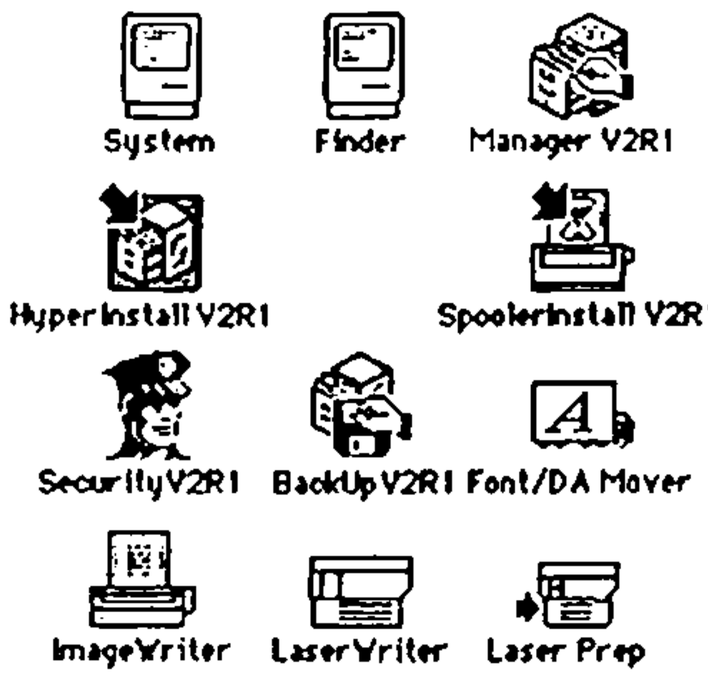
HYPERDRIVE

Users' Manual Addendum

Introduction



You must use these new versions of the HyperDrive and Apple software

Your new HyperDrive is an upgrade of our original product. Some features have been enhanced; others have been redesigned to ensure compatibility between HyperDrive and the Macintosh Plus.

This Addendum to the HyperDrive User's Manual describes all the changes we have made. You should read it in connection with your HyperDrive manual to make sure that you are working with the most up-to-date information about your HyperDrive. For ease of reference, the Addendum has been divided into sections corresponding to the sections of the original manual. The Addendum also includes a brief description of Apple's new Hierarchical File System and the way it works with HyperDrive.

An important note: because the HyperDrive software has been rewritten to ensure MacintoshPlus compatibility, you should not attempt to use old HyperDrive and Apple System software -- especially old versions of the Manager, HyperInstall, and the System or Finder -- with your new HyperDrive.

The Hierarchical File System

Your new HyperDrive has been redesignd to work with Apple's new hierarchical file system for the Macintosh. This system allows you to create a hierarchical relationship, or pathway, between your folders and files. Each pathway you create runs from the drawer or disk level at the top of the hierarchy down through a series of folders contained within other folders. Each level of the hierarchy can contain both files and folders; the path to an individual file consists of the folders that contain it.

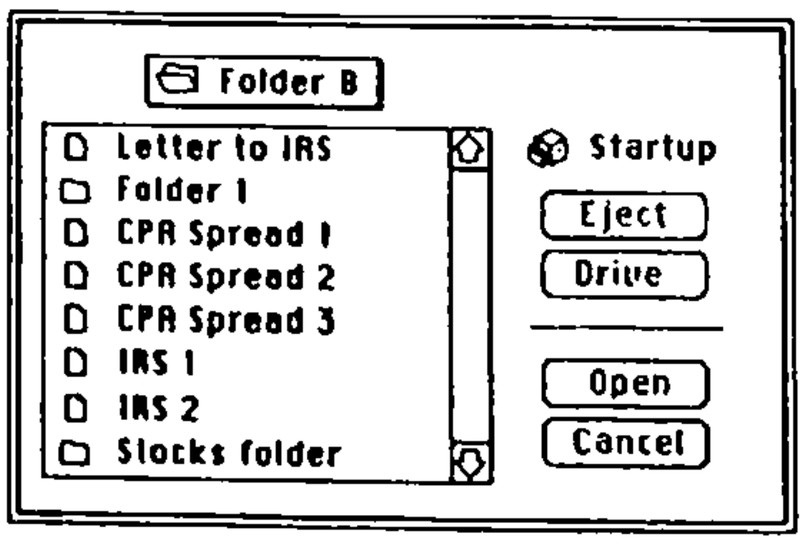
Use of the hierarchical file system with your HyperDrive is optional. You can continue to use the original flat Macintosh file system if you want; or you can use the new hierarchical system on some drawers, the flat system on others.

