HyperDrive



™

Dear Customer:

You are now the proud owner of one of the finest personal computer products on the market today, HyperDrive by General Computer. We hope this product brings you years of fun, trouble-free personal computing. It is our belief that products such as these are only possible through the concerted efforts of a team of hard-working men and women. We are proud to have designed, manufactured and delivered this product to you.

Sincerely,

Michael Barta
David Brown
David Crane
Larry Dennison
Scott Douglass
Jane Eckholt
Michael Feinstein
Mary Jo Fernandez
Pax Goodson
Robert Harris
Michael Horowitz
Jacques Hugon
John Ison
Jon Kling
Lisa Lauer
Seth Lipkin
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Vannar Sath
Roxanne Saunders
Daniel Schwinn
Steven Szymanski
John Tylko
Allen Wells
Brian Wells
Thomas Westberg

Kevin G. Curran
President

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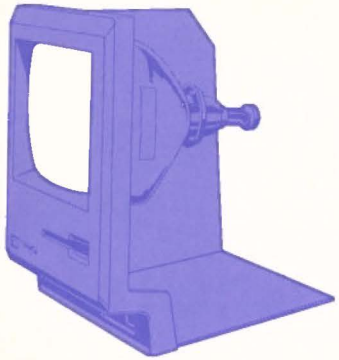
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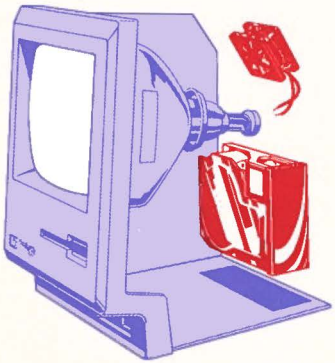
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ABOUT THIS MANUAL

This manual explains how to use the new hard disk drive inside your Macintosh. The 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 . . .

Spend some time with the Macintosh to learn how it works. Insert a diskette; read the manual; use the mouse; try out an application like MacPaint or MacWrite. The basic Macintosh commands work exactly the same way with your HyperDrive Macintosh.

If you're already familiar with Macintosh commands . . .

Take just a minute to get acquainted with your new HyperDrive Macintosh and you'll be ready to take advantage of its many expanded powers.

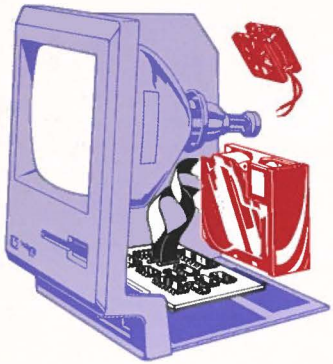
THE HYPERDRIVE MACINTOSH

What's New Inside Your HyperDrive Macintosh

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

Fan - The fan circulates air through your Macintosh. It is on whenever your computer is on, and was added to remove any extra heat created by the hard disk.

For New Owners of Expanded Memory Boards - If you ordered an expanded memory board with your HyperDrive, your Macintosh is now more powerful than ever. The board quadruples the original 128K memory in your Macintosh, giving your machine a total of 512K. While



the hard disk increases the storage power of your computer, the memory board increases its working power by letting you run larger, more complicated applications. Many applications that are now becoming available for the Macintosh require expanded working memory. These applications perform sophisticated financial functions or combine a number of applications in one package. Your HyperDrive can run even the largest.

What Your Macintosh Can Do Now

The HyperDrive turns your Macintosh into a hard-working machine that can do all of the things it did before - and more. Now you can

Store more files. The 10MB HyperDrive holds as many of the applications, documents, and folders as would fit on 25 diskettes.

Get your work done faster. Choosing a command, opening a file, starting an application, saving a document - now these take a fraction of the original time.

Connect the Macintosh to a modem without disconnecting the hard disk. Since the hard disk is inside the Macintosh, the communications port on your Macintosh is free to connect to a modem or to another communications device. You'll still have expanded storage and speed.

Caring for Your HyperDrive

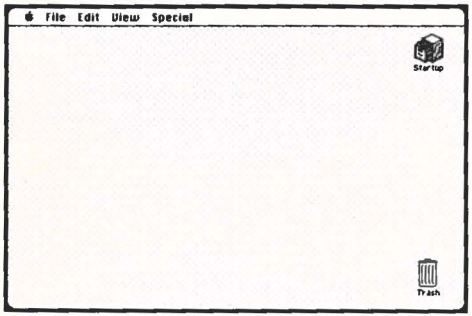
Your new HyperDrive makes your Macintosh a more sophisticated machine that requires a little additional care. Here are a few simple guidelines.

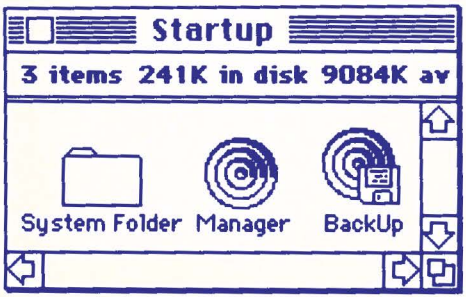
Don't move or jar the machine while it is turned on. When turned off, your Macintosh is fully portable - just as it was designed to be. **To avoid damage to the hard disk, do be gentle whenever moving or setting down your Macintosh.**

Avoid using your Macintosh in direct sunlight.

Don't stack papers or equipment on top of your Macintosh. The vents there permit air circulation through the machine.







