks.

Together, the Master and Data files are called a set of saved files. Within the set, the Master might be named "Master of 5/8/86," and the Data disk might be named "Data1 of 5/8/86," "Data2 of 5/8/86," etc.

> Note: Even if two back-ups are made on the same day and each is given the same name, the BackUp application will be able to distinguish between members of the two sets.

Three Ways to Back Up

Drawer Backup... In each drawer you select, this command makes back-up copies of all files. If you have a large number of

files in the selected drawers, your back-up copies may fill several disks.

Incremental Backup... This command saves time because it makes back-up copies of only those files in each selected drawer that have been created or modified since the last time you made back-ups. However, it uses disk space inefficiently. Because at least one disk is used every time you make an incremental backup, even if only a single file is backed up, the number of disks in a set of saved files can mount up quickly. When the number approaches 25, you should run **Drawer Backup**. This will use space more efficiently and reduce the number of disks you'll need.

File Backup... This command makes back-up copies of the individual files you choose.

Making Back-up Copies
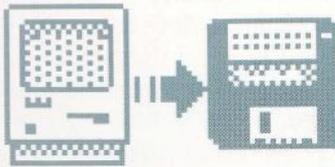
1. *Open the BackUp application.* You'll see an introductory screen that lets you get information on any of the BackUp application operations (the automatic display of this introductory screen can be turned off by using **Options** in the **File** menu).

2. *Pull down the **Backup** menu.* You'll see four choices: **Help Backup**, **Drawer Backup**, **Incremental Backup**, and **File Backup**.
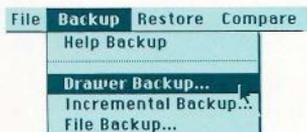
3. *Choose **Drawer Backup**, **Incremental Backup**, or **File Backup**.*

Using the BackUp Application

Select only the drawers you want to backup. Additional drawers can be mounted at this time if necessary.

```
 File  Backup  Restore  Compare  Drawers
┌────────────────────────────────────────────────┐
│ 🖥→💾      Full Drawer Backup                    │
├────────────────────────────────────────────────┤
│                                                 │
│ Please select drawer(s) to backup...            │
│                                                 │
│              ┌─────────────────┐ ▲             │
│              │ Startup          │ ▓             │
│              │ Drawer 5         │ ▓             │
│              │ Drawer 7         │ ▓             │
│              │ Drawer 9         │ ▓             │
│              │                  │ ▓             │
│              │          ▲       │ ▓  ┌────────┐ │
│              │                  │ ▓  │ Backup │ │
│              │                  │ ▓  └────────┘ │
│              │                  │ ▓             │
│              │                  │ ▓  ┌────────┐ │
│              │                  │ ▼  │ Cancel │ │
│              └─────────────────┘     └────────┘ │
│ Use 'Drawers' accessory to mount additional drawers.│
└────────────────────────────────────────────────┘
```
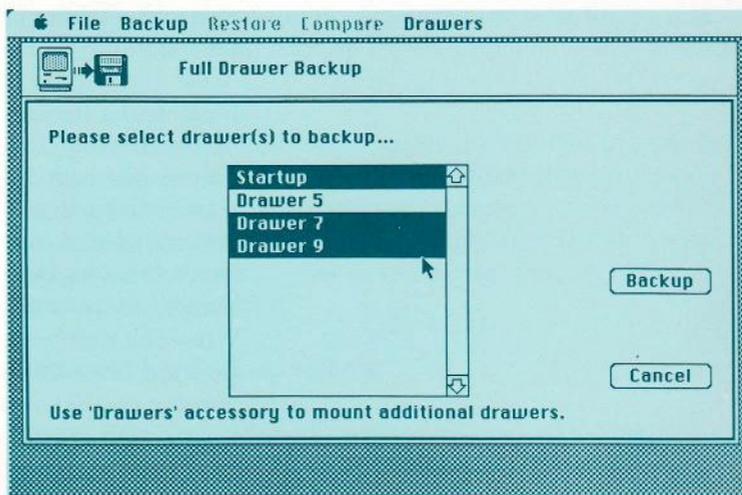
4. *Choose from the scroll box the drawers or files you want to back up.*

    You may choose more than one drawer or file at a time by holding down the Shift key and then clicking additional drawers or files, or you may hold down the mouse button and drag the pointer over the group you wish to back up.

    If you are choosing individual files to back up, you can choose a group from more than one drawer. To switch between drawers, click the **Drawers** button.

5. *Click the* **Backup** *button.*

Using the BackUp Application

Dynamic disk gauge graphically shows progress.

File currently being backed-up.

Drawer currently being backed-up.

Number of disks used and to be used.

Number of files backed-up and to be backed-up.

Status bar reports activity being performed or the name to label the last disk used.

File Backup Restore Compare Drawers

Full Drawer Backup

Backup in progress.

18 of 50 files have been backed up.
0 of 3 backup disks have been completed.
Drawer: Startup
File: HyperInstall
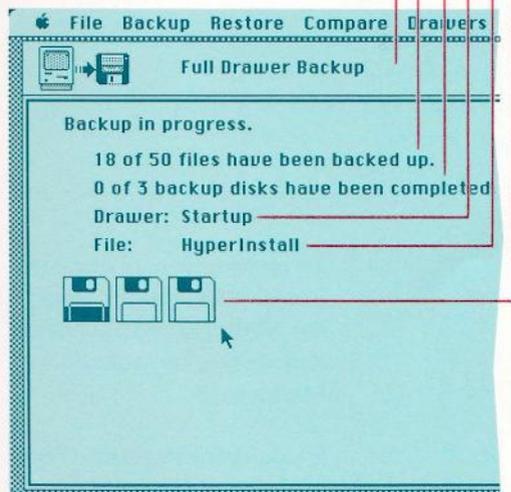
6. For **Drawer Backup** or **File Backup**, you will be asked whether you would like to add to an existing set of back-up files or create a new set. *Choose* **New** *if this is the first time you are using the BackUp application. Choose* **Existing** *if you wish to add additional files to a set of previously backed-up files.*

7. *Choose which drive you would like to make your back-up to: HyperDrive, a Macintosh disk drive, or an external hard disk drive (if one is connected). Then click the* **OK** *button.*

   If you choose the Macintosh disk drive for your back-ups, you will be asked to insert a disk (in either the internal or external drive).

   If you choose HyperDrive or an external hard disk drive, a list of drawers will appear. *Choose the drawer (or volume for external hard disks) you want to store your back-up files in.*

8. "Backup in progress" will show how far along in the back-up procedure you are and when you need to insert more disks.

If you choose **Existing**, the newer versions of files will be copied over the previous versions. The major advantage of adding to an existing set of files is that you will need fewer disks.

The floppy disk you insert should be the Master disk from a previous back-up that you would like to add to, or, if you are starting a new set, insert a blank disk that can be made into a Master disk. Next, insert a blank disk to hold the Data files.

If you have two floppy disk drives, you can insert a second disk before it is needed, during the back-up procedure. Insert a data disk into either drive, wait

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Using the BackUp Application

a few seconds, and insert another disk into the other drive.

9. *Re-insert the Master* when the BackUp application asks for it.

Then "Your backup was successful" will appear.

Restoring Files to Your HyperDrive

You can return your backed-up files to the HyperDrive hard disk by using the Restore menu. Restore gives you two alternatives:

Restore Drawer allows you to restore the entire contents of whole drawers.

Restore Files allows you to restore individual files.

To restore from Back-up copies,

1. *Choose* **Restore Drawers** *or* **Restore Files** *from the* **Restore** *menu.*

2. *Choose the location of the back-up copies: HyperDrive, a Macintosh floppy disk drive, or an external hard disk drive if one is connected. Then click OK.*

3. *Choose your Master file.*

To restore files or drawers from a disk, simply place the Master disk into either disk drive. Then *choose a Master file*.

If you want to restore files or drawers from the

Using the BackUp Application

HyperDrive hard disk or an external hard disk drive, first *choose from the list of drawers, then choose a Master file.*

When restoring individual files, you can select any number of files from more than one drawer. Be sure to hold down the "Shift" key when making multiple selections.

 File Backup Restore Compare

Individual File Restore

Please select file(s) to restore...   Number of Files Selected: 1

```
07/11/85 3 Using HD Man.
07/11/85 5 Wrong/Glossary ...
07/11/85 BackUp chapter
07/11/85 BackUp Document....
07/11/85 BackUp Mini Man. ...
07/11/85 BU Title Page Des.1
07/11/85 DeskTop
07/11/85 Main Manual
07/11/85 PS ß Manual
07/11/85 PS ß Manual 2
```

DOCUMENTA...

[Restore]

[Drawer]

[Cancel]

---

4. *From the scroll box, choose the drawers or files you want to restore.*

You may choose more than one drawer or file at a time by holding down the Shift key and then clicking additional selections, or you may choose a group by holding down the mouse button and dragging the pointer. If you are choosing individual files to restore to your HyperDrive, you can choose a group from more

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Using the BackUp Application

than one drawer. To switch between drawers, click the **Drawers** button.

Status bar indicates activity being performed.

Number of files restored and to be restored.

Drawer currently being restored.

File currently being restored.

Cancel will ask for verification before actually halting the restore.

Disk request window will ask for disks by name as they are needed.

```
 File  Backup  Restore  Compare  Drawers

        Full Drawer Restore

  Restoring selected files.

  0 of 15 files have been restored.

  Drawer:  Drawer 9
  File:      1 Contents/Intro man.
                                    [ Cancel ]

  Please insert the disk called "Data8 of 7/11/85" into the Macintosh
  disk drive.
                                    [ Cancel ]
```
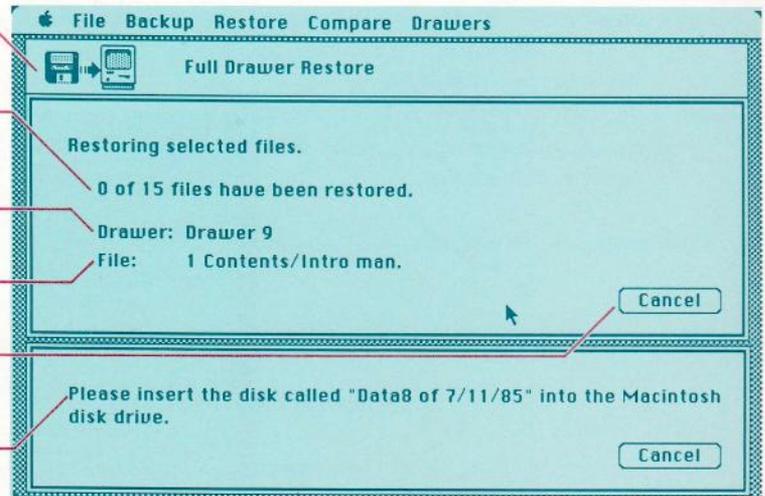
5. *Insert the requested data disk.* If you are restoring from disks, you'll be told which Data disk to insert.

6. *Re-insert the Master disk when requested.* Restore will inform you when it is finished.

Restoring to Floppy Disks

The BackUp application will also restore files to floppy disks. This allows you to recover and use your backed-up files on a standard Macintosh or on a HyperDrive Macintosh if the hard disk drive is no longer functioning.

To restore individual files or drawers to floppy disks, you must be using a regular 512 K Macintosh. If you wish to use your HyperDrive Macintosh as a regular Macintosh, switch the

Using the BackUp Application

machine off and then on again with a disk containing a System file and a Finder file in the floppy-disk drive. When your machine has powered up as a regular 512 K Macintosh,

1. *Insert a disk containing the Back-Up application.*

2. *Open the BackUp application.*

    Two dialog boxes will appear showing your only options: **Print Master**, **Print Journal**, and **Restore**.

Restore	Compare
Help Restore	
Restore Drawers...	
Restore Files... ▶	

3. *Choose* **Restore Drawers** *or* **Restore Files** *from the* **Restore** *menu.*

4. *Insert a Master disk.*

When restoring individual files, you can select any number of files from more than one drawer. Be sure to hold down the "Shift" key when making multiple selections.

🍎 **File** Backup **Restore** Compare

Individual File Restore

Please select file(s) to restore...   Number of Files Selected: 1

07/11/85 3 Using HD Man.
07/11/85 5 Wrong/Glossary ...
07/11/85 BackUp chapter
07/11/85 BackUp Document....
07/11/85 BackUp Mini Man. ...
07/11/85 BU Title Page Des.1
07/11/85 DeskTop
07/11/85 Main Manual
07/11/85 PS ß Manual
07/11/85 PS ß Manual 2

DOCUMENTA...

[Restore]

[Drawer]

[Cancel]
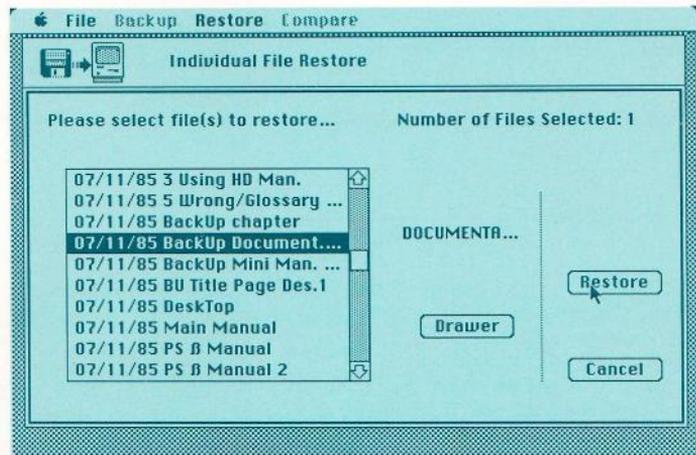
5. *Choose the drawers or files you want to restore. Then click* **Restore**.