Before choosing to use the hierarchical file system for your drawers, we recommend you first read about some of the limitations of the Backup application with hierarchial drawers (see page 11 of this addendum).

Once you have selected a file system for a drawer, however, you cannot change it without deleting and recreating the drawer.

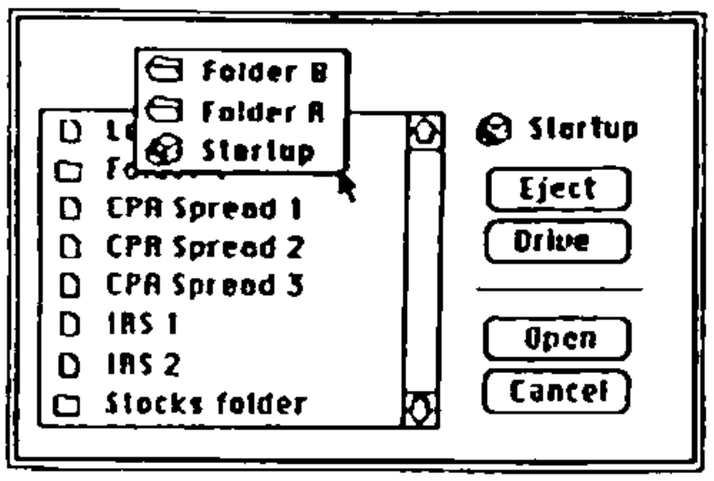
If you use the hierarchical file system, the folders you see on the Finder desktop will actually organize your files hierarchically rather than just appear to do so, as is the case with the flat file system (see page 116 of your Macintosh Plus manual). Thus, with the hierarchical file system, you can use the same file name more than once in the same drawer as long as the files are in different folders.

Your choice of file system also has implications for your HyperDrive applications. Whenever you want to use one of the HyperDrive applications to back up files, for example, or encrypt them you will be presented with a box that will allow you to select the files on which you want the application to work. This box will be appropriate to the kind of file system you have chosen for the drawer in which you are working.



At each level, you will see a list of the contents of the current folder.

If your drawer has a flat file system, you will see one list of files in the box. If you have chosen a drawer that has a hierarchial file system, you will see a drawer icon beside the name of the drawer you are in, and a list of files and folders contained within that drawer. To choose a different drawer, click the Drawers button.



The pull down folder menu reveals the path back to the top level

To move down the pathway to a particular file, select the name of the folder which contains either that file or the next folder in the path. You will now see a folder icon and the name of the folder you have selected underneath the name of the drawer containing the folder. You will also see a list of the contents of the folder.

You can proceed in this way until you have descended the path to the file you want. To climb back up, select the name of the current folder and pull down. The menu that appears will show, in reverse order, the path you took to get to that folder. To move to a different level, select the name of the folder to which you want to go. If you want to go all the way back to the top, select the name of the drawer or disk.

The Manager

Choosing a File System for Your Drawers

You will be asked which file system -- hierarchical or flat - you want to use in your new drawer. Your previous choice of file system will appear pre-selected in the box. (If this is your first drawer, the hierarchical file system will be selected.) Click your selection and then click OK.

Once you have selected a file system for a drawer, you cannot change it except by deleting and recreating the drawer.

The Default Drawer

Whichever drawer contains the application you used last is the HyperDrive's default drawer. This drawer is represented by the drawer icon at the uppermost right corner of the Finder desktop.

If you are using Finder version 5.1 or above, the default drawer, even if it has a System and Finder file, will use the System file contained in your Startup drawer. If you want to use a different System file, you can force a change.

To force a default drawer change:

Hold down the Option key while double clicking on an application icon contained in a drawer having both a System and a Finder file. This operation will cause your HyperDrive to use the System contained in the desired drawer -- and will cause that drawer to become the default drawer if it is not already.

Optimizing the Hard Disk

Every time a file is thrown away or deleted, a small amount of unused disk space remains in the drawer that contained the file. After many files (or a few large files) have been deleted, a significant amount of unused space will be left in a drawer. That drawer can reuse the space, but other drawers cannot take advantage of it. In order to free the unused space for use in other drawers, the drawer must be optimized.