GETTING STARTED

Opening the Startup File Drawer

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

- Turn on your Macintosh without a diskette.

You have just discovered one of the important features of your new HyperDrive: It does not require a diskette to start up, or "boot."

Notice that a file drawer icon, initially named "Startup", appears in the upper right corner of your Macintosh desktop. A file drawer is a collection of files you store on the hard disk. You can store anything in a file drawer - a document, a folder, or an application. A file drawer, for example, might contain all of the files you'd normally store on a diskette. You'll see a file drawer icon for every file drawer you create. Your hard disk can contain as many as 32 of these file drawers.

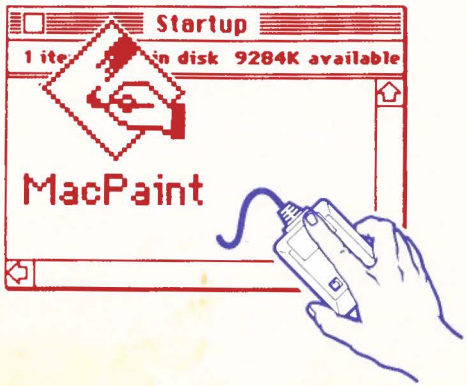
- Position the pointer on the Startup File Drawer icon and click the mouse button twice.

You have just opened the Startup File Drawer. A list of its contents appears in the window on your screen. Right now there are five items: an empty file folder, a system folder, and three applications which are unique to your HyperDrive: a Backup utility, a Security utility, and the HyperDrive Manager. The Manager performs various housekeeping chores that let you organize and keep track of the information you store on the hard disk. (It's explained in detail in the next chapter, "Managing Your Hard Disk".)

Note: Your HyperDrive Macintosh can also boot using the HyperDrive diskette that comes with the system.

- Insert the HyperDrive diskette.
- Open the HyperDrive icon.
- Open the Manager.
- Pull down the Drawers Menu and select "Startup."
- Pull down the Create Menu and select "Quit."





- Double-click on the Startup Drawer icon to open it.

You'll want to make a backup copy of your HyperDrive diskette for safekeeping.

Note: If you turn on your Macintosh with a diskette installed, your HyperDrive will act as a regular Macintosh. You will not be able to use your HyperDrive until you run the Manager or restart the system without a diskette.

Copying Files to the Hard Disk

Think of the hard disk as a very large version of the diskette you insert in the Macintosh disk drive. It does the same thing - it holds Macintosh applications, documents, and folders. But the hard disk can hold the equivalent of 25 diskettes! By storing your files on the hard disk you can click from one application to the next without inserting a disk each time. And your Macintosh now performs commands much faster.

You may eventually want to copy all of your regularly-used applications and documents onto the hard disk. You copy individual files from a diskette to the hard disk using the same copying procedure as always, described on page 70 of your Macintosh manual.

Note: Some applications are copy protected. You may copy these applications to your hard disk, but your Macintosh may occasionally ask to see the original diskette when you try to run the application. If so, simply insert the diskette.

The first file you want to copy to the hard disk will probably be a Macintosh application. The following example uses MacPaint, but all applications are copied the same way.

- Insert the MacPaint application disk into the disk drive.
- Open the MacPaint disk icon by double-clicking on it.
- If the Startup Drawer window is not already open, open it by double-clicking on the Startup Drawer icon.





You should now have both the MacPaint and Startup windows on your desktop. If you need to, drag or shrink the MacPaint and Startup windows so that you can see the contents of both.

- Drag the MacPaint icon from its window to the Startup Drawer window by pressing the mouse button and holding it down while you move the mouse.

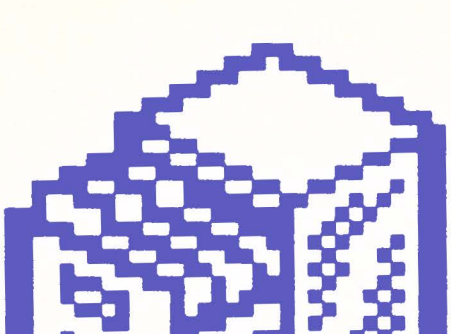
Warning: NEVER try to copy file drawers or diskettes to file drawers by dragging a file drawer icon or a disk icon on top of a file drawer icon. A warning box will appear asking if you want to completely replace the contents of the drawer. Be sure you click **"CANCEL"** or you will seriously damage your files. Instead, always **open the windows** of the file drawers or diskettes from which you wish to copy, then drag the appropriate icon(s) from **window to window.**

When you release the mouse button in the Startup Drawer window, Macintosh will put MacPaint in that drawer. The next time you want to use MacPaint, just click open the Startup Drawer and select MacPaint from the window. You don't have to insert the diskette again.

Try putting another application - MacWrite, for example - in the drawer. Before you put too many files in the same drawer, turn to the chapter in this manual entitled "File Drawers". It will help you organize both applications and documents on your hard disk.

MANAGING YOUR HARD DISK

The Startup Drawer, represented by the file drawer icon at the top right of your desktop, contains a HyperDrive Manager application that includes everything you need to manage your hard disk. The hard disk acts as a large file cabinet that can hold individual file drawers. Using the Manager you can create or delete file drawers, open or close file drawers, password drawers, initialize the hard disk, and test the quality of the hard disk.