The normal Restore window will appear along with a smaller dialog box resembling the "Save As..." box used in all Macintosh applications.

6. *Click the* **Eject** *button to remove the Master disk, and insert the disk you want this file restored to. Click* **Save**, *and insert the requested disk.*

To rename a file you are restoring, simply type in the new name and click **Save**.

You may skip restoring a file by clicking the **Cancel** button in the smaller dialog box. The next selected file will then be highlighted.

Name of the file.

The name that will be given to the restored file.

The disk to which the file will be saved.

When restoring to floppy disks, the BackUp application will ask which disk to save the restored file to, and what name you want to give the new file. This will be asked for each and every file restored.

 File Backup **Restore** Compare

Individual File Restore

Restoring selected files.

0 of 1 file have been restored.

Drawer: (floppy)

File:

Cancel

Restore "BackUp

Master of ...

BackUp Document. Laser

Eject

Save   Cancel   Drive
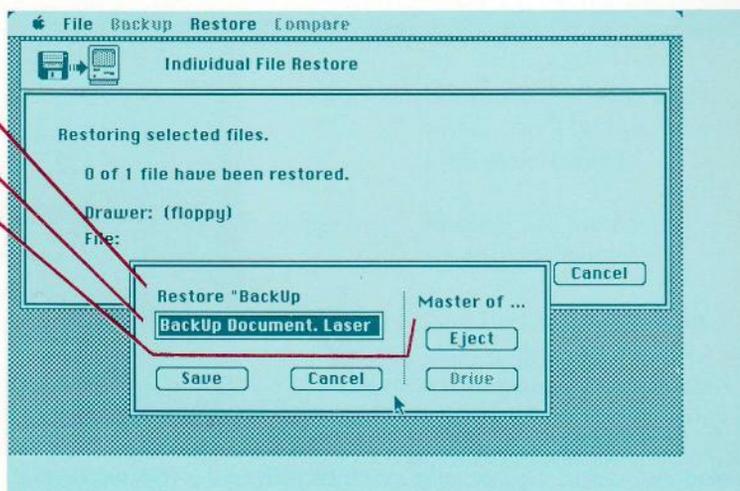
To stop the Restore process, you must skip (by canceling) through the remainder of the unrestored files.

Comparing with Back-up Copies

The Compare feature lets you find out if a file on the hard disk matches a backed-up file. You can use it to find out if you have already made back-up copies of the files on your hard disk. Compare gives you two alternatives:

Compare Drawers allows you to compare all the files in specific drawers with the back-up copies of those files.

Compare Files allows you to compare individual files with the back-up copies of those files.

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1. *Choose* **Compare Drawers** *or* **Compare Files** *from the* **Compare** *menu.*

2. You will be asked the question "Which drive contains the back-up files you wish to compare with your HyperDrive files?" *Choose Macintosh disk drive, HyperDrive, or External disk drive (if one is connected). Then click* **OK**.

3. *To compare your HyperDrive files with files stored on disks, place the Master disk into either disk drive. Then choose a Master file.*

   If you want to compare your

Using the BackUp Application

back-up files with original files also on HyperDrive or on an external hard disk drive, *choose from the list of drawers or volumes. Then choose a Master file.*

When choosing files to compare, you can select files from more than one drawer at a time.

```
🍎  File  Backup  Restore  Compare  Drawers
┌─────────────────────────────────────────────────────┐
│  ▣⬅?➡▣    Individual File Compare                    │
│                                                       │
│  Please select file(s) to compare...  Number of Files Selected: 0 │
│                                                       │
│  ┌────────────────────────────────┐⬆                  │
│  │ 07/11/85 Backup Icons A        │█                 │
│  │ 07/11/85 BackUp Mini Man. ...  │█                 │
│  │ 07/11/85 Da Install            │  Mood Paint...    │
│  │ 07/11/85 DeskTop               │                   │
│  │ 07/11/85 Dialog Box Parts      │        ┌─────────┐│
│  │ 07/11/85 Disk Cache Dbox1      │        │ Compare ││
│  │ 07/11/85 Finance Scrapbook...  │        └─────────┘│
│  │ 07/11/85 funky mac             │  ┌────────┐       │
│  │ 07/11/85 Geo File Serve 2      │  │ Drawer │       │
│  │ 07/11/85 Geo File Server      ⬇│  └────────┘       │
│  └────────────────────────────────┘        ┌─────────┐│
│                                             │ Cancel  ││
│                                             └─────────┘│
└─────────────────────────────────────────────────────┘
```
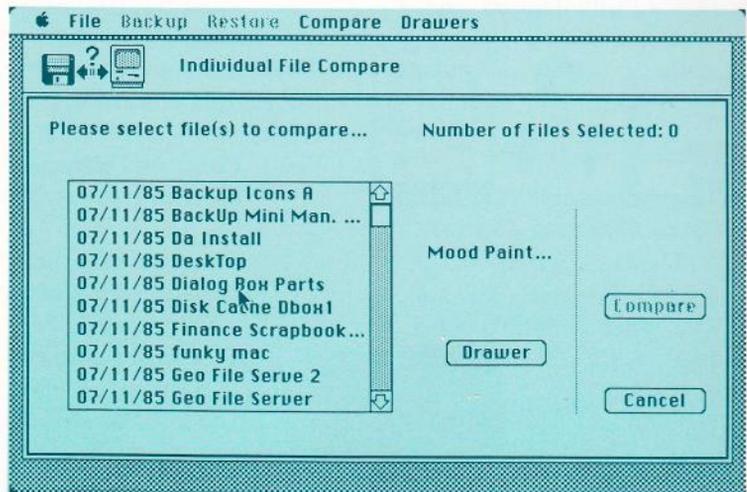
4. *From the scroll box, choose the drawers or files you want to compare.*

You may choose more than one drawer or file at a time by holding down the Shift key and then clicking additional selections, or you may choose a group by holding down the mouse button and dragging the pointer.

5. *If you are comparing your Hyper-Drive files against files stored on*

Using the BackUp Application

disks, insert the requested Data disk.

6. *Click* **Compare**.

You have the option of stopping after each file is compared or stopping only if the files are not identical.

Status bar.

Activity being performed.

Number of files compared and to be compared.

The "Skip" button allows you to skip over a file you do not want compared to the hard disk.

Drawer currently be compared.

File currently be compared.

Result of the current compare.

The "Next" button will begin comparing the next file. You can use the "Return" key instead of the mouse.

Controls the progression of the current compare.

Cancel will ask for verification before actually halting the compare.

**   File   Backup   Restore   Compare   Drawers**

Individual File Compare

Comparing selected files.

1 of 2 files has been compared.

Drawer: Drawer 9
File: Dialog Box Parts
That file is not on the HyperDrive.

○ **Stop after each file.**
◉ **Stop only when files are different.**

[Skip]

[Next]
[Cancel]
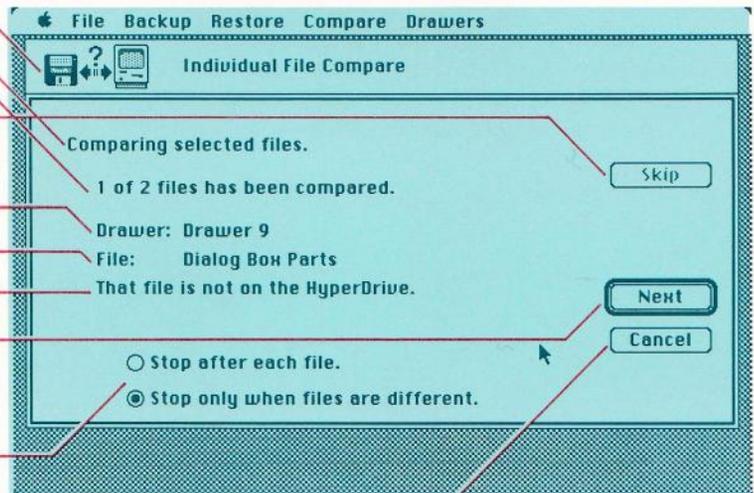
7. *When you are finished, click* **Done**.

Learning About Your Back-up Copies
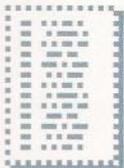
Print Master and **Print Journal** are available in the **File** menu. They provide a written record of your use of the BackUp application. Print Master lists the contents of the Master file, naming each file that has a back-up copy and the drawer that it came from. Print Journal lists, by date, every Backup and Restore operation performed with this particular set of saved files. Print Master and Print Journal allow you to view your

Using the BackUp Application

back-up activities on the Macintosh screen, print them on an Imagewriter, or store them in a Macintosh text file.

To print or view the contents of the Master file and the Journal,

```
 File  Backup  Restore
Help
Glossary

Print Master...   ⌘M
Print Journal...  ⌘J

Options...        ⌘O

Quit              ⌘Q
```

1. *While in the BackUp application, pull down the* **File** *menu and choose* **Print Master** *or* **Print Journal**.

2. *Choose what you want to do with the information: print it on a printer, display it on the screen, or store it as a Macintosh text file. Then click* **OK**.

3. *Indicate where your Master file is located: on a Macintosh floppy disk drive, HyperDrive, or an external hard disk (if one is connected). Then click* **OK**.

The "Continue" button will advance the list to the next screen.

Date and file name.

Drawer name.

Status bar.

```
 File  Backup  Restore  Compare
              Print Master...
Contents of Master


From Drawer "Startup"

07/11/85 --- ...job*27
07/11/85 --- Clipboard File
07/11/85 --- Copy of System
07/11/85 --- DeskTop
07/11/85 --- Finder
07/11/85 --- HyperInstall V1.26
07/11/85 --- ImageWriter
07/11/85 --- Manager 5/29

                         [ Continue ]
```

4. *For information that is on disks, place the Master disk into either disk drive. Then choose a Master file.*

   If you want information that is on the HyperDrive or an external hard disk drive, choose from the list of volumes or drawers. Then choose a Master file.

The Master or the Journal will be sent to the printer, screen, or file.

Using the BackUp Application

Options In the BackUp Application

The BackUp application has three settings that you can change to suit your own preferences by selecting **Options** from the **File** menu. You will be asked three questions:

- When restoring a file, should the BackUp application replace a file of the same name?

```
┌─────────────────────────────┐
│ File  Backup  Restore       │
│ Help                        │
│ Glossary                    │
│ ─────────────────────────   │
│ Print Master...    ⌘M       │
│ Print Journal...   ⌘J       │
│ ─────────────────────────   │
│ Options...         ⌘O       │
│ ─────────────────────────   │
│ Quit               ⌘Q       │
└─────────────────────────────┘
```

```
 File  Backup  Restore  Compare
┌──────────────────────────────────────────────────────────┐
│          Options                                         │
│                                                          │
│ When restoring a file, should BackUp replace a file of   │
│ the same name?                                           │
│   ○ Yes  ⦿ No    (Invisible files are always replaced)   │
│                                                          │
│ Should the Introduction be shown at the start of this    │
│ application?                                             │
│   ⦿ Yes  ○ No                                            │
│                                                          │
│ ⚠  Should the BackUp application warn you before erasing │
│    any disks that contain useful files? (Only experts    │
│    should choose 'No'!)                                  │
│    ⦿ Yes  ○ No                                           │
│                          ▸   ( OK )   ( Cancel )         │
└──────────────────────────────────────────────────────────┘
```

Factory settings of the BackUp Options. The first and last selections will automatically return to these settings each time you run the BackUp application.

Click **Yes** *if you want the restored file to write over a file with the same name.* (You run the risk of replacing an older version of a file with an older one.)

Click **No** *if you want the BackUp application to produce a new file with the original name and "(From BackUp)" so you'll know the origin of the file.*

- Should the introductory screen be shown at the start of this application?

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Using the BackUp Application

*Click **Yes** if you want the introductory screen of information to appear each time you run the BackUp application.*

*Click **No** if you do not want the introductory screen to appear.*

- Should the BackUp application warn you before erasing any disk that contains useful files?

*Click **Yes** if you want the BackUp application to warn you if your insert a Data disk that contains useful information.* This is the safest option.

*Click **No** if you do not want the BackUp application to warn you before writing over Data disk.* For safety, this Option will reset to Yes each time you run the BackUp application.

Using the Security Application

Just as you can "lock" drawers by assigning passwords to them, you can lock individual files by running the Security application. However, the Security application goes one step beyond simply locking the file. It mathematically encrypts, or scrambles, the data in the file to make it unreadable to anyone who tries to read the file. Because of the mathematical nature of the coding, this encrypted version of the file cannot be deciphered using statistical alphabet occurrences or other common techniques. The data is unscrambled only when you decrypt the file.

The icon for the Security application is a security guard. It should be in the Startup drawer. If it is not there, you can copy it to the Startup drawer from the HyperDrive System Software disk. Once you have begun to organize your files and are ready to place them in different drawers, you may want to move or copy the Security application to drawers containing other often-used applications.

