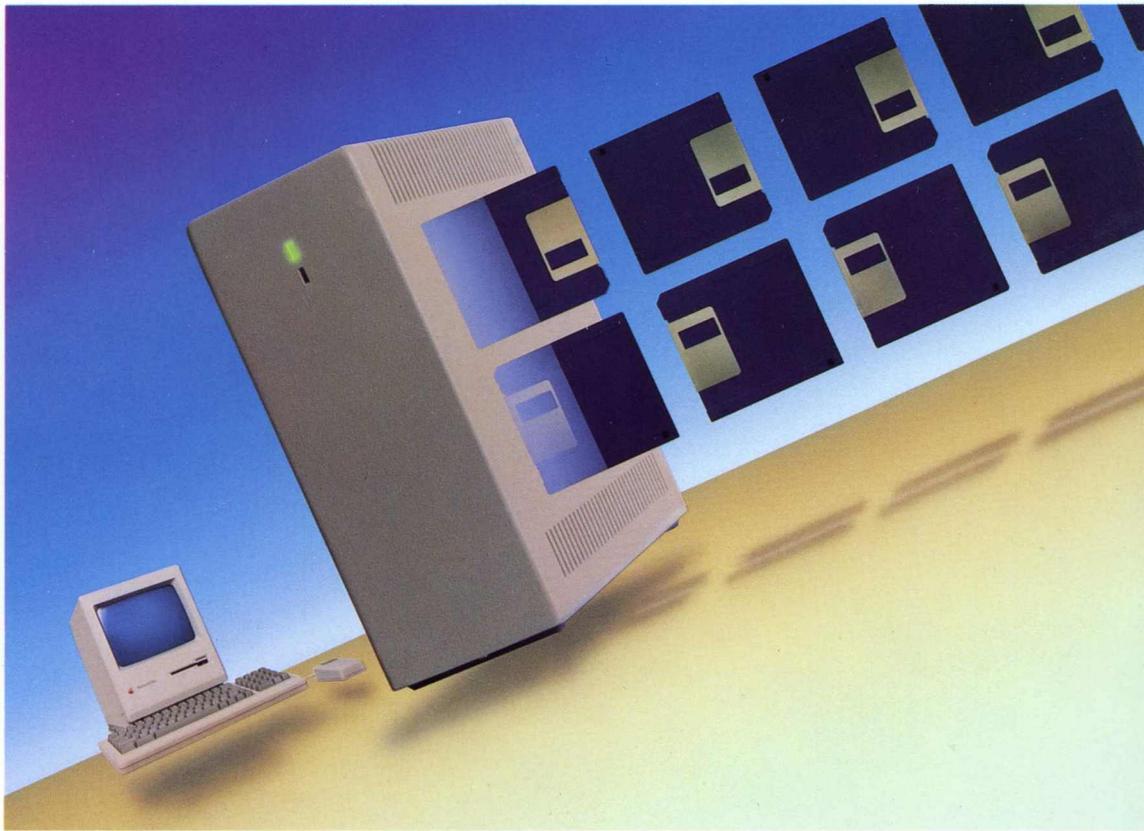


# DiskFit™

USER'S MANUAL



 SUPER**MAC**

# DiskFit<sup>TM</sup>

## User's Manual

**SuperMac Technology<sup>TM</sup>**

485 Potrero Avenue

Sunnyvale, CA 94086

Technical Support: (408) 245-0646

## **Trademarks**

SuperMac, SuperMac Technology, the SuperMac logo, DiskFit, SmartSet, LaserFrame, TapeDriver, and DataFrame XP are trademarks and PixelPaint Professional is a registered trademark of SuperMac Technology. Apple, AppleShare, Macintosh, MultiFinder, Lisa, AppleTalk, AppleLink, and Hypercard are registered trademarks and Finder and ResEdit are trademarks of Apple Computer, Inc. MacDraw is a registered trademark of Claris Corporation.