Working with File Drawers

Up to now you've used your hard disk as a file cabinet with one big file drawer: the Startup Drawer. That file drawer contains files, including the Manager, the application MacPaint, if you added it earlier, the Backup and Security utilities, and any documents you have produced and saved there. For a while, this single-drawer cabinet may be sufficient.

But before you add too many files to that one file drawer, you'll probably want to organize the files into logical groups. You can do that by creating additional drawers, and placing each group of files in a separate drawer. You may decide, for example, that you want to keep your MacPaint and MacWrite files in separate drawers. Your Macintosh will locate your files most efficiently if you create a new file drawer whenever the number of files in a drawer approaches 30-40.

Why Use File Drawers?

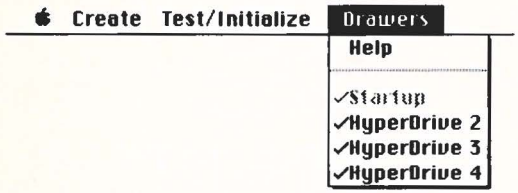
There are many advantages to using file drawers. They allow you to:

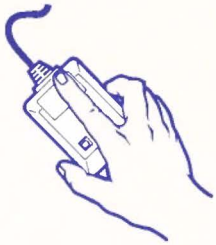
Organize your files into a system that is logical for you.

Increase the number of files the hard disk can hold. Each drawer can expand indefinitely, up to the storage capacity of the hard disk. But the maximum number of files in any file drawer is limited to approximately 250 by present Macintosh software.

Increase the speed of your Macintosh. Your HyperDrive has the ability to "close" drawers that you are not currently using - so, instead of keeping track of all files at once, the Macintosh can concentrate just on the files in the "open" file drawers and operate faster.

Allow each user to have his or her own file drawer. Your HyperDrive Macintosh will allow you to password or "lock" entire file drawers (in





addition to allowing you to lock individual files), thus ensuring privacy for multiple users.

Opening and Closing File Drawers

You may find that you use certain file drawers frequently, while you use others only from time to time. Deactivating or "closing" drawers that you use infrequently will allow your Macintosh to enter and exit applications more quickly, because your computer has to search only the open file drawers. Keeping some of your file drawers closed will also clean up your desktop.

When you create a file drawer, it is automatically open. All open drawers appear on your desktop whenever you use your Macintosh. All the closed drawers are kept out of sight until you activate or "open" them. You can change the status of a file drawer at any time:

- Open the Startup Drawer.
- Open the Manager.
- Pull down the Drawers Menu and select the drawer you wish to open or close by clicking on it.

When you open a file drawer, a checkmark will appear in front of that drawer's name. If you close a drawer, the checkmark will disappear.

The example given above describes how to open and close drawers using the Manager application. However, there is an easier way: Any time you want to change the status of a drawer, you can do so through the Apple Menu at the top of your screen - so there's no need to exit from the document you're working in to run the Manager application.

- Pull down the Apple Menu and drag the pointer to "Drawers." A Drawers Menu will appear as the very last item on the right side of the menu bar.
- Pull down the Drawers Menu and select the drawers you wish to open or close.









Note: You may not close the drawer in which you are currently working, or any drawers which the system is currently using.

Creating File Drawers

- Open the Startup Drawer.
- Open the Manager.
  You'll see the following menus appear at the top of your screen:

  CREATE

  TEST/INITIALIZE

  DRAWERS

- Position the pointer on Create, press the mouse button, drag the pointer down to "Create Drawer" and release the mouse button.
- Type the name of the file drawer where you see the request to Name the New File Drawer. If you do not type in a name, the system will choose one for you.
- If you want to control who is able to open this file drawer, type a password where you see the request for Password.

  Do not forget the password you've given the drawer.

  Every time you want to open this file, you will be requested to type the password. If you don't want a password for this drawer, simply skip this step.

- Click "OK".
  A new file drawer icon is created and appears on your desktop.

Your new file drawer is now ready to receive any files you want to place in it. Simply drag your files to the file drawer.

Deleting File Drawers

If you decide you no longer need a particular file drawer, you can delete it from the hard disk.

- Back up to a diskette all the files you want to save, or place them in







another file drawer.

- Drag to the trash any files remaining in the file drawer.

- Open the Startup Drawer.

- Open the Manager.
  Pull down the Drawers Menu and release the mouse at "Delete Drawer."
  You'll see a list of all your open file drawers.

- Select the file drawer you want to delete, then click with the mouse.

- If the drawer you want to delete is passworded, you will be asked to supply the password.

Locking and Unlocking File Drawers

Whenever you want to, you can "lock" your file drawers by requiring that a password be used to open a drawer that was previously unprotected.

- Open the Startup Drawer.

- Open the Manager.

- Pull down the Create Menu and select "Password."
  You'll see a list of names of all file drawers that are currently open.

- Select the name of the drawer whose password you want to create or change.

- If you are changing a password, type the name of the original password in the Old Password box. Your Macintosh will check to make sure the old password is valid. Do not type anything in this box if you are creating an original password for the file drawer you have selected.

Note: Whenever you want to access a locked drawer, you will be asked to supply your password. To keep your files secure, this password will appear in the box only when it is originally entered; thereafter, when you access that file with your password, a series of dots will appear: one for each number or letter you typed.

- Type the name of the new or

changed password in the New Password box.
Each letter of the new password will appear in the box as you type it.