Using the Security Application

To encrypt a file,

1. *Open the Security application by double-clicking it.*
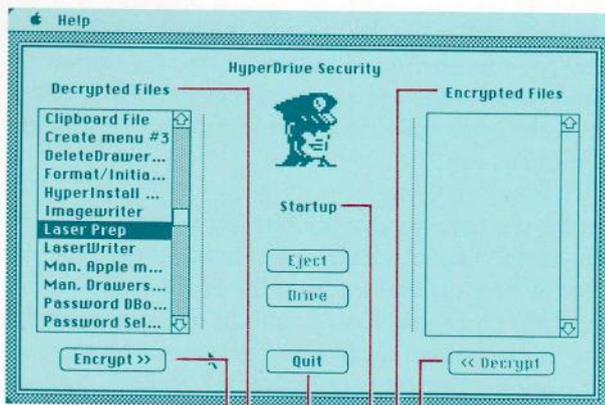
You'll see a window with two scroll boxes. The left scroll box shows all the files in the last drawer you used that are currently decrypted—that is, unlocked and readable. The right scroll box shows all files in that drawer that are currently encrypted and scrambled so that they cannot be used or understood by anyone without the proper key. *To select another drawer, click* **Drive**.

HyperDrive Security

Decrypted Files / Encrypted Files

Begins encryption of selected files.

List of decrypted files in this drawer. You can select more than one file from a single drawer.

You can quit at any time, including during an encryption, without damaging a file.

Name of the drawer currently being viewed. You can select files from only one drawer at a time.

List of encrypted files in this drawer.

Begins decryption of selected files.

2. *Choose the file(s) you wish to encrypt from the list of decrypted files.*

You may encrypt any number of files at the same time. To choose a group of files, hold the button down on the first file and drag the pointer to the last file to be locked, or press the Shift key and click each file you want to encrypt.

To choose from other drawers, click **Drive**. Each time you do, the HyperDrive will look for the next mounted drawer and show you which files in that drawer are encrypted and which are decrypted. You can use

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the Drawers desk accessory to mount additional drawers.

3. *Click* **Encrypt**.

4. *Type in your key.*

When encrypting more than one file at a time, you may use the same key on more than one file. *When you choose the next file to be encrypted, just choose* **Last Key**.

Warning: You can't unlock an encrypted file without its key, typed exactly as originally entered. The encryption methods used by General Computer are secure enough that even General Computer cannot decrypt a file without its key. Therefore, you may want to use only a few keys so that you can remember them more easily. In addition, you may want to use longer keys for extra security.

The last key command will re-use the last key you entered.

5. *Retype the key.*

As a precautionary measure, the Security application will ask you to type in your key again. Be sure that you retype your key

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Using the Security Application
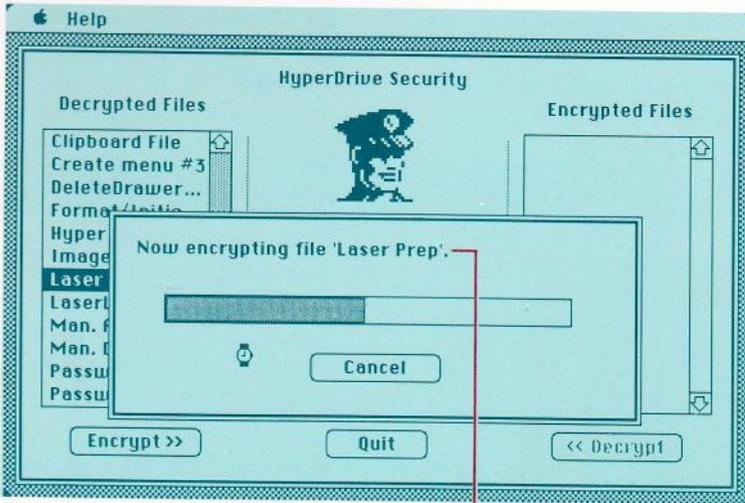
An encryption and decryption gauge shows the progress. You can cancel at any time before the process is complete and the file will not be processed or damaged.

The name of the file currently being encrypted or decrypted.

exactly the same way you did the first time. If the keys you typed do not match exactly, including upper and lower case letters, you will be asked to try again. (For example, if you type in "HyperDrive" as your key, and then type "hyperdrive" or "Hyper Drive" to confirm, you will be asked to type your key again.)

When you have successfully typed your key in twice, a dialog box with a encryption gauge will chart the encryption progress. The file(s) you have just encrypted will then move from the list of decrypted files to the list of encrypted files. When you return to the desktop, all encrypted files will be shown with padlock icons.

To decrypt a file, use the Finder desktop or the Security application.

Using the Security Application
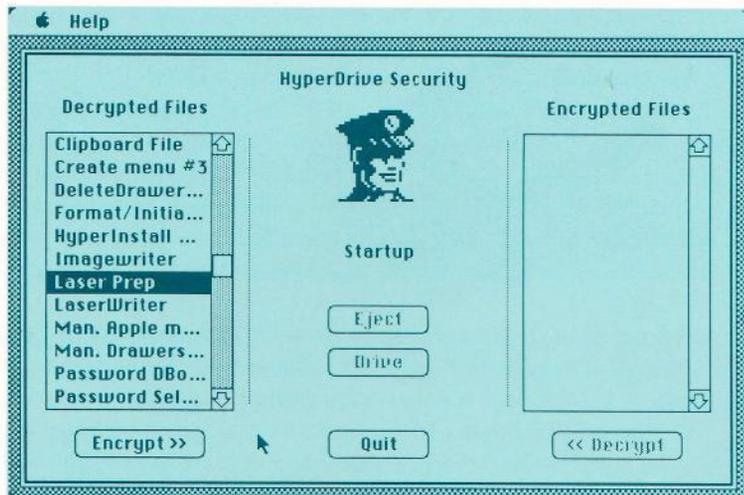
Decrypting is done from this Security screen.

If the Finder desktop is visible, *select and open the file you want to decrypt.* This will automatically start the Security application, which will ask you to type in the key to that file.

If you are using the Security application alone, *select the file(s) you wish to decrypt from the list of encrypted files.* You will be asked to type in the key you used to encrypt each file.

Starting Up from a Disk
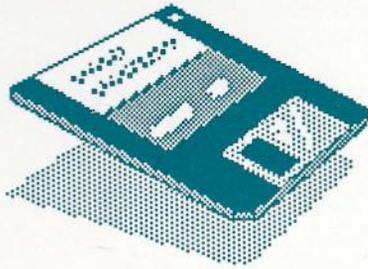
Should it ever become necessary, you can start up your HyperDrive directly from the System Software disk.

1. *Insert the HyperDrive System Software disk.*

2. *Open the disk icon.*

3. *Open the* **Manager** *application.*

4. *Select* **"Startup"** *from the* **Drawers** *Menu.*

5. *Pull down the* **Create** *Menu and select* **"Quit."**

6. *Open the* **Startup** *Drawer.*

You should make a duplicate copy of your HyperDrive System disk for safekeeping.

Optimizing the Hard Disk

Why Drawers Need Optimizing

Every time a file is thrown away or deleted, a small amount of unused disk space remains in the drawer. After many files (or a few large files) have been deleted, a significant amount of unused space will be left in a drawer. If that space occurs at the end of the drawer's memory allocation, and is at least 256K in size, it is returned to the common pool of free disk space by the Manager. That drawer will reuse the space, but other drawers cannot use the unused space. In order to recover the unused space, the drawer must be optimized.

Partial vs. Full Optmization

Each time you run the Manager application, it performs a basic optimization of the mounted drawers, including the default drawer. This partial optimization is good for recovering of the unused space that is at the end of the memory allocation. It does not however, recover unused space that occurs throughout the drawers' memory allocations, nor does it recover space from unmounted drawers. To perform optimization of a drawer, it must first be mounted.

Optimizing the Default Drawer

The default drawer cannot be optimized. The optimizing routines cannot optimize the drawer containing itself and the currently running system. To optimize a default drawer, it is necessary to change which drawer is the default drawer (see "Changing the Default Drawer", page 25).

Optimizing the Hard Disk

1. *Run the Manager.*

   The drawer containing the Manager will be the Default drawer.

2. *Mount all the drawers needing optimization.*

3. *Select **Optimize Disk...** from the **Create** menu.*

   When complete, a dialog box will report how many 256K blocks (if any) were recovered.

Reference

The Reference section is a quick guide to most of the procedures you may use in the course of working with your HyperDrive. You should use this section to refresh your memory on specific topics once you are familiar with the Macintosh and the HyperDrive.

Creating Drawers

To create a new drawer, use the Manager application. Then copy into the drawer the files you want to store there. To enable the Macintosh Finder to run fast, create a new drawer whenever the number of files in a drawer approaches 80.

Create | Test/Init
Help

Create Drawer
Delete Drawer

Passwords
Preferences

Quit   ⌘Q

1. *Open the Manager application.*

2. *Select* **Create Drawer** *from the* **Create** *Menu.*

3. *Type the name of the new drawer; then click* **OK**.

If you do not type in a name, the name that appears in the box will be assigned to the newly created drawer.

Please name new drawer...

[Drawer 12]   OK
              [Cancel]

Enter the name of your new drawer here. You can also re-name the drawer on the Finder desktop.

4. *Type in a password if you want to restrict access to the new drawer.*

Do not forget your password. You'll need it to mount this drawer.

If you don't want a password for this drawer, leave the password blank.

Do you want this drawer
protected by a password?
(If not leave blank.)
New password...

[   ]   OK
              [Cancel]

Enter a password if you want this drawer protected.

5. *Click* **OK**.

6. *Select* **Quit** *from the* **Create** *menu.*

The new drawer is created, mounted and ready to receive any files you want to store in it.

Drawers

A Note on the HyperInstall Application

If you place a system file in your new drawer, make sure that the system file will work with the HyperDrive. If the system file came from the Startup drawer, it is already usable with the HyperDrive. If you copied the system file from any floppy disk other than a HyperDrive System Software disk, it's a good idea to run the HyperInstall application in this drawer (see "Using HyperInstall" page 51).

Deleting Drawers

If you decide you no longer need a particular drawer, you can delete it from the hard disk. **WARNING:** All the files in the drawer will be deleted, so for safety, back up the drawer before you delete it. There will almost always be some invisible (and therefore uncopyable) files in a drawer. These are special application and system files which do not need to be backed up.

```
     Create  Test/Initialize  Drawers
     Help

     Create Drawer
     Delete Drawer

     Passwords
     Preferences

     Quit        ⌘Q
```
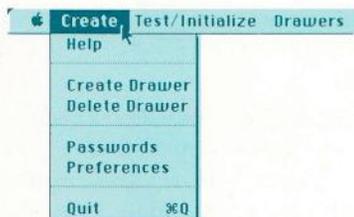
1. *Back up to a floppy disk, or copy to another drawer, all the files you want to save from this drawer.*

2. *Open the Manager application.*

3. *Select* **Delete Drawer** *from the* **Create** *Menu.*

    You'll see a list of all the drawers in your Hyper-Drive.

4. *Select the drawer you want to delete.*

    If the drawer has a password, you will be asked to supply the password.

5. *Click* **Delete**.

```
Are you sure you want to completely
erase the contents of "Drawer 5" by
deleting it?

"Drawer 5" currently contains 0 files.
(Some files may be invisible.)

[ OK ]    (Cancel)    [ Help ]
```

Drawers

6. *Click* **OK**.

As an extra security measure, you'll be asked if you are sure you want to do this.

Mounting and Unmounting Drawers

When you create a new drawer, it is automatically mounted. You can unmount drawers to reduce desktop clutter and to speed up the Finder.

You can mount and unmount drawers with the Drawers desk accessory or with the Manager application.

Mounting and Unmounting Drawers with the Drawers Desk Accessory

Mounting and unmounting drawers with the Drawers desk accessory allows you to change the status of a drawer without exiting from the application you're using. (You may not unmount a drawer while you are using any files contained within it, however.)

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

A **Drawers** menu will then appear as the very last item on the right side of the menu bar.

2. *From the* **Drawers** *menu, choose the drawers you wish to mount or unmount.*

You will be asked to type a password if the drawer has one; otherwise the drawer will be mounted or unmounted.

Mounting and Unmounting Drawers with the Manager Application

1. *Open the Manager application.*

Drawers

```
ize  Drawers
     ✓Startup  ▸
     Drawer 2
     Drawer 3
     Drawer 4
```
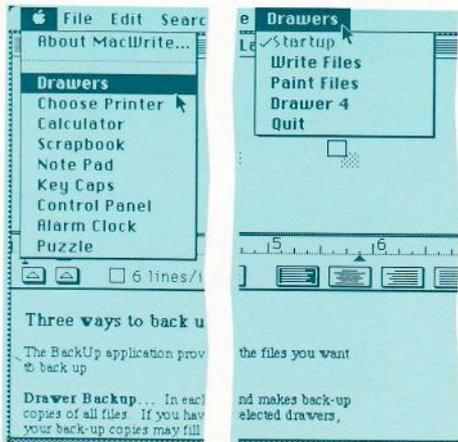
2. *Choose the drawers you wish to mount or unmount from the* **Drawers** *menu.*

You will be asked to type a password if the drawer has one; otherwise the drawer will be mounted or un-mounted.

Using HyperInstall

HyperInstall is a special application that installs resources such as the Drawers desk accessory into any system file so that it will work with the HyperDrive. You'll find the HyperInstall application icon in the Startup drawer. HyperInstall has already been run on the System file in the Startup drawer.