Optimization is not necessary for hierarchical file drawers.

To optimize the hard disk,

1. Run the Manager from the HyperDrive System Software disk.

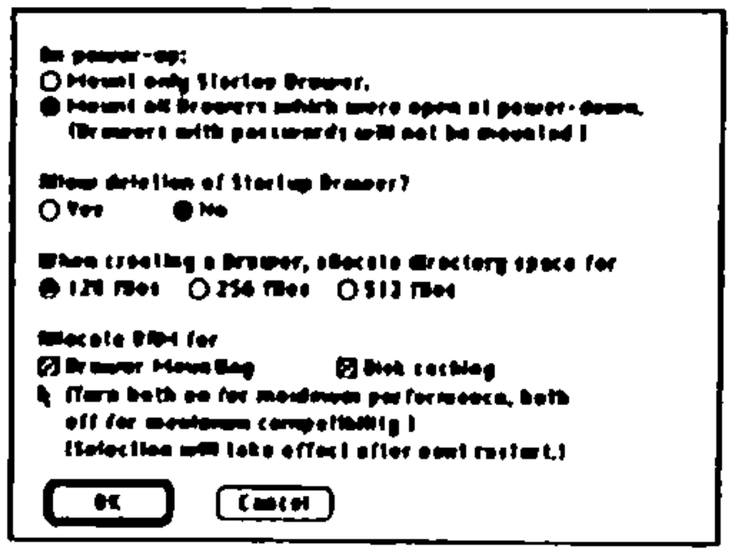
Since the optimizing routine cannot optimize a drawer containing either itself or the currently running System, you might be unable to optimize one or two drawers (depending on whether the drawer containing the Manager also contains the System file currently running your HyperDrive). Running your HyperDrive from the System Software I disk will render all flat file system drawers accessible to optimization.

2. Mount all drawers needing optimization.

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

Space will only be recovered if the Manager can find and entire unused 256K block of memory. When optimization is complete, a message box will report how many 256K blocks (if any) were recovered.

Choosing Maximum Performance or Maximum Compatibility



The Manager's preference screen

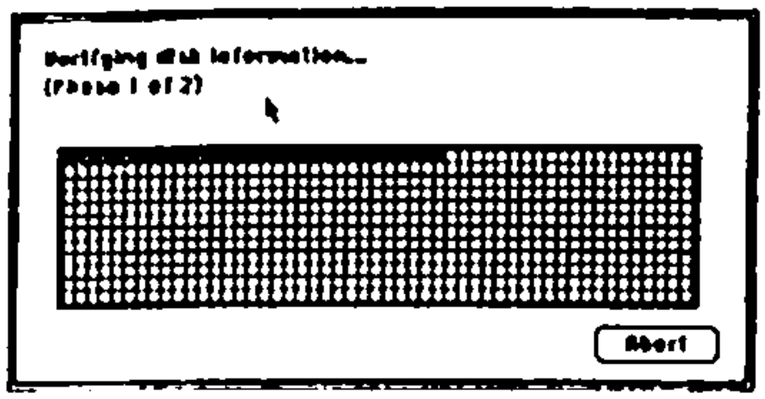
In order to improve the performance of your HyperDrive 10 or 20 with certain applications, you can configure RAM for either maximum performance or maximum compatibility.

Maximum performance means that HyperDrive's ability to mount a large number of drawers and to allow disk caching will be used to the fullest. Disk caching involves using a portion of RAM (approximately 40K) 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, thus speeding up the operation significantly. The maximum performance setting is the one you will probably want to use most of the time.

Because the HyperDrive System uses additional RAM for the drawer mounting and disk caching features, some versions of some applications will not work with HyperDrive when these features are in use.

If you are having problems running an application, you can turn off the drawer mounting and disk caching features by indicating your preference for maximum compatibility. Turning disk caching and drawer mounting off will keep the HyperDrive System from using up the additional RAM needed for the application. (It will also limit the number of drawers you can mount at one time to 2 or 3.)

Testing the Hard Disk



You can abort the disk test at any time

The hard disk test you can perform on your HyperDrive now takes place in three phases. Each phase is represented graphically on a screen.

The first phase of the disk test checks for the location of all information stored on your hard disk. As this phase of the test takes place, the boxes of the test-screen grid are rapidly filled in.