Using a System Password

In addition to being able to password individual drawers, you may also establish a system password for a single Macintosh or a network of Macintoshes. With a system password you can:

Override any drawer password.

Disable all passwording in a system to prevent anyone using the system from passwording file drawers. You can do this by setting the system password to be blank.

Creating or Changing a System Password

When you first use your HyperDrive Macintosh, 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 Macintosh.

- Open the Startup File Drawer.
- Open the Manager.
- Pull down the Create menu and select "Password."
  You'll see a list of all drawers. The system password will always be the last drawer in this list.
- Click "Change."
- Enter your old system password.
  If you are creating a system password for the first time, enter the words "system password" in the Old Password box.
- Enter your new system password.
  If you do not wish to have a system password, simply leave this box blank.
- Click "OK."



Security





Locking or Unlocking Individual Files

Just as you can "lock" file drawers by assigning passwords to them, you can lock individual files by encrypting them. Encrypting is similar to passwording in that you must remember the key (password), but it actually goes one step beyond simply locking the file: It scrambles the data in the file so that it will be unreadable to anyone who tries to copy the file. The data is unscrambled when the file is decrypted or "unlocked."

Whenever you open the Startup Drawer, an image of a security guard will appear: this Security icon contains the encryption application. 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 a drawer containing other often-used applications such as MacWrite or MacPaint.

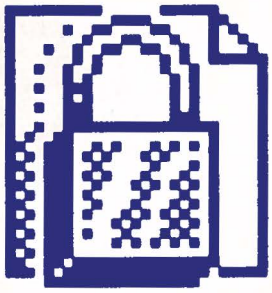
Whenever you want to encode the information contained in your files, use the Security utility to "lock" them.

- Open the Startup File Drawer (or whichever drawer contains the Security application).

- Open the Security application.
  You'll see a window with two scroll boxes appear. The left-hand scroll box shows all the files in that drawer that are currently **unlocked**, or readable. The right-hand scroll box shows all files in that drawer that are currently **locked**, or scrambled, so that they cannot be accessed or read by anyone other than yourself.

- Select the file(s) you wish to lock from the list of unlocked files.
  You may lock any number of files at the same time.
  To select a group of files, click on the first file and drag the pointer to the last file to be locked.

- Click "Lock."









- Type in your key.

Do not forget the key you've given to the file.

Note: Be very careful to use a key you can remember. The encryption methods used by General Computer Company are secure enough that even GCC cannot decrypt a file without the key. You may want to use only a few keys for all files so they can be more easily remembered. Also, you may want to use longer keys for extra security.

As a precautionary measure, your Macintosh will ask you to type in your key **twice**. Be sure that you type in your key **exactly** the same way you did the first time. If the keys you typed do not match exactly, your Macintosh will ask you 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 retype your key.

When you have successfully typed your key in twice, the file(s) you have just locked will disappear from the list of unlocked files and move to the list of locked files.

Note: You may use the same key to lock more than one file. When you select the next file to be locked, just select "Last Key."

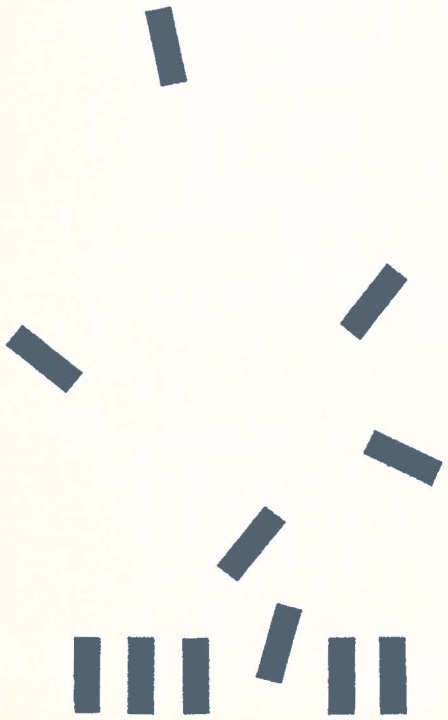
- To unlock a file, select the file(s) you wish to unlock from the list of locked files.
  You will be asked to type in the key you used to lock the file.

- To lock or unlock files in other drawers, click "Drive."
  Each time you click "Drive," your Macintosh will look for the next open drawer or diskette and show you which files in that drawer are locked or unlocked.









Dynamic Sizing: How Your Hard Disk Stores Information

As you've seen, you can store information on your hard disk in one or more file drawers. You can have some file drawers with a lot of information, others with only a little. Each drawer can expand up to the remaining storage capacity of the hard disk.

However, the file drawers do not expand continuously. Each one expands in **blocks** of space: 256K bytes at a time. As soon as you create a file drawer, that reserves 256K of disk space— even if you only place 10K of information into the drawer. Just one K over 256K reserves 512K of disk space, and so forth. Any time you want to see how much space has been used and how much is available, open a file drawer and look at its window.

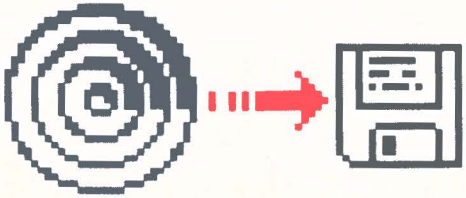
The number of bytes in the file drawer you selected appears at the top of the window. It shows how much of the hard disk this drawer occupies. The amount of space available shows how much more information this drawer can store - that is, the amount of space remaining on the hard disk.