If you copy a System file from one HyperDrive drawer to another, you don't have to run HyperInstall if it has already been run on the System file. For more information on when you must run the HyperInstall application, see "Using HyperInstall" in the "Using HyperDrive section," page 51.

```
Installing HyperDrive utilities
Please wait...
```

1. *Copy the HyperInstall application into the drawer or floppy disk containing the new or altered system file.*

2. *Double-click the HyperInstall icon.*

You'll see a message indicating that the installation is taking place.

Installing and Removing the Print Spooler Application

The Print Spooler is an application that allows you to print documents while performing other tasks. When you request that a document be printed, the "image of the document" is written, or "spooled," from RAM to the hard disk so that you can continue to use the Macintosh for other tasks. When the printer is available, the image on the disk is automatically sent to the printer.

Drawers

To Install the Print Spooler application,

1. *Copy Spooler Install from the Hyperdrive System Software disk onto the Startup drawer of your HyperDrive.*

   If you have system files in more than one drawer, the Print Spooler application needs to be installed only once, in the Startup drawer.

2. *Open the Spooler Install application.*

   A dialog box will appear telling you the version number and amount of free space left on your HyperDrive.

3. *Select the port where your printer is connected.*

4. *Click the* **Install** *button.*

For selecting the port where the printer is connected, and installing the Print Spooler to the selected port.


```
          Print Spooler Installer                # -0.45
          This application will install the Print Spooler onto
          your HyperDrive.  Spooling will take effect the
          next time you power on the HyperDrive.


    2048K Available for spooling
                                          [ Install ]   [ Remove ]

    Printer connected to:
      ○  📞    ◉  🖨       ▸              [ Cancel ]
```
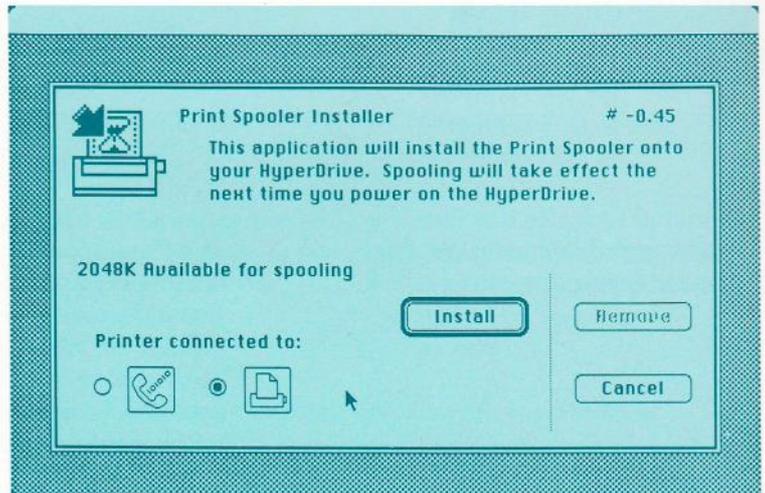
5. *After the Finder desktop reap-
pears, switch your HyperDrive
Macintosh off and then on again.*

If you wish to change the serial port where the printer is
connected, simply rerun the Spooler Install program and
reinstall the Print Spooler application indicating the new serial
port. Make sure that you also respecify the port using the
Choose Printer desk accessory.

To remove the Print Spooler,

1. *Open the Spooler Install applica-
tion from the Startup drawer of
your Hyperdrive.*

2. *Click the **Remove** button.*

*For selecting the port from where
the Print Spooler should be removed,
and for removing the Print Spooler
from the selected port.*

Print Spooler Installer   # -0.45

This application will install the Print Spooler onto
your HyperDrive. Spooling will take effect the
next time you power on the HyperDrive.

2048K Available for spooling

Printer connected to:

Install   Remove

Cancel

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Drawers

3. *After the Finder desktop reappears, switch your HyperDrive Macintosh off and then on again.*
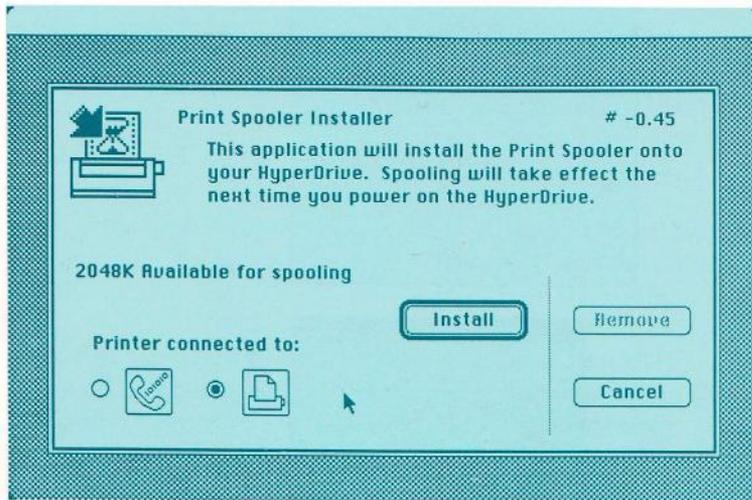
Using the System Password

HyperDrive comes with the system password "system password." You will want to change this password soon after you begin using your new HyperDrive.

1. *Open the Manager application.*

Create Test/Init
Help
Create Drawer
Delete Drawer
Passwords
Preferences
Quit ⌘Q

2. *Choose* **Passwords** *from the* **Create** *menu.*

The system password ("SYSTEM") is the last selection in the list that appears.

3. *Select* **SYSTEM**. *Then click* **Change**.

Change password for which drawer?

| Startup |
| Write Files |
| Paint Files |
| Drawer 4 |
| SYSTEM |

[Change]
[Cancel]

4. *Enter your old system password in the top box.*

If you are creating a system password, *enter the words "system password."*

5. *Enter your new system password in the bottom box and click* **OK**.

If you do not wish to have a system password, simply leave this box blank. (Doing so disables all passwords.)

Change Password:

Enter old password:
[Old password]

... then enter new password:
[New password]

[Cancel] [OK]
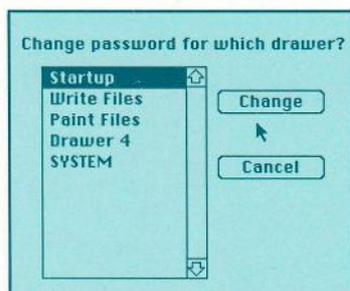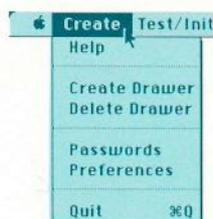
Drawers

Using Drawer Passwords
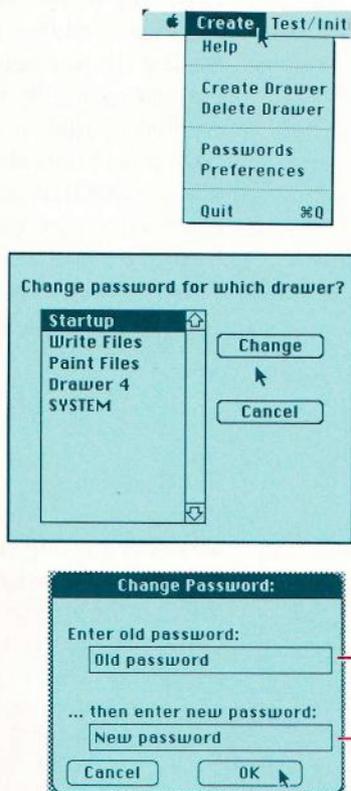
With each drawer you create, you have the option of locking that drawer by assigning a password to it. You can also add a password to, or change a password on, an existing drawer.

Create ▸ Test/Init
Help

Create Drawer
Delete Drawer

Passwords
Preferences

Quit ⌘Q

1. *Open the Manager application.*

2. *Select* **Passwords** *from the* **Create** *menu.*

Change password for which drawer?

Startup
Write Files
Paint Files
Drawer 4
SYSTEM

Change

Cancel

3. *Choose the name of the drawer whose password you want to create or change. Then click* **Change**.

4. To change an existing password, *type the original password in the top box.*

Change Password:

Enter old password:
Old password

... then enter new password:
New password

Cancel   OK

If you are creating a password for this drawer, *leave the box blank.*

You can use upper and lower case letters interchangeably. HyperDrive will check to make sure the old password is valid.

5. *Type the name of the new password in the bottom box and click* **OK**.

If you do not want this drawer locked with a password, *leave this box blank.*

Encrypting Files

Whenever you want to make certain that the information contained in a particular file is secure, use the Security application to encrypt the file. Encryption scrambles the information so that unauthorized users cannot read it or even open the file.
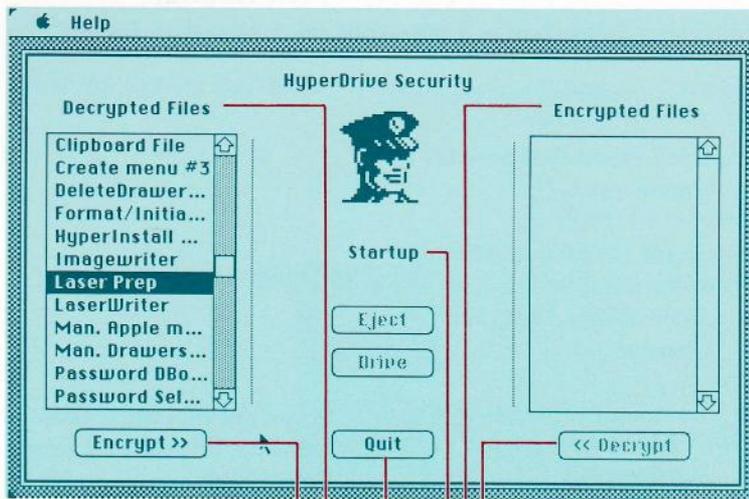
Drawers

1. *Open the Security application.*

You'll see a window with two scroll boxes. The left box shows all the files in the last drawer you used that are currently decrypted (readable). The right box shows all files in that drawer that are currently encrypted (scrambled). To select a different drawer, *click* **Drive**.

Begins encryption of selected files.

List of decrypted files in this drawer. You can select more than one file from a single drawer.

You can quit at any time, including during an encryption, without damaging a file.

Name of the drawer currently being viewed. You can select files from only one drawer at a time.

List of encrypted files in this drawer.

Begins decryption of selected files.

2. *Choose the files you wish to encrypt from the list of decrypted files. Then click* **Encrypt**.

To unlock files, select the files you wish to decrypted from the list of encrypted files, then click **Decrypt**.

To select a group of files, hold the button down on the first file and drag the pointer to the last file to be locked; or press the Shift key and click each file you want to encrypt.

To select from other drawers, click **Drive**. Each time you do, you'll see a listing of encrypted and decrypted files for the next mounted drawer.

3. *Type in your key.*

You may use the same key to lock more than one file. When you choose the next
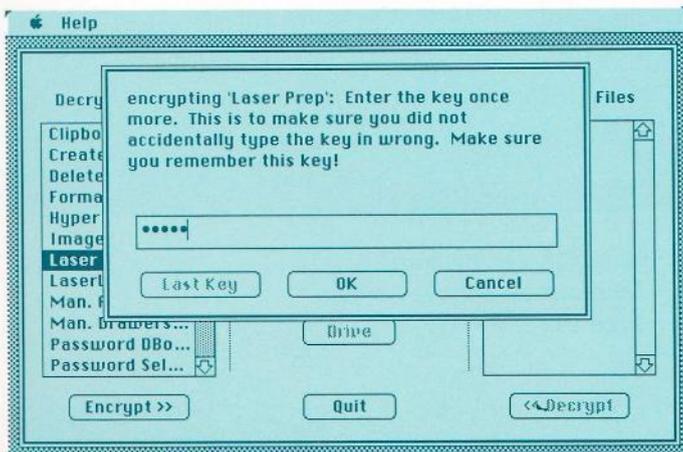
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file to be encrypted, just *choose* **Last Key**.

Warning: You can't unlock an encrypted file without its key, typed exactly as originally entered. A system password cannot override encryption, and even General Computer cannot decrypt a file without its key. Therefore, you may want to use only a few keys so that you can remember them more easily. In addition, you may want to use longer keys for extra security.

As a precautionary measure, the Security application will ask you to type in your key again. If the keys you typed do not match exactly, including upper and lower case letters, you will be asked to try again.

4. *Retype the key.*

Help

encrypting 'Laser Prep': Enter the key once
more. This is to make sure you did not
accidentally type the key in wrong. Make sure
you remember this key!

Last Key   OK   Cancel

Encrypt >>   Quit   <<Decrypt

BackUp

Backing Up Your Files

*B*ack up your files regularly, so you'll have spare copies if your data is accidentally erased or there is damage to your HyperDrive Macintosh. To make back-up copies of your HyperDrive files, use the BackUp application. (If the BackUp application is not in the Startup drawer, copy it there from the HyperDrive System Software II disk.)