In the next phase of the test, each of the disk cylinders is checked for correctness. This step takes more time than the first. The sectors are checked and filled in, four at a time.

Last, a test is done on the mechanics of the disk drive head itself. As this test takes place, the filled boxes on the test screen are more and more rapidly cleared.

After the disk test is complete, you will see a message indicating the results of the test. If the message reports that all of your cylinders were tested, your HyperDrive is in good working order. If you receive a message indicating that your disk has more than 64 bad blocks, you should see your dealer.

If you want information on the number of bad blocks on your disk, click the Manager icon in the "About the Manager Window". You will see a "credits" screen that includes the number of bad blocks remapped on your disk.

The Print Spooler

The Print Spooler is an application that prints documents with an **Imagewriter** or **Imagewriter** II printer while leaving the HyperDrive free to perform other tasks. Once installed, the Print Spooler is automatic. Every time you ask for a document to be printed, an image of the document is written, or spooled, from RAM into any empty space on the hard disk. When you select, or turn on, the printer, 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.

Instant Printing

If you have already selected the printer (press the 'Select' button on the Imagewriter hardware itself; the light beside the button will go on), printing with the Print Spooler will begin shortly after you use the Print command. (Spooling of a document to the hard disk typically requires about one quarter to one third of the time it takes to print the document, but spooling times can vary greatly.) While the document is spooling, you will not be able to use your HyperDrive; but when spooling is finished, the use of your HyperDrive will be returned.

Queued Printing

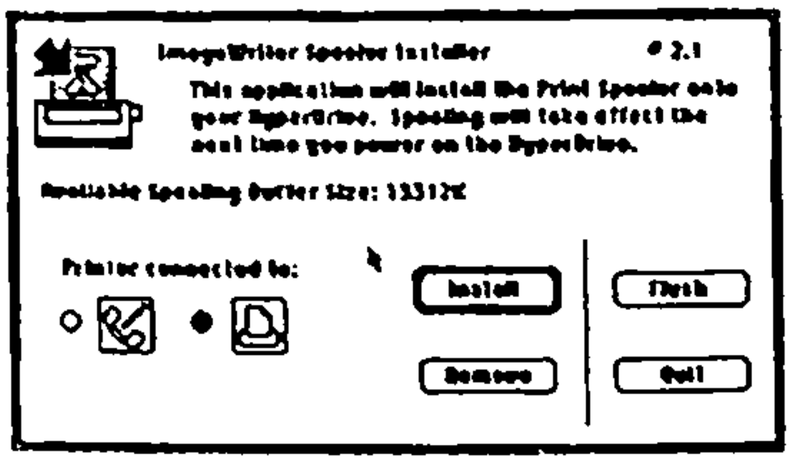
One of the advantages of the Print Spooler is that you can queue more than one document for printing at a later time. The number of documents that you can spool is limited only by the amount of free space on your HyperDrive. (Once spooled, a document takes up about 50K of memory per page regardless of the contents of the page.)

You can queue documents in two ways. Select a group of documents from the Finder (all documents queued in this way must have been created by the same application) and then, while still in the Finder, select Print from the File menu. Or, with the ImageWriter turned on, deselect the printer (press the 'Select' button; the light will go off) while you arrange the printing, one by one, of a series of documents or pictures. When you select the printer again (press the 'Select' button), printing will begin. If you want, you can use a combination of both of these methods.

Emptying the Queue

Once printing has begun, do not turn your Imagewriter off, as this will empty the queue. Turning off the HyperDrive, like turning off the Imagewriter, empties the queue.

If you want to empty the print queue, use the Flush option available on the Print Spooler installer screen. This option will stop printing and eliminate the contents of the Spooler buffer.



1. Bring up the Spooler Installer screen by double clicking on the Spooler Install icon in your Startup drawer.

2. Click the Flush button.

You will not be able to use the Flush option to stop printing until the Print Spooler has returned control of your Macintosh to you.

Limitations of the Print Spooler

Free Space

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. If there is not enough disk space, the Print Spooler application will not spool at all. In this case, you will be able to print documents but not to use your HyperDrive while a document is being printed.

Printer Pauses
After a document is spooled and has started to print, certain uses of the HyperDrive will cause the printing process to pause momentarily. These uses include holding a menu down, saving and loading files, and any continuous processing like recalculating a spreadsheet.