BACKING UP YOUR DOCUMENTS

Three Ways to Back Up Your Documents

Once you begin using your hard disk regularly, you will store many, if not all, of your valuable documents on it. As with a diskette, it's a very good idea to copy your documents periodically so you'll have a backup in case of an emergency. (This backup procedure is especially important with a hard disk, because so much is stored there at one time.) You may also find it useful to keep backup copies of your work for reference purposes: As you edit documents on the hard disk, keeping backup copies will enable you to refer back to older versions of these documents. Whenever you want to copy files from the hard disk onto diskettes, use the Backup utility





that comes with your HyperDrive.

The Backup utility can copy files in three different ways, depending on the extent to which you want to back up your data.

Full Backup. This command backs up all of the files in each of the drawers you have selected. If you have a large number of files on the hard disk, your backup may require several diskettes.

Incremental Backup. This command backs up all of the files in each of the drawers you have selected that have been created or modified since the last backup of that drawer.

Individual File Backup. This command backs up only selected files.

To backup files from the hard disk onto diskettes:

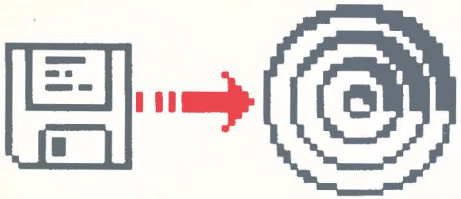
- Open the Startup Drawer.
- Open the Backup utility.
  You'll see the following menus appear at the top of your screen:

  FILE

  BACKUP

  RESTORE

  COMPARE
- Position the pointer on Backup, press the mouse button, and drag the pointer to either Full, Incremental or Individual File Backup.
  You'll see a scroll box containing the names of all drawers or files.
- Select the drawers or files you wish to copy.
  You may select more than one file or drawer at a time by holding down the "shift" key and then clicking additional files or drawers.
  You may also copy consecutive files or drawers by holding down the mouse button and dragging the pointer over the set of files or



drawers you wish to copy.
When backing up individual files you may choose files from more than one drawer at the same time by clicking "Next." Your Macintosh will then show you the files in the next open drawer. You may thus copy files from multiple drawers at the same time.

- Click "Backup."
- Your Macintosh will ask you to insert a diskette.

In addition to copying files and file drawers, the Backup utility performs several other useful functions. It can:



Restore files to the hard disk.

If you have copied to diskettes either individual files or entire drawers using the HyperDrive's Backup utility, you can restore those files or drawers to the hard disk in a few simple steps:

- Open the Backup utility.
- Pull down the Restore Menu and drag the pointer to either "Restore Drawers" or "Restore Files."
- Your Macintosh will ask you to insert your first backup diskette. You will then see a scroll box with the names of the files or drawers contained on the diskette.
- Select the files or drawers you wish to restore.
- Click "Restore."
  To select files from any other drawer, simply click "Next" and your Macintosh will show you the files in the next drawer.

Compare files on backup diskettes to the same files on the hard disk.

Before restoring backed-up files to the hard disk, you may want to check to see whether the documents on the backup diskette(s) match those on the hard disk. You can do this by performing the Compare routine provided in your Backup utility.

- Open the Backup utility.
- Pull down the Compare Menu and





select either "Compare Drawers" or "Compare Files."

- Your Macintosh will ask you to insert the backup diskette. You will see a scroll box with the names of the drawers or files contained on the diskette.

- Select the names of the drawers or files you wish to compare. You will then see a message telling you which of the drawers or files, if any, differ.

Keep a record of your backup commands.

When you back up a document, the Backup utility automatically logs into a journal the date, time, type of backup performed (Full, Incremental or Individual File), and the names of all the files that were backed up. You may view this journal by selecting the "Print Journal" command from the File Menu. An abbreviated version of this journal listing only the names of the files which have been copied may be had by selecting "Print Save Set" from the File Menu.

REINITIALIZING THE HARD DISK

Reinitializing the hard disk clears it of all files and file drawers and prepares it to receive new information. There may be a time when you do want to reinitialize the hard disk: For example, if you want to dedicate this computer to a specific use and clear it of all previous files, or if information becomes disordered on the hard disk.

THINK CAREFULLY BEFORE REINITIALIZING. IT WILL ERASE ALL THE INFORMATION YOU HAVE ON THE HARD DISK, NONE OF WHICH CAN BE RETRIEVED.

Note: Before you reinitialize the hard disk, be sure to make a backup of everything you want to save by copying the information onto diskettes. It takes about 25 diskettes to contain all the information on a full hard disk. (See "Backing Up Your Documents," above.)



- After removing any diskettes that may be running on your Macintosh, turn off your Macintosh.
- Insert the HyperDrive diskette that came with your HyperDrive.
- Turn on your Macintosh.
- Open the HyperDrive diskette icon, then open the Manager application.
- Select "Initialize."

You'll see the first of a number of warnings reminding you that you will lose all your files if you do reinitialize the hard disk. If, after seeing all the warnings, you select Initialize, the hard disk will be wiped clean of all information.

- Enter the system password.

  A box will appear asking whether you want to initialize the hard disk or format it.

- Click "Initialize."
- If you continue to have problems with your hard disk after initializing it, repeat the steps outlined above but click "Format" instead of "Initialize."