1. *Open the BackUp application.*

2. *If an introductory Help screen is displayed, click* **Continue**.
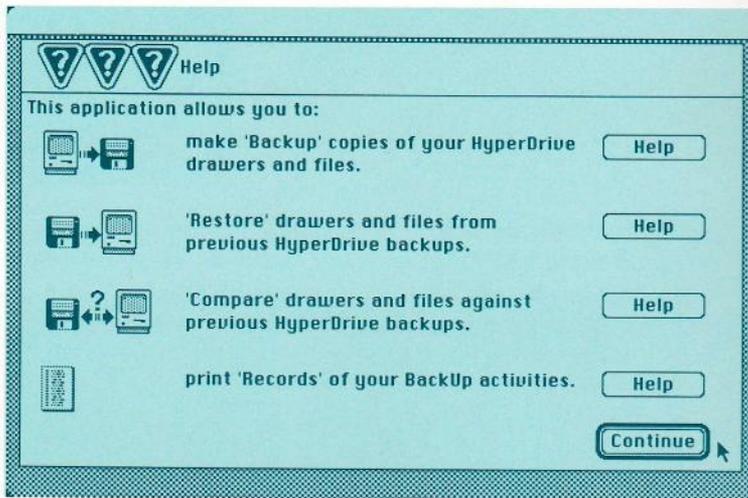
3. *Select* **Drawer Backup**, **Incremental Backup**, *or* **File Backup**.

4. *Select from the scroll box the drawers or files you want to back up.*

To select more than one at a time, hold down the Shift key and click additional drawers or files, or hold down the mouse button and drag the pointer over the group you wish to back up.

🍎 File Backup Restore Compare Drawers

Full Drawer Backup

Please select drawer(s) to backup...

Startup
Drawer 5
Drawer 7
Drawer 9

Backup

Cancel

Use 'Drawers' accessory to mount additional drawers.

If you are choosing files, the name of the drawer is at the right. To look through additional drawers, click **Drawer**. You may select files from several different drawers at once.

5. *Click **Backup**.*

You will be asked the question "Would you like to add to an existing set of back-up files or create a new set?"

6. *Click **New** if this is the first time you are using the BackUp application. Click **Existing** if you want the newer versions of files to be added to a previous set.*

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BackUp

7. *Choose where you want to keep your backups: on the HyperDrive, a Macintosh disk drive, or an external hard disk drive if one is connected. Then click* **OK**.

   If you choose the Macintosh disk drive for your back-ups, insert a floppy disk when requested.

   If you choose the HyperDrive or an external hard disk drive, select the drawer you want to store your back-up files in from the list that appears.

8. "Backup in progress" will indicate that the backup is proceeding. *Insert additional disks as requested and label each according to the screen messages.*

The floppy disk you insert should be the Master disk from a previous back-up that you would like to add to, or, if you are starting a new set, a blank floppy disk that will be made into a Master disk.

Status bar reports activity being performed or the name to label the last disk used.

Number of files backed-up and to be backed-up.

Number of disks used and to be used.

Drawer currently being backed-up.

File currently being backed-up.

Dynamic disk gauge graphically shows progress.

Cancel will ask for verification before actually stopping the backup.
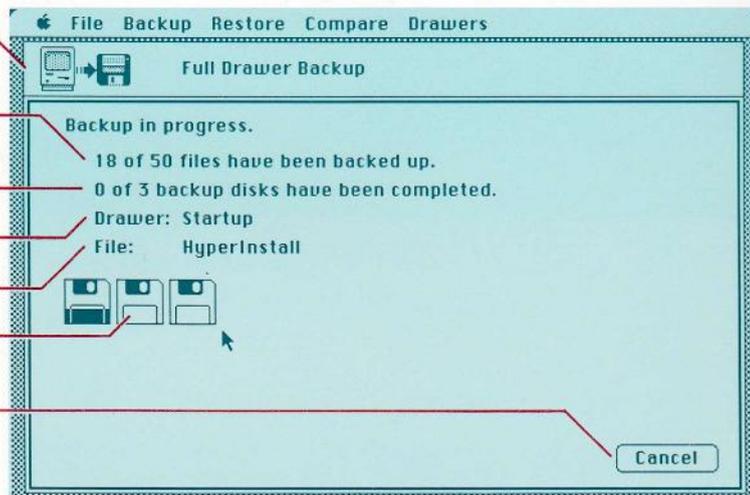
 File   Backup   Restore   Compare   Drawers

Full Drawer Backup

Backup in progress.

    18 of 50 files have been backed up.

    0 of 3 backup disks have been completed.

Drawer: Startup

File: HyperInstall

Cancel

REFERENCE

9. *Reinsert the Master when the BackUp application asks for it.*

"Your backup was successful" will appear.

Restoring Files to Your Hard Disk

To return your backed-up documents to the HyperDrive hard disk, use the **Restore** menu in the BackUp application. Use **Restore Drawers** to restore the entire backed-up contents of whole drawers (including folders). Depending on how the options are set in the BackUp application, the restored files will either be renamed or will replace existing files with the older version. Use **Restore Files** to restore individual files.

1. *Choose* **Restore Drawers** *or* **Restore Files** *from the* **Restore** *menu.*

2. *Choose the location of the back-up copies: HyperDrive, a Macintosh disk drive, or an external hard disk drive. Then click* **OK**.

3. *Select your Master file.*

To restore from a floppy disk, place the Master disk in the floppy disk drive. To restore from the Hyper-Drive or an external hard disk drive, first choose from the list of drawers and then choose a Master file.

BackUp

4. *From the scroll box, select the drawers or files you want to restore.*

To select more than one drawer or file at a time, hold down the Shift key and then click additional selections, or hold down the button and drag the pointer down the list.

Status bar indicates activity being performed.

Number of files restored and to be restored.

Drawer currently being restored.

File currently being restored.

Cancel will ask for verification before actually halting the restore.

Disk request window will ask for disks by name as they are needed.

```
 File  Backup  Restore  Compare  Drawers

        Full Drawer Restore

    Restoring selected files.

     0 of 15 files have been restored.

    Drawer: Drawer 9
    File:    1 Contents/Intro man.

                                    [ Cancel ]

    Please insert the disk called "Data8 of 7/11/85" into the Macintosh
    disk drive.
                                    [ Cancel ]
```
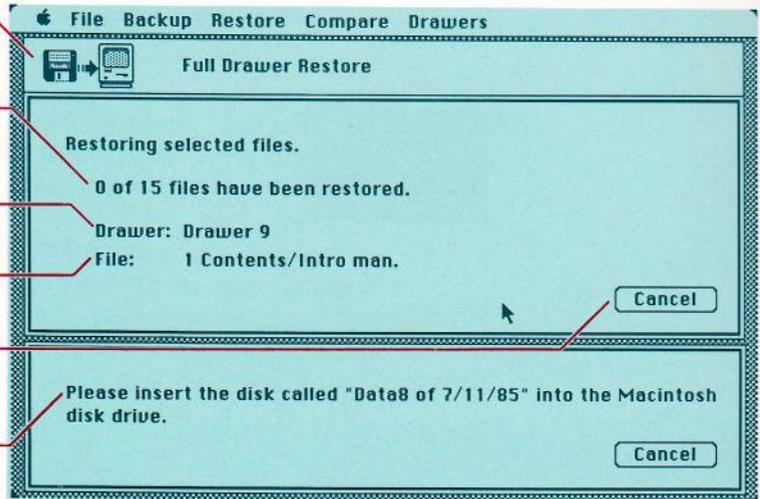
5. *If you are restoring from disks, insert the requested data disks. Then reinsert the Master.*

Restoring Files to Floppy Disks

The BackUp application will also restore files to floppy disks, allowing you to recover and use your backed-up files on a standard Macintosh or on a HyperDrive Macintosh if the hard disk drive is no longer functioning.

BackUp

To restore individual files or drawers to floppy disks, you must power up the Macintosh from a floppy disk. Then,

1. *Insert a floppy disk containing the BackUp application.*

2. *Open the BackUp application.*

   Two dialog boxes will appear with your command choices: Print Master, Print Journal, and Restore.

3. *Choose* **Restore Drawers** *or* **Restore Files** *from the* **Restore** *menu.*

4. *Insert a Master disk.*

5. *Choose the drawers or files you want to restore. Then click* **Restore**.

   The normal Restore window will appear along with a smaller dialog box resembling the "Save As..." used in all Macintosh applications.

6. *Eject the Master disk using the* **Eject** *button on the right of the smaller dialog box, and insert the disk to which you want this file restored.*

7. *Click* **Save**, *and insert the re-quested disks.*

To rename a file you are restoring, simply type the new name and click **Save**.

To skip a file, click the **Cancel** button in the smaller dialog·box, and the next selected file will appear.

To stop restoring files, you must skip (by canceling) through the remainder of the unrestored, selected files.

Comparing Back-up Copies With Your Original Files

Use Compare to find out if a file on the hard disk exactly matches a file on a back-up data disk. Also use it to find out if you have previously made back-up copies of the files on your hard disk.

Compare gives you two alternatives: **Compare Drawers** allows you to compare all the files in specific drawers with the back-up copies of those files; **Compare Files** allows you to compare individual files with their back-up copies.

Compare
Help Compare
Compare Drawers...
Compare Files...

1. *Select* **Compare Drawers** *or* **Compare Files** *from the* **Compare** *menu.*

2. *Choose the location of the back-up copies: the HyperDrive hard disk, the Macintosh disk drive, or an external disk drive* (if one is connected). *Then click* **OK**.

BackUp

3. *Choose your Master File.*

To compare with a floppy disk, simply *place the Master disk in the disk drive.* To compare with the Hyper-Drive or an external hard disk drive, choose from the list of drawers.

4. *From the scroll box, select the drawers or files you want to compare.*

To select more than one drawer or file at a time, hold down the Shift key and then click additional selections, or make selections by dragging the pointer down the list. If you are comparing with floppy disks, you'll be told which Data disk to insert.

When choosing files to compare, you can select files from more than one drawer at a time.

File Backup Restore Compare Drawers

Individual File Compare

Please select file(s) to compare...   Number of Files Selected: 0

07/11/85 Backup Icons A
07/11/85 BackUp Mini Man. ...
07/11/85 Da Install
07/11/85 DeskTop
07/11/85 Dialog Box Parts
07/11/85 Disk Cache Dbox1
07/11/85 Finance Scrapbook...
07/11/85 funky mac
07/11/85 Geo File Serve 2
07/11/85 Geo File Server

Mood Paint...

[Compare]

[Drawer]

[Cancel]
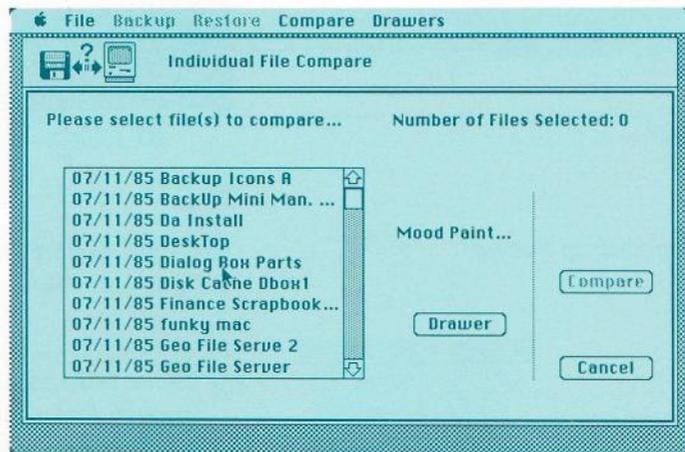
5. *Click* **Compare**.

As each file is being compared, you have the option of stopping after each file or stopping only if the files are not identical.

Status bar. ————

Activity being performed. ————

Number of files compared and to be ———— compared.

The "Skip" button allows you to skip ———— over a file you do not want compared to the hard disk.

Drawer currently being compared. ————

File currently being compared. ————

Result of the current compare. ————

The "Next" button will begin ———— comparing the next file. You can use the "Return" key instead of the mouse.

Controls the progression of the ———— current compare.

Cancel will ask for verification before ———— actually halting the compare.

🍎 File Backup Restore Compare Drawers

Individual File Compare

Comparing selected files.

1 of 2 files has been compared.

Drawer: Drawer 9
File: Dialog Box Parts
That file is not on the HyperDrive.

Skip

Next

Cancel

○ Stop after each file.
● Stop only when files are different.

6. *When finished, click* **Done**.

Keeping Back-up Records

Use **Print Master** and **Print Journal** to maintain records of your back-up activities.

🍎 File Backup Restore
Help
Glossary

Print Master... ⌘M
Print Journal... ⌘J

Options... ⌘O

Quit ⌘Q
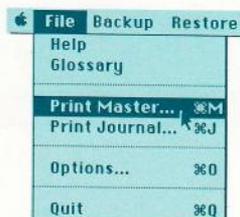
1. *Open the BackUp application, and choose* **Print Master** *or* **Print Journal** *from the* **File** *menu.*

2. *Choose what you want to do with the information: print it on a printer, display it on the screen,*

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REFERENCE

BackUp

or store it as a Macintosh text file. Then click **OK**.

3. *Indicate where your Master file is located: on the HyperDrive itself, a Macintosh disk drive, or an external hard disk. Then click **OK**.*

4. *Choose your Master file.*

For information that is on floppy disks, *place the Master disk in the floppy disk drive.* For information that is on the HyperDrive hard disk or an external hard disk drive, *choose from the list of volumes or drawers. Then choose the Master file.* The Master or the Journal will be sent to the printer, screen, or file.

⌘ File Backup Restore Compare

Print Master...