Continous feeding paper
Unless you have an Imagewriter II with a sheet feeder, the Print Spooler will only work with continous feeding paper. If you do not have an Imagewriter II with sheet feeder and need to print on cut-sheet paper, you should install the Print Spooler into one of the two printer ports (either printer or modem). Then when you want to feed your printer manually, switch printer ports in the "Chooser" desk accessory to the port in which the Print Spooler is not installed and move the printer cable to the newly selected port.

Imagewriter only
The Print Spooler will not spool documents for the LaserWriter printer or any printer connected to an AppleTalk network. To use the LaserWriter to print a document, you do not have to turn off the Print Spooler; merely select the LaserWriter using the "Chooser" desk accessory. **An important note: do not install the Print Spooler in the port that you will be using for the LaserWriter (AppleTalk) as this will cause the Spooler to be disabled.**

The Security Application

The Security application protects you documents from unauthorized acces by encrypting them.

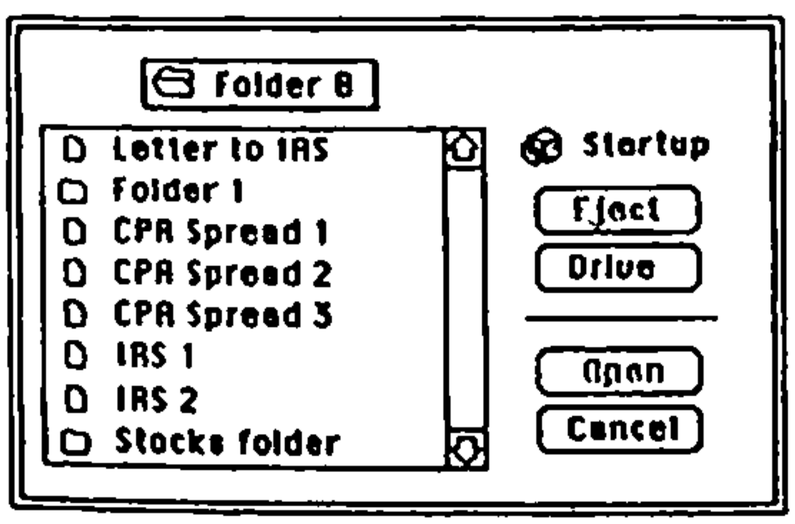
To encrypt a file,

1. Open the Security application by double-clicking it.

You'll see a box offering you the choice of Encrypt..., Decrypt..., Help, and Quit. If you select Help, you will be presented with a screen containing some information about the Security application.

2. Choose Encrypt...

If the drawer in which you are working uses the hierarchical file system, you will see a box displaying the contents of the last folder you used. (If the drawer in which you are working uses the flat file system, you will see one list of files, rather than a hierarchical list of files and folders.)



The hierarchical file system shows you the contents of the last folder you used.

3. Choose the file you wish to encrypt from the list of files.

You can only select one file at a time for encryption.

4. To choose from other drawers, click Drive.

Each time you do, the HyperDrive will look for the next mounted drawer and show you a list of files (or files and folders, if you are using the hierarchical file system) in that drawer. You can use the Drawers desk accessory to mount additional drawers.

To decrypt a file,

1. Choose Decrypt...

2. Choose the file to decrypt.

From the finder, double click on the locked file icon.

The Backup Application

The version of Backup shipped with this upgrade works with both 400K and 800K floppy disks.

Limits of Backup with hierarchical file drawers

There are, however, some limitations on the use of the current version of Backup with the hierarchical file system. If your drawers use the original Macintosh flat file system, you will have no difficulty using Backup and its companion operations, Restore and Compare, as described in the current HyperDrive manual.

If you want to use the hierarchical file system in some or all of your drawers, take note of the following:

Backup
You cannot back up a drawer that uses the hierarchical file system. To work around this limitation, copy your hierarchical files to a drawer that uses the flat file system and back up that drawer.

Restore
You can restore the contents of a flat file drawer or disk to a hierarchical file drawer. All your files will be placed in the top level of the hierarchical drawer. Because hierarchical file names are limited to 27 characters, file names longer than this limit will be truncated and some characters (BU, 1, 2, 3, etc.) will be added to the name as its last characters.

Compare
You can make comparisons between the contents of hierarchical drawers or flat file drawers and your back-up copies. Hierarchical compares will only compare the top level of the drawers.

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