Note: NEVER CHOOSE "ERASE DISK" FROM THE SPECIAL MENU AT THE TOP OF YOUR SCREEN. THIS WILL ERASE YOUR HARD DISK AND MAY CAUSE A SERIOUS SYSTEM ERROR TO OCCUR.

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 hard disk, if applications don't work, or if a MacWrite document can't be used by MacWrite, then perform a hard disk test. After the test, you'll see recommendations for how to proceed, based on what the test found.



There is a risk of losing information when you perform a hard disk test, so—

DON'T SHUT OFF, DISCONNECT, MOVE, OR IN ANY OTHER WAY DISTURB YOUR MACINTOSH WHEN A HARD DISK TEST IS TAKING PLACE. YOU WILL LOSE INFORMATION IF THE MACINTOSH IS TURNED OFF OR THERE IS A POWER FAILURE DURING THE HARD DISK TEST.

To test the hard disk:

- Open the Startup File Drawer.
- Open the Manager.
- Pull down the Test/Initialize menu and select "Run Test."

  You'll have to respond to a number of messages informing you about the length of the Hard Disk Test and potential risk in doing the test.

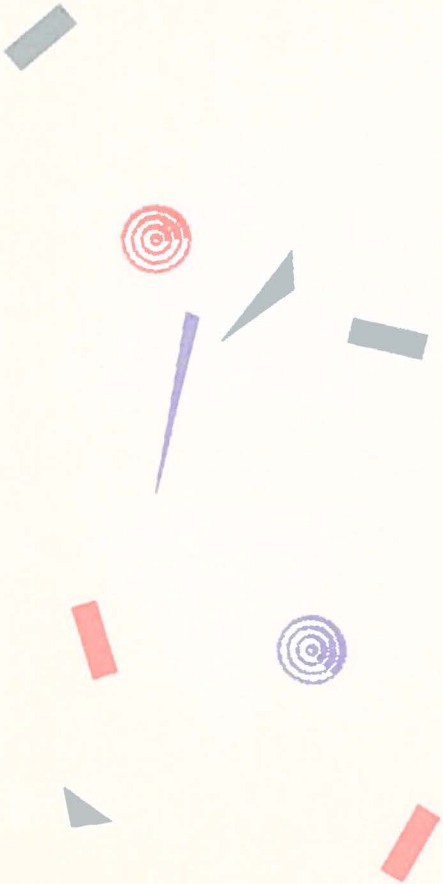
If there are no problems with the disk, you'll find a message telling you what percentage of the hard disk is still usable.

IF SOMETHING GOES WRONG

Your HyperDrive is carefully designed to give you error-free, reliable service. It has been thoroughly tested, both before and after installation. 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. And note the following special situations:

If your system will not boot directly from the hard disk (i.e., if the Startup File Drawer does not appear on your desktop when you turn on your Macintosh), you may have erased a critical system file by mistake. Don't worry! There's an extra copy of the Manager on the HyperDrive diskette that came with your HyperDrive. To copy it onto your hard disk:

- Insert the HyperDrive diskette.



- Open the HyperDrive diskette icon.
- Open the Manager.
- Pull down the Drawers Menu and select the Startup Drawer.

  The Manager program will try to restore the HyperDrive Startup Drawer without damaging any files you may have stored there. In the case of a serious system problem, you will have no choice but to reinitialize the hard disk.
- Pull down the Create Menu and select "Quit."
- Open the Manager and copy the system file to the Startup Drawer.
- Turn off your Macintosh and try again.

If you begin to lose data, your HyperDrive may be overheating. Make sure all vents are clear and turn off the system for a few minutes.

If you cannot find a solution to a hard disk problem, call the dealer from whom you purchased your HyperDrive Macintosh.

GLOSSARY

Backup

A copy of a file or group of files made from the hard disk and transferred onto diskettes.

Boot

To start up the system; see "Powering On"

Byte

A unit of measurement for computer memory and storage. Your HyperDrive Macintosh has 512 kilobytes of memory; the hard disk provides 10 megabytes of permanent (hard disk) storage.

Closed File Drawer

A file drawer that does not appear on your desktop; it is hidden. The opposite of "open file drawer."

Diskette

A 3 1/2" microfloppy disk.

Disk Test

A test to check the condition of the hard disk. To run the test, select Test/Initialize from the HyperDrive Manager application, then choose Run Test. Before you run this test, read the section of the manual called "Testing the Hard Disk."

Dynamic Sizing

The method of assigning information storage space on your hard disk. The size of the space is dynamic because there is no fixed limit to the size of a file drawer. Any file drawer on your hard disk can expand to the remaining storage space on the disk.

Encryption

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

File Drawer

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

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.

Format

To completely rewrite low-level track and sector information on the hard disk. Required after accidental damage or erasure by a strong magnetic field.



HyperDrive Manager

An application included with HyperDrive that lets you create and delete file drawers, make drawers open or closed, test your hard disk, and reinitialize it.

Initialize

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

Key

A series of letters and/or numbers used to access an encrypted or "locked" file.

K or Kilobyte

A measure of computer memory, equal to 1024 bytes.

MB or Megabyte

A measure of computer memory, equal to 1,048,576 bytes. The HyperDrive disk stores 10MB of information.