Contents of Master

From Drawer "Startup"

```
07/11/85 --- ...job*27
07/11/85 --- Clipboard File
07/11/85 --- Copy of System
07/11/85 --- DeskTop
07/11/85 --- Finder
07/11/85 --- HyperInstall U1.26
07/11/85 --- ImageWriter
07/11/85 --- Manager 5/29
```

Continue   Cancel
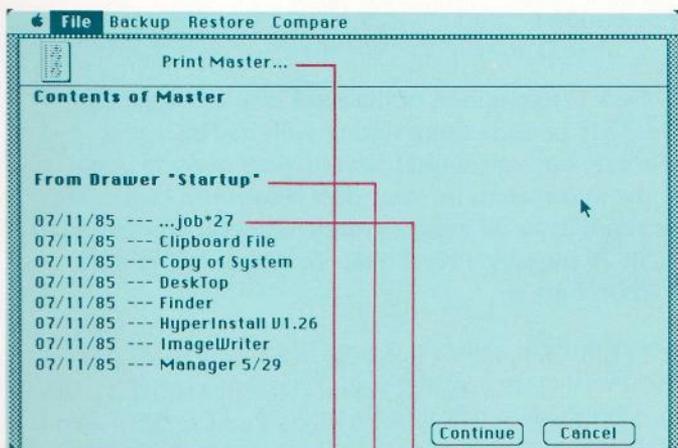
Status bar.

Drawer name.

Date and file name.

The "Continue" button will advance the list to the next screen.

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Hard-Disk Management

Auto Disk Optimization

*E*very time a file is thrown away or deleted, a small amount of unused disk space remains in the drawer. Each time you run the Manager application, it performs a basic optimization of the mounted drawers, including the default drawer. This auto-optimization is good for recovering the unused space that is at the end of the memory allocation for each drawer. It does not however, recover unused space that occurs throughout entire drawers. To recover this unused space, you must run the Manager and select the **Optimize Disk...** command from the **Create** menu (see "Optimizing Hard Disk Space", page 107).

Testing the Hard Disk

You can check the condition of the hard disk any time you think there may be something wrong with it. The test is nondestructive, but you should nevertheless make back-up copies of the information on your disk before you begin. The test takes about 25 or 50 minutes, depending on whether you have a 10 or 20 megabyte hard disk. To stop it at any time, click the **Abort** button.

DO NOT SHUT OFF, DISCONNECT, MOVE, OR IN ANY OTHER WAY DISTURB YOUR HYPERDRIVE MACINTOSH WHILE A HARD-DISK TEST IS TAKING PLACE. YOU WILL LOSE INFORMATION IF THE MACINTOSH IS TURNED OFF DURING THE TEST.

Currently testing cylinder 1 of 305

Bad sectors 0

Abort

You can abort at any time during the disk test without damaging the data on the hard disk.

1. *Open the Manager application.*

2. *Pull down the* **Test/Initialize** *menu and choose* **Run Disk Test**.

After the disk test is complete, a message will tell you how many 512-byte blocks were found to be defective. Up to ten bad blocks is considered normal. However, HyperDrive can compensate for up to

64 bad blocks. If the number of bad blocks ever approaches 64, see your dealer for service.

Reinitializing the Hard Disk

This option should be used rarely, if ever. Reinitialize the hard disk only when there is something seriously wrong with the data stored on the hard disk. Reinitializing erases all the drawers and files from the hard disk and allows you to start over. Before you reinitialize the hard disk, be sure to make back-up copies on floppy disks of everything you want to save.

1. *Remove any floppy disks and switch off your HyperDrive.*

2. *Insert the HyperDrive System Software disk that came with your HyperDrive.*

3. *Switch on your HyperDrive Macintosh and wait for the desktop to appear.*

4. *Open the HyperDrive disk icon. Then open the Manager application.*

Create	**Test/Initialize**	Drawers
	Help	
	Run Disk Test	
	Initialize Disk	

5. *Choose* **Initialize Disk** *from the* **Test/Initialize** *menu.*

You'll be warned that you will lose all your files if you reinitialize the hard disk. If, after seeing all the warnings, you select **Initialize**, the hard disk will be wiped clean of all information.

```
┌─────────────────────────────────┐
│          WARNING!               │
│                                 │
│  Initializing the HyperDrive will│
│  erase all information stored   │
│  there. All drawers will be lost.│
│                                 │
│  Enter system password...       │
│  ┌───────────────────────────┐  │
│  │                           │  │
│  └───────────────────────────┘  │
│  ┌────────┐ ┌────────┐ ┌────────┐│
│  │ Cancel │ │ Format │ │Initialize││
│  └────────┘ └────────┘ └────────┘│
└─────────────────────────────────┘
```
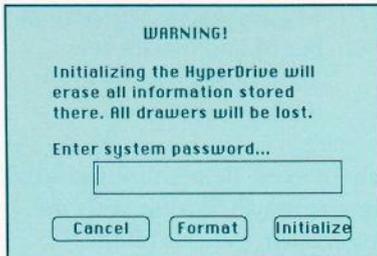
This is the last warning you will see before all the data on the hard disk is erased.

6. A box will appear asking whether you want to initialize the hard disk or format it. *We recommend that you choose* **Initialize** *the first time.*

7. *Enter the system password.*

8. *Click* **Initialize**.

If you initialized the hard disk because you had problems with it, and those problems continue, repeat the steps outlined above but click **Format** instead of **Initialize**.

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Hard-Disk Management

Optimizing the Hard Disk Space

Every time a file is thrown away or deleted, a small amount of unused disk space remains in the drawer. After many files (or a few large files) have been deleted, a significant amount of space will be left in a drawer. In order to recover the unused space, the drawer must be optimized.

Create	Test/Initi:
Help	
Create Drawer...	
Delete Drawer...	
Passwords...	
Preferences...	
Optimize Disk...	
Quit	⌘Q

1. *Run the Manager.*

   The drawer containing the Manager will become the Default drawer if it also contains a System and Finder.

2. *Mount all the drawers needing optimization using the **Drawers** desk accessory.*

3. *Select **Optimize Disk...** from the **Create** menu.*

   The Manager will then optimize all mounted drawers except the default drawer. When the optimization is complete, a dialog box will report how many 256K blocks (if any) were recovered.
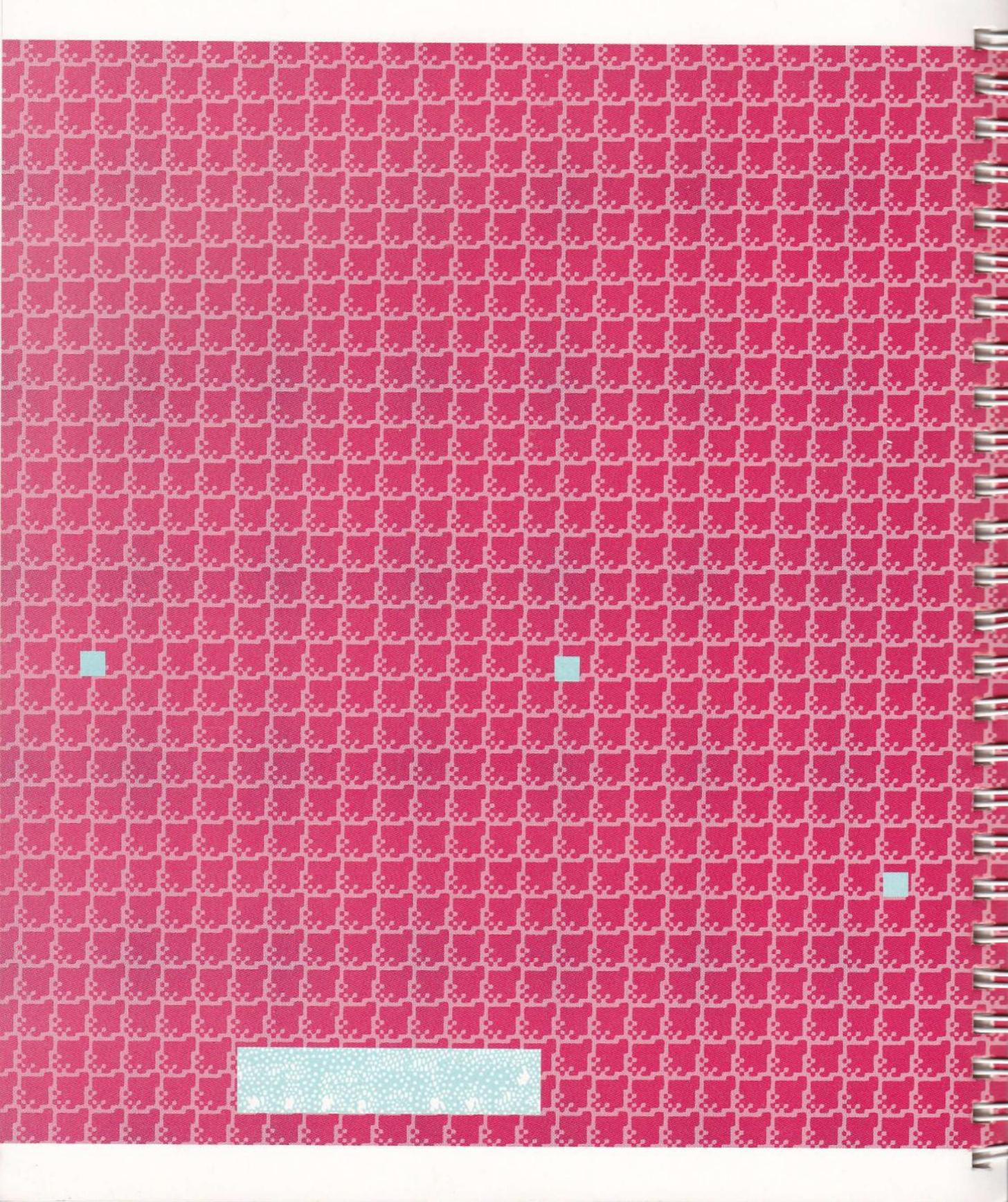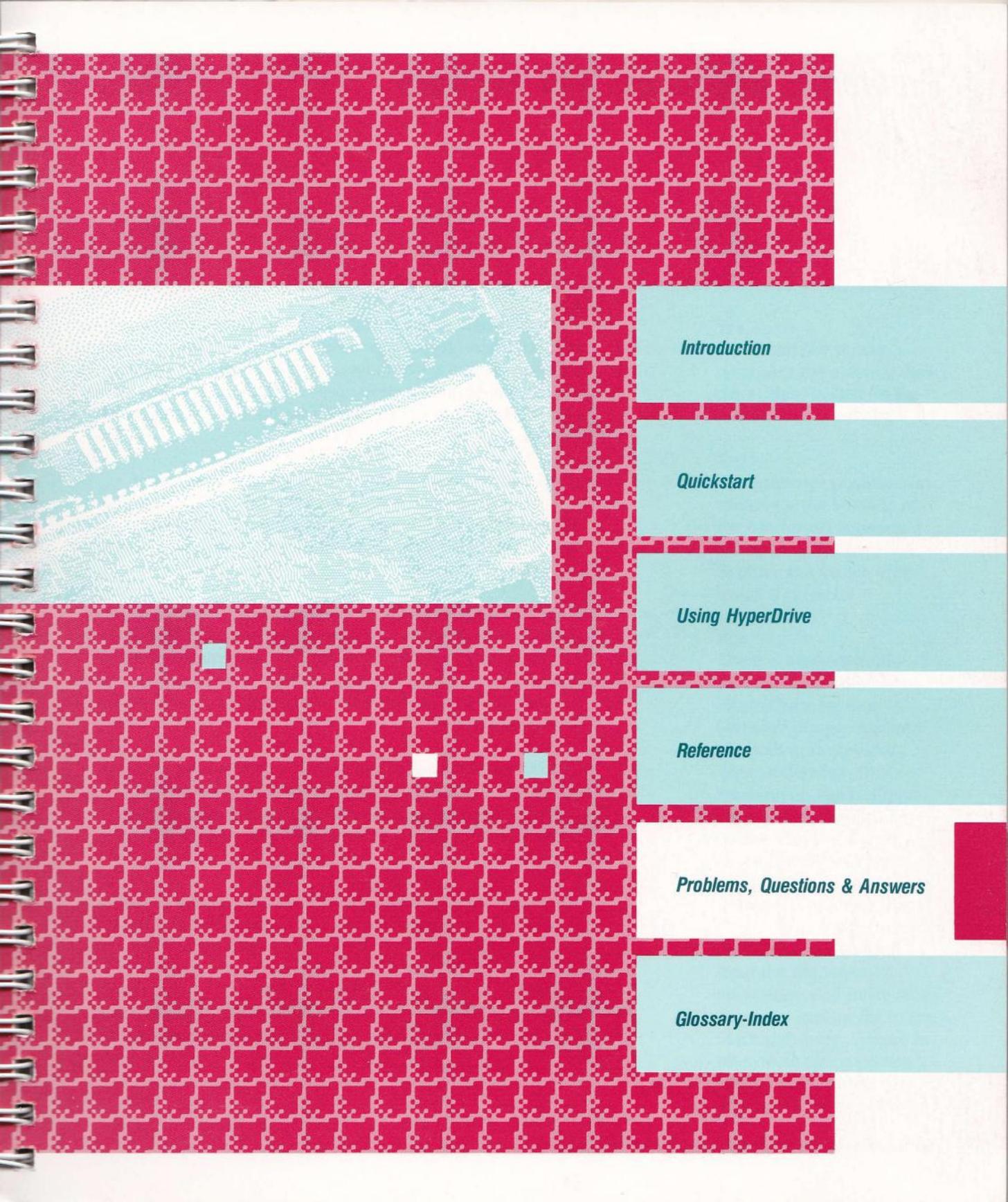
Problems, Questions, and Answers

Your HyperDrive is carefully designed to give you error-free, reliable service. It has been thoroughly tested, both before and after installation. Nevertheless, on rare occasions, you may run into a problem. If something seems wrong, check the relevant parts of this manual and review Chapter 6 of the Macintosh manual.

Many problems can be solved by using the most recent version of the HyperDrive System Software. Please use the original rather than a copy, to eliminate the possibility of an incorrectly copied disk. If you think your software is out of date, contact your dealer for the most recent update.

Should you run into any problems you can't resolve, always carefully note the error messages you encounter, as well as the events leading up to the problem. This information will aid your dealer in diagnosing your problem. The more information you can provide, the faster the dealer will be able to service your problem.

You can resolve most of the common problems yourself by referring to the following trouble-shooting guide. The symptom or problem is described in the left column. A possible solution is presented in the right column.

Problems...

Problem...
The screen is dark and you can't hear the fan or the drive.

Try...
Make sure the power cord is connected and the power is turned on.

Problem...
The screen is dark but you can hear the fan or the drive.

Try...
Turn the contrast control knob fully clockwise.

Problems

Problem...
The external disk drive doesn't work. The HyperDrive Macintosh doesn't seem to know the drive exists.

Try...
Switch off the power, reconnect the external disk drive, then switch on the power.

Problem...
A "sad Mac" icon appears with the error code of 0F000D.

Try...
The Interrupt push-button switch on the left side of the Macintosh is jammed in the On position. Remove the switch and install it correctly.

Problem...
A "sad Mac" icon appears with the error code of 0F0064.

Try...
There is no system file present. Insert the HyperDrive System Software floppy disk into the built-in floppy disk drive and switch the machine on again. Open the Manager application by double-clicking it. Pull down the **Drawers** menu and mount the Startup drawer by selecting it (a check mark will appear next to its name). Quit from the Manager application and make sure there is a system file in the Startup drawer. If there is no system file, copy the system file from the floppy disk to the Startup drawer.

Problems

Eject the floppy disk,
switch the machine off and
then back on again.

Problem...
You cannot mount a drawer.

Try...
Get the latest version of
the HyperDrive System
Software from your dealer.
If you are still not able to
mount the drawer using
the new software, open
the Manager application by
double-clicking it. Create a
new drawer. Mount the
failed drawer. If you are
still unsuccessful, repeat
the procedure until the
failed drawer becomes
mountable. When you
finish, delete the extra
drawers you just created.

Problem...
After installing a new Manager
application version, you get an
error message indicating that the
Manager application version is
incompatible with the Boot Track
version.

Try...
Run HyperInstall on the
Startup drawer. After it
has run successfully,
switch the power off and
then back on.

Problem...
There is no **Drawers** desk
accessory under the Apple Menu

Try...
Run HyperInstall in the
drawer or floppy disk
containing the system file
that is in use by
double-clicking it.

Problems

Problem...
After running the disk test, you find some bad sectors.

Try...
It is normal for the drive to acquire some bad sectors over time. When the disk test is run, bad sectors are marked so that they will not be used to store data. If you find over 60 bed sectors, see your dealer.

Problem...
All icons on the screen are disks instead of file drawers.

Try...
This happens when you run an application program that has a system file other than the HyperDrive system file. You can correct this in either of two ways: (1) Run any program that is in the Startup drawer (For example, the Manager application); or (2) copy HyperInstall onto the drawer or floppy disk where the application program resides and run it by double-clicking.

Problem...
Your HyperDrive Macintosh will not print.

Try...
Check to see if an Imagewriter file exists in the system folder in Startup drawer. If one is not there, copy one from a floppy disk to the Startup drawer.

Problems

If an Imagewriter file already exists in the Startup drawer and you still cannot print, copy an Imagewriter file to the drawer that contains the application program. (Some applications require the Imagewriter file to be in the same drawer.) Finally, select **Choose Printer** from the **Apple** menu to see if the printer has been properly chosen. (Note: Choose Printer is not available with early versions of the Finder.)

Problem...
Folders disappear from drawers and the files are left scattered within the drawer.

Try...
After putting files in a folder, run the Manager application or any other application before switching the Macintosh off.

Problem...
The error message ID=02 appears on the screen.

Try...
This indicates a software error, which may have damaged the drawer you were using when the error occurred. Check the drawer to see if it has been damaged: Is the drawer mountable? Are all the files there? Do they function as

Problems

you expect? If the drawer
has been damaged, back
up your files, delete the
drawer, and recreate it
with your backup files.
(See "Backing Up Your
Files," page 61.)

Problem...
The error message ID = 15
appears on the screen.

Try...
This message usually
indicates a bad System
Software disk. Try using
another System Software
disk—preferably a master
copy.

Problem...
Running the Manager application
does not recover space on your
hard disk after you delete files.

Try...
Running the Manager and
selecting **Optimize Disk...**
from the **Create** menu.
This will recover as many
free superblocks (256K) of
memory as possible from
each mounted drawer
except the default drawer.
If the amount of free space
in each drawer is less than
256K, then no superblocks
will be recovered (see
"Optimizing Hard Disk
Space", page 81).

Problems

Problem...
An application program begins to work improperly.

Try...
1. Run a disk test and then rerun the application.
2. Copy a new version of the application onto the HyperDrive and see if the problem persists.
3. Run the application off its floppy disk and see if the problem continues. If it does, contact your software dealer for assistance.

Problem...
The Finder desktop appears but never becomes active when starting from the hard disk.

Try...
Insert the HyperDrive System Software floppy disk into the built-in drive and switch the machine on. Open the Manager application and select **Disk Test**. Let the test run until complete. Eject the floppy disk, and switch the machine off and then on.

If the problem persists, you will have to delete the Startup drawer. Switch the machine off and insert the HyperDrive System Software floppy disk into the internal drive. Switch the machine on. Open the Manager application, select **Preferences** from the **File** menu and select the option

of deleting the Startup drawer. Then delete the Startup drawer by selecting **Delete Drawer** from the **Create** menu. Now, create a new drawer and name it "Startup". Quit from the Manager. After the desktop appears, transfer all of the contents of the HyperDrive System Software floppy disk to the new Startup drawer. Eject the floppy disk, and switch the machine off and then on.

In rare instances, when the information has been severely corrupted, the problem will persist indefinitely. If it does, you will have to reinitialize or reformat the hard disk. Should this be the case, back up all information on your HyperDrive before proceeding. See "Reinitializing the Hard Disk," page 47.

Problem...
Your printer does not work after using an external hard disk, Appletalk, etc.

Try...
Check **Choose Printer** under the **Apple** menu to make sure the printer is active. (Note: early

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Problems

versions of the Finder may
not have a Choose Printer
desk accessory.) If that
doesn't work, remove the
battery from the Macintosh
for 30 minutes and then try
to print.

Problem...
After installing the print spooler,
the printer prints something other
than what you requested.

Try...
Remove the print spooler,
and re-start your
HyperDrive. Try repeating
the same steps to produce
the printout. Some
software may produce
incomplete printouts. For
example, if you run
Apple's Switcher and
switch applications before
the document (for the
active application) has been
spooled, the document
may not print correctly.

Problem...
After installing the print spooler,
you occasionally get error
messages.

Try...
In all likelihood, there is a
bug in the application you
are using. If you think that
the fault is with the print
spooler, remove it, and try
your application again.

Problem...
While printing a document with
the Print Spooler, you sometimes
run out of disk space.

Try...
Since the Print Spooler
uses disk space, if you've
printed many documents,

or a couple of complicated documents, extra disk space is being used until the document is printed. Soon after the document is printed, the disk space will be returned. The print spooler will never use the last 256 K of disk space (if the print spooler cannot find any disk space, then the printer will act as if it was not spooled).

Problem...

I've installed the print spooler, and occasionally the printer stops printing for a few seconds. Why does the printer print more applications than in others?

Try...

Since the Print Spooler must run at the same time as other software applications, there are some moments when the other applications need the full use of the HyperDrive. During these moments, the printer will stop. However, as soon as the application is finished with its task, the printer should start up again.

Problem...

Why doesn't my Laser Writer work with the print spooler?

Try...

The Laser Writer is a special type of printer that is connected via Apple Talk. This print spooler does not work with

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Problems

printers connected via
Apple Talk.

Problem...
Why does an error message
appear every time I re-start my
HyperDrive?

Try...
This error will occur if you
have connected Apple Talk
(via the Choose Printer
desk accessory) to the
same port you are specified
in Spooler Install. This is
because Apple Talk
communications cannot be
spooled. You must either
remove or reinstall the
print spooler (choosing the
Modem port).

***Error Messages during the Print Spooler
Install/Remove process:***

"Couldn't find resource"
Spooler Install program is bad.

"Not enough room in heap"
There is currently not enough memory in the system.
This problem can occur when you already have the
spooler installed, connect Apple Talk, and then
reinstall the spooler. To fix this problem, remove the
spooler. Reboot your HyperDrive, after the spooler is
removed. Now install the spooler.

"HyperDrive driver not found"
"Not a HyperDrive"
You must run the Spooler Install program on a
HyperDrive.

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Problems

"Default volume problems"
    Hardware problems!

"You must install on Startup Drawer"
    You are attempting to install the spooler on a drawer that is not the startup drawer.

"Startup drawer must be on HyperDrive"
    The startup drawer *must* be a HyperDrive drawer

"No System file"
    The startup drawer *must* contain a System file.

"Not enough disk space on volume"
    There is not enough space on the HyperDrive to install the Print Spooler. Try deleting some documents, and run the HyperDrive Manager.

Questions and Answers

Question:
How do I tell if I have the latest version of the HyperDrive System Software?
Answer:
Open the Manager application by double clicking it. Select **About the HyperDrive Manager Application** under the **Apple** menu. Note the version number and contact your dealer to determine if you have the latest release.

Question:
How do I load a new version of the Manager application?
Answer:
Copy the new version of the Manager into the Startup drawer. Then, run HyperInstall. After it has run successfully, switch the power off and then back on.

Question:
What are the advantages of HyperDrive for fonts and desk accessories?
Answer:
Two of the Macintosh's major advantages are its desk accessories and fonts. These must be installed in System files. The very abundance of desk accessories and fonts can become a problem, because the System files must be large in order to hold them. Large size is a problem with disks. However, with HyperDrive's large hard disk, there is no need to worry about how big the System file becomes.

Question:
What are invisible files?
Answer:
Invisible files are technical system files that are not made visible to the user. Macintosh software controls these files, and you don't have to worry about them. The only indication of their existence is the warning that you get when you delete a file drawer.

Questions and Answers

Question:

How do I test the RAM memory on my HyperDrive?

Answer:

The HyperDrive does a memory check when the power is switched on. If the memory fails, the HyperDrive Macintosh will not start up properly. If this happens, see your dealer.

Question:

How do I get the Laserwriter to work with my HyperDrive Macintosh?

Answer:

The latest version of the HyperDrive System Software includes the necessary drivers to run the Laserwriter. You can obtain this version from your dealer.

Question:

Which versions of the Finder work with my HyperDrive Macintosh?

Answer:

HyperDrives have been shipped with two versions of the Finder. Older units used Finder Version 1.1; newer units use Finder Version 4.1. Either one can be used without problems. If you would like an update, contact your dealer.

Question:

Will a HyperDrive Macintosh work with pre-release software?

Answer:

Most pre-release software will work with the HyperDrive Macintosh. However, pre-release software often contains bugs that can affect operation.

Question:

What desk accessories will work on the HyperDrive Macintosh?

Answer:

Most desk accessories that run on a Macintosh will work on a

HyperDrive Macintosh. However, new accessories may interfere with the HyperDrive's Drawers accessory. To prevent this from happening, run HyperInstall on the Startup drawer after loading any new desk accessories.

Question:
What files should I put in my Startup drawer?
Answer:
Any application can be added to the Startup drawer, although that drawer is best suited to hold the HyperDrive System Software and certain desk accessories and special applications. To use your hard disk most efficiently, we recommend that you create separate drawers to hold your applications.

Question:
When should I switch off my HyperDrive Macintosh?
Answer:
The best time to turn off your HyperDrive Macintosh is when the desktop is displayed. Never switch the unit off when the drive is working (reading, writing, seeking, etc.). This could severely damage the information stored on the drive.

Question:
How can I extend my HyperDrive warranty?
Answer:
General Computer offers an extended warranty program designed to protect your investment and it is now available from your dealer. See your dealer for more information.

Question:
Will future versions of HyperDrive System Software work with my HyperDrive Macintosh?
Answer:
Yes. You can get the most current software versions from your dealer.

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Radio and Television Interference

The HyperDrive Macintosh generates and uses radio frequency energy during operation. If it is not set-up and used properly, that is, in strict accordance with General Computer's and Apple's instructions, it may cause interference to radio and television reception.

Your HyperDrive Macintosh has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation, depending on how your HyperDrive Macintosh is located relative to radio and television equipment.

If you are experiencing interference, see page 144 of the Macintosh Users Manual.