Memory Expansion Board

An assembly of computer chips that increases the temporary memory of your Macintosh. If you had a memory expansion board installed with your HyperDrive, that board increased the temporary memory of your Macintosh to 512K.

Open File Drawer

A file drawer that appears on your desktop. The opposite of a "closed file drawer."

Password

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

Powering On

Starting up the system: same as "booting."

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."

Startup File Drawer

The file drawer that comes with the hard disk; it contains the HyperDrive Manager. Its icon appears on your desktop when you first use the hard disk.

Other Terms

The following terms are defined in the glossary of the Macintosh manual, pages 151-8.

Application	Document	Memory
Button	Drag	Mouse
Click	File	Press
Command	Finder	Scroll Box
Desktop	Folder	Window
Disk	Icon	

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General Computer Company

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HyperDrive Software Notes



Using HyperInstall

The HyperDrive system software is designed to blend in with the Macintosh software. Once everything is set up, you won't see much that will distinguish a HyperDrive from a Macintosh, except speed.

To use the HyperDrive, you need to install HyperDrive software *resources* in your System file. These resources are normally invisible, but they must be in the System file for HyperDrive to run normally. The HyperInstall application will add the resources to any existing System file.

To use HyperInstall, move it to the "volume" (floppy disk or HyperDrive Drawer) which already holds the System file you need to update. This volume must contain both a System and a Finder file. Usually these will be hidden in a System Folder.

Run HyperInstall in this volume. A message will appear to let you know things are happening, and then a few version numbers will appear. Once it's done, HyperInstall will return immediately to the Finder desktop.

Don't worry about running HyperInstall too many times. It won't hurt anything.

When should I run HyperInstall?
System files contain many resources other than the HyperDrive resources. In particular, you may have a System file which contains fonts, desk accessories, or maybe a special driver, and you don't want to have to reinstall the resources in a HyperDrive System file. Some external hard disk drives come with their own System file already containing the resources needed to talk to their drive. To use them *with* HyperDrive, just install our resources as well onto their boot floppy.

What resources does HyperInstall add?
HyperInstall adds the HyperDrive Driver, the Drawers desk accessory, and the Drawer Icon. The driver and the desk accessory will pick any available ID slot, while the Drawer Icon is always number 255.

Using the Drawers Desk Accessory

When you want to open or close a HyperDrive Drawer, you can always run the Manager program and use the Drawers menu, but there's usually a faster way. Pull down the Apple menu to "Drawers" and release the mouse. A new Drawers menu item will be added to whatever application you are running. You may now open and close Drawers without leaving your application. The Drawers menu will disappear when you run an application, but will always be in the Apple menu.

There is one major restriction on closing Drawers with the Drawers menu: You may not close a Drawer which has any open files in it. This means that if you are in MacWrite,

executing the application from your "Write-Paint" Drawer, you may not close "Write-Paint." The system will crash if you did. **When you are in the Finder, you may not close <u>any</u> Drawers.** You must run the Manager to close Drawers.

<u>Problems with Printing on HyperDrive</u>

If you have an application that won't print to the Imagewriter printer, the first thing to look for is the presence of an Imagewriter driver file. This file is usually kept in the System Folder. Another problem many people face is that some applications require that **an Imagewriter file be in the same Drawer as your application**, not just with the System file. In other words, you might have your System and Finder files in the Drawer "Startup" and Multiplan in your "Plan" Drawer, but Imagewriter must be in the "Plan" Drawer to allow you to print.

<u>Initializing without the Password</u>

It is possible for the HyperDrive to lose all of its data so that you cannot open or create any Drawers. When you try to choose Initialize Disk in the Manager the HyperDrive asks for a System Password, but won't accept whatever you type in. (Remember, it lost its data, including the passwords). How can you make the Manager let you initialize the disk without using the password?

Boot the HyperDrive from floppy disk. As you start the Manager application from the desktop, its name "Manager" will appear in the middle of the menu bar. As soon as this

happens, hold down the Command and period (.) keys together. Keep holding them down. Once the program comes up, a new dialog box will appear telling you the HyperDrive has not been initialized properly. You may only Format or Initialize.

Which is better, Format or Initialize?

When you have to initialize your HyperDrive, you have two choices: Format and Initialize. Each choice has its advantages.

Initialize is quick; almost instantaneous, and recommended. You'll be asked for the name of your first Drawer (probably "Startup" is good) and ask if you would like to password it. Initialize *almost* always works.

Format re-writes the lowest level information (track and sector headers) over the entire hard disk. It takes a few minutes, but it will be complete. After a format is complete, the Manager automatically does the Initialize routine, and you'll be asked for the first Drawer's name again. The main disadvantage to reformatting (besides the speed difference) is that all of the bad block information is lost from the hard disk.

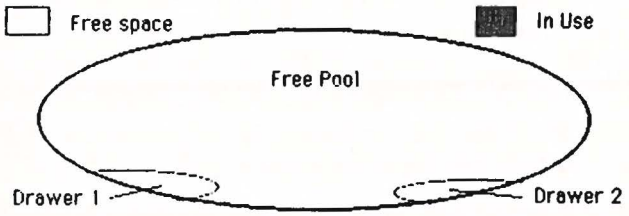
As you use your HyperDrive, it is normal to occasionally encounter (or, more rarely, develop) bad spots on the disk. The HyperDrive software detects these bad blocks as they occur and then marks their position so that you will never write any data to those areas. When you reformat, all of

the bad block information is forgotten. In order to rebuild the bad block map **it is very important that you "Run Disk Test" after formatting your HyperDrive.** This test is in the "Test/Initialize" menu of the Manager. It is common for several bad sectors to appear during this test, but it must be noted that each bad sector represents less than 0.02% of the disk storage capacity. For most uses, this small loss of disk space will not be noticed.