If after reading and trying the recommendations in the Macintosh Users Manual, you are still experiencing interference, please contact:

Director of Service
General Computer Corp.
215 First Street
Cambridge, MA 02142
(617) 492-5500
(800) 422-0101
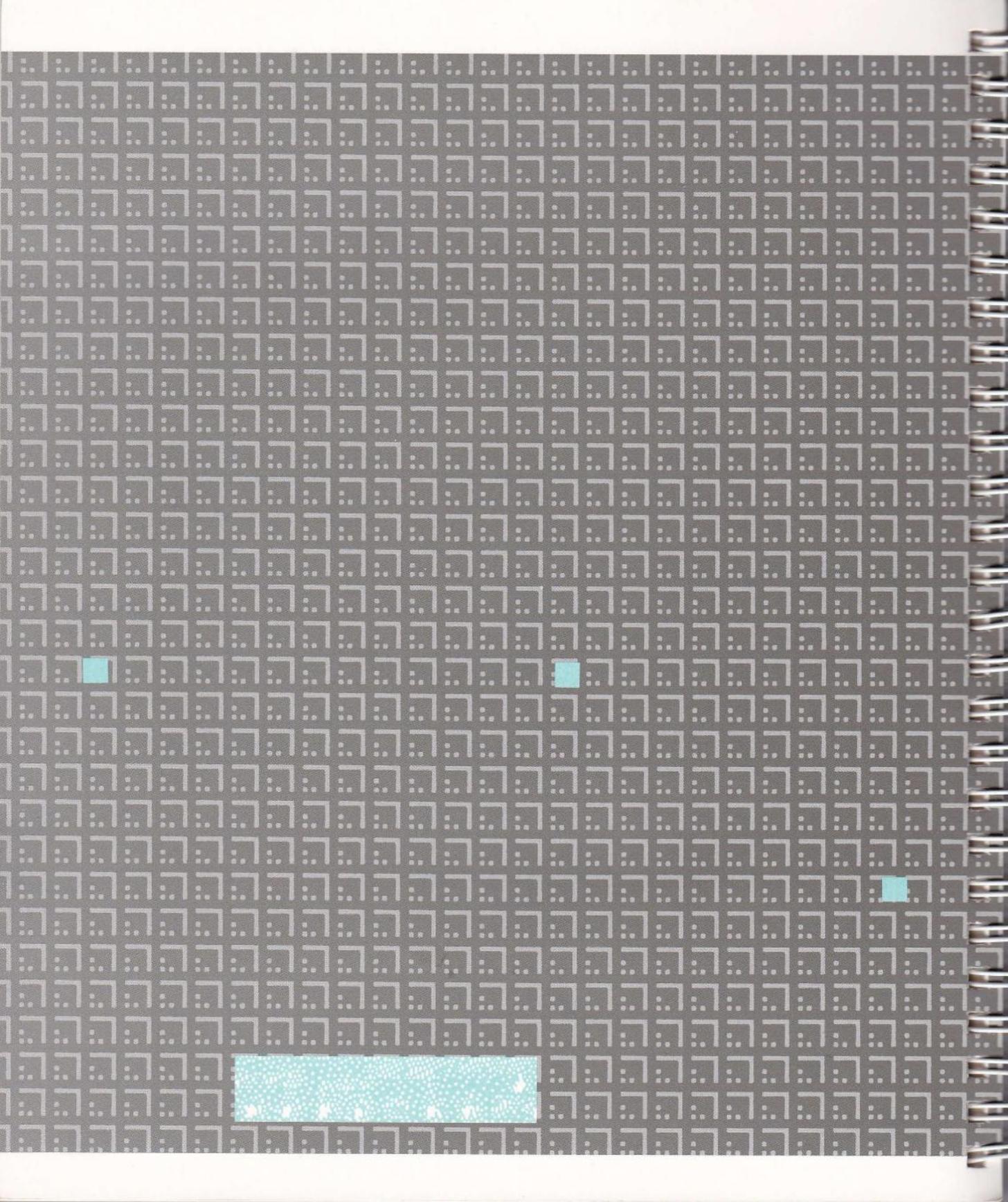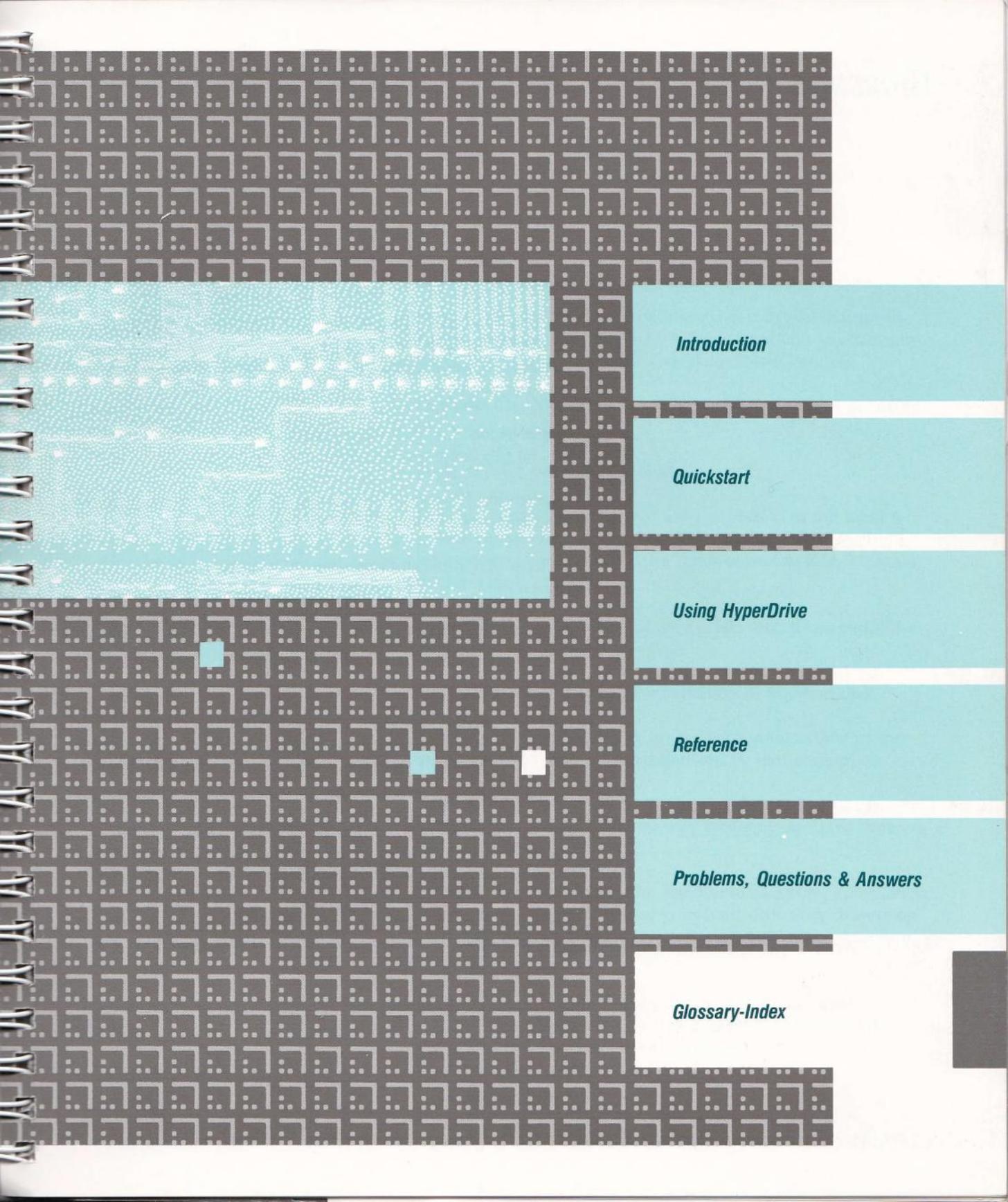
Glossary

Archival Copies: Copies of files that were stored on the hard disk but that have been removed to make room for new files. Archival copies are usually stored on floppy disks and are kept for a long time.

Apple Menu: The pull-down menu on the far left in the menu bar. Its title is an apple symbol.

Application Program: A program; a tool, such as MacWrite or MacPaint, used to manipulate information.

BackUp: An application program that comes with the HyperDrive. It is used to copy files for safe-keeping.

Backup: A function of the HyperDrive BackUp application that makes back-up copies of drawers and files stored on the hard disk.

Back-up Copies: Copies of files kept in the case of accidental loss of the original files. Usually kept on disk, but may also be kept on the HyperDrive hard disk or an external hard disk.

Byte: A unit of measurement for computer memory and storage. Your HyperDrive Macintosh has 512 kilobytes of memory; the hard disk provides 10 megabytes or 20 megabytes (depending on the model) of permanent (hard disk) storage.

Compare: A feature of the HyperDrive BackUp application that compares drawers and files on the hard disk with copies of files made by BackUp.

Copy-protected Application: An application that is protected to prevent unlawful duplication.

Data Disk: A disk containing files made by the HyperDrive BackUp application.

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Glossary

Desk Accessory: A mini-application that is available from the Apple menu regardless of which application you are currently using. Examples include the Calculator, Note Pad, etc.

Desktop: The Macintosh working environment with its menu bar.

Disk: A 3-1/2" microfloppy disk.

Disk Caching: The process of using a portion of the RAM to store recently-used information from the hard disk. Information is read much faster if it is stored in RAM than on the hard disk.

Disk Drive: A drive that utilizes a 3-1/2" disk; it can be built-in or external.

Disk Test: A test to check the condition of the hard disk.

Document: A file created by an application that contains the information generated or manipulated by that application.

Drawer: A storage place on the hard disk for files, applications, and folders. You may create up to 32 file drawers on your HyperDrive.

Dynamic Drawer-Sizing: The method of assigning information storage space for a drawer on your hard disk. Any drawer on your hard disk can expand to 16 megabytes or the remaining storage space on the disk.

Encryption: A process that scrambles the information contained in a file so that it cannot be read by anyone who does not have the "key" to unscramble it.

Glossary

Finder: An application that creates the Macintosh desktop. You use it to manage documents and applications and to gain access to the hard disk and built-in and external disk drives.

Format: To rewrite low-level track and sector information on the hard disk. Formating is required after accidental damage or erasure by a strong magnetic field.

Hard Disk: A random-access device that stores large amounts of data on non-removable magnetic disk platters.

Head: The mechanism that magnetically reads information from the hard disk and writes information onto it.

HyperInstall: An application program that installs the Drawers desk accessory and informs the System file that it is running on a HyperDrive instead of on a regular Macintosh.

Icon: A small picture that represents a file or collection of files. For example, the disk icon represents the disk that is in one of the disk drives.

Incremental Backup: A feature that allows you to back up only those files that were modified or created since the last time you backed up your files.

Initialize: A command reached from the HyperDrive Manager that lets you erase all data from the hard disk.

Invisible Files: Files that have been specified to remain invisible to the user. For example, there is an invisible file named Desktop created by the Finder, and it contains the names of the folders and icons.

Key: An exact series of letters and/or numbers used to gain access to an encrypted or "locked" file.

Glossary

K or Kilobyte: A measure of computer memory, equal to 1024 bytes.

Manager: An application included with HyperDrive that lets you create and delete file drawers, mount or unmount file drawers, test your hard disk, and reinitialize it.

Master Disk: The first disk used in a set of back-up copies. The Master Disk contains a journal of activties and a list of contents for a set of back-up copies.

Master File: A file that contains a table of contents for all files backed-up during a session using the BackUp application.

MB or Megabyte: A measure of computer memory, equal to 1,048,576 bytes. The HyperDrive hard disk stores 10 or 20 MB of information, depending on the model.

Menu Bar: A row of words at the very top of the screen. Each word is the title for the menu of options revealed when the word is selected with the cursor.

Mounted Drawer: A drawer that appears on your desktop. The opposite of "unmounted drawer." Drawers must be mounted for their files to be accessible.

Options: A set of preferences in the HyperDrive BackUp application that control how BackUp operates.

Password: A word that lets you "lock" a drawer. Only someone who knows the password can open a drawer and work with the files in it.

Powering On: Switching on the HyperDrive Macintosh.

Preferences: A set of options in the HyperDrive Manager that control how the HyperDrive, the Manager, and the Finder operate.

Print Journal: A feature of the HyperDrive BackUp application that will print a record of all the BackUp activities performed on a set of back-up copies.

Print Master: A feature of the HyperDrive BackUp application that will print a list of all the files (and which drawers they came from) saved in a set of back-up copies.

Print Spooler: An application that 'spools' to the hard disk a file to be printed on the Imagewriter while the HyperDrive is doing other things.

Reinitialize: To erase the hard disk and prepare it for use again. This is done very rarely and only for special purposes. Be sure to read the section of this manual called "Reinitializing the Hard Disk." page 105.

Restore: A feature of the HyperDrive BackUp application that returns to the hard disk drawers and files stored as copies made by BackUp.

Startup Drawer: The drawer that comes with the HyperDrive; it contains the HyperDrive Manager and other system software. Its icon appears on your desktop when you first use the hard disk.

System Folder: A collection of files that are necessary to run the Macintosh system. It may also contain files used by the system—for example, the Scrapbook and Clipboard files.

Glossary

System Password: A password which will override the password on any locked drawer. The system password is required in order to initialize or format the hard disk.

Text File: A file containing raw text without any formatting information. Text files can be read by MacWrite.

Unmounted Drawer: A drawer that does not appear on your desktop. While a drawer is unmounted its files are not accessible.

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GEN COMPUTER 1-800/ 422/ 7777

TO INITIALIZE OR USE MANAGER → "SYSTEM PASSWORD"