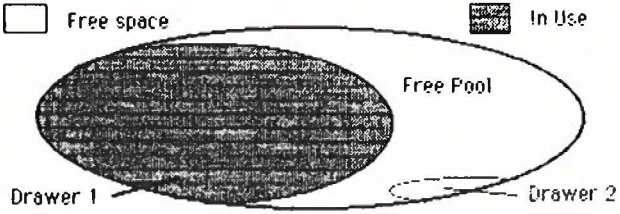
Why do different Drawers show different amounts of free space?

The HyperDrive software dynamically allocates free space on the hard disk to different Drawers. This means that you don't have to choose the size of a Drawer when you create it.

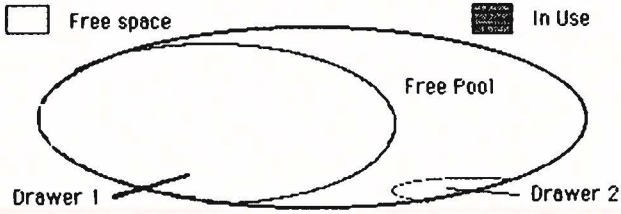
To get an idea how this works, imagine creating two new Drawers on a clean HyperDrive. Both start out with 0K in volume, and about 9750K available. This is because each Drawer initially is allocated 250K of the free space to itself, and also thinks it "owns" all of the space in the free pool.



Now you create files in Drawer1. *Lots* of files, totaling 5000K bytes. You now show Drawer 1 with 5000K in volume, 4750K free, while Drawer 2 still has 0K in volume, and 4750K free. 5000K of the free pool space has been allocated to Drawer1.



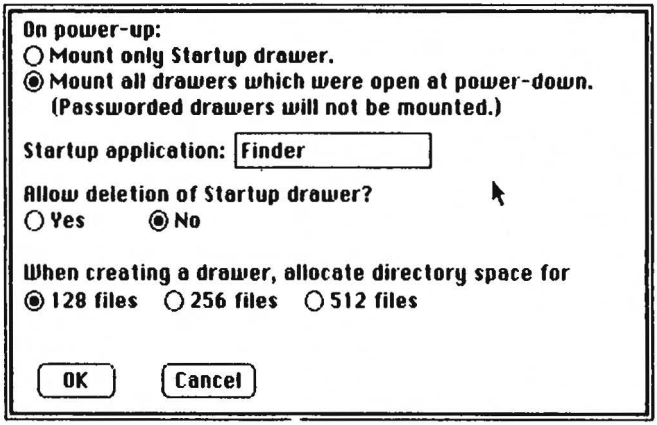
Finally, delete all of the new files in Drawer1. It's now back to 0K in volume, 9750K free. Drawer2, however, which still has 0K in volume, only has *4750K* free. The space allocated to Drawer 1 has not yet been returned to the free pool.



To fix this (to *deallocate* that free space) run the HyperDrive Manager program. It runs a "garbage collection" routine as it starts up which returns disk blocks to the free pool.

Preferences in the Manager

The new version of the HyperDrive Manager program contains an additional item in the Create menu: Preferences. If you select it, you will be presented with the following dialog box:



The Preferences box allows you to change four characteristics of the Manager and your HyperDrive.

Power-up Automatic Mounting

These two radio buttons allow you to turn on and off Automatic Mounting of HyperDrive drawers. If you enable this feature you should keep in mind that only *unpassworded* drawers will be automatically mounted on power-up.

This feature only works properly if you are executing the Manager from the Startup drawer.

If, for any reason, you do *not* want Automatic Mounting to take place as you are booting your HyperDrive, just hold

down the mouse button until the desktop comes up. Only the Startup drawer will be mounted.

Set Startup Application

Instead of booting your Macintosh into the Finder desktop, you might want to always start up with some other application. You may enter the name of any application which is on the Startup drawer to be executed before the Finder. Two points: the name of the application you type in is *not* checked for accuracy (if you mistype the name, Finder will come up instead), and the application name must be less than 16 characters long.

Allow deletion of Startup drawer

You are normally protected from deleting the Startup drawer. If you need to override this protection (and are executing the Manager from some floppy or drawer *other* than Startup) just set the "Yes" radio button. Whenever you restart the Manager, this will be reset to "No."

When creating a drawer...

HyperDrive drawers allocate file space from the free pool as they need it, but the size of the file directory must be set at the time you create a drawer. The Manager normally sets this size to be 8K bytes, which is enough for 128 file entries (if each file has a 12-character name). You may select a directory size large enough for 256 or 512 files if you wish. This size change only applies to drawers you create *after* setting it.

Drawers which are created with large directories may not be able to be opened with the Drawers desk accessory. This is because opening large-directory drawers requires

more memory, and some applications do not allow the Drawers accessory enough memory to complete the open operation. You will always be able to use the Manager application to open drawers, despite large directory size.

General Computer Company
215 First Street
Cambridge, Ma. 02142
(617) 492-5500
1 (800) 422-0101