## **Copyright**

The DiskFit User's Manual is copyrighted by SuperMac Technology. The DiskFit program is copyrighted by Dantz Development Corporation. Your rights of ownership are subject to the limitations and restrictions imposed by the copyright laws as outlined below.

It is against the law to copy, reproduce, or transmit including without limitation electronic transmission over any network any part of the Manual or program except as permitted by the Copyright Act of the United States, Title 17, United States Code. Under the law, copying includes translation into another language or format. However, you are permitted by law to write the contents of the program into the machine memory of your computer so that the program may be executed. You are also permitted by law to make working copies of the program, solely for your own use, subject to the following restrictions: (1) Working copies must be treated in the same way as the original copy; (2) If you ever sell, lend, or give away the original copy of the program, all working copies must also be sold, lent, or given to the same person, or destroyed; (3) No copy (original or working) may be used while any other copy (original or working) is in use except within the terms of this license. The copyright notice that is on the original copy of the program must accompany any working copies of the program.

The above is not an inclusive statement of the restrictions imposed on you under the Copyright Act. For a complete statement of the restrictions imposed on you under the copyright laws of the United States of America, see Title 17, United States Code.

DiskFit written by Laurie L. Gill with Richard C. Zulch.

Technical consulting by Larry Zulch.

User's Manual written by Jackie Taylor.

Editing assistance from Kevin Farley, Tony Stayner, Stephanie North, and Dina, Fabian, Jim, Mark, and Tammy of SuperMac Technical Support.

Program © 1987, 1988, 1989, 1990 Dantz Development Corporation.

Manual © 1987, 1988, 1989, 1990 SuperMac Technology.

**SuperMac Technology • 485 Potrero Avenue • Sunnyvale, CA 94086 • (408) 245-2202**

# CONTENTS

INTRODUCTION	1
If You Don't Want to Read This Manual	1
DiskFit's Answer to Backup Requirements	1
Special Notes	3
CHAPTER 1—INSTALLING DISKFIT	5
Copying the Files onto Your Hard Disk	5
CHAPTER 2—USING DISKFIT	7
About Duplicates and SmartSets	7
Duplicates	7
SmartSets™	7
Running DiskFit	8
Choosing the Source and Destination Volumes	8
Creating a Duplicate	10
Creating a SmartSet™	11
During a SmartSet Backup	12
Incremental SmartSet or Duplicate Backups	13
Missing or Defective SmartSet Volumes	14
Converting Old SmartSets to 2.0 Format	14
Updating Old SmartSet Volumes	14
CHAPTER 3—SELECTING FOLDERS AND FILES	17
Limiting a SmartSet Backup	17
Folder Selection	18

Exclude [Folders]	19
Archive Folders on a Duplicate Destination	20
Exclude Files	21
Changing or Deleting SmartSet Information	23
Defining a Subvolume	24
CHAPTER 4—USING TAPE	27
Installing the TapeDriver	27
Formatting a Tape Cartridge	28
Backing Up to Tape	28
Ejecting a Tape Cartridge	29
Locking and Unlocking a Tape Cartridge	30
Special Notes for Tape Backups	30
Restoring Files from Tape	31
CHAPTER 5—RESTORING	33
About Restoring	33
Restoring an Entire Volume	33
Restoring a Few Files	34
Using a Duplicate Hard Disk	35
CHAPTER 6—BACKUP STRATEGIES AND CONSIDERATIONS	37
Backup Strategies	37
Using Subvolumes	38
Unattended Backups	38
Special Considerations	39
Questions and Answers	40
CHAPTER 7—TROUBLESHOOTING	43

CHAPTER 8—REFERENCE	45
GLOSSARY	49
INDEX	51



# INTRODUCTION

This manual will help you get the most out of DiskFit. The Introduction gives you basic information about what DiskFit does. Chapter 1 provides step-by-step instructions for installing DiskFit. The rest of the manual provides instructions for backing up and restoring volumes, instructions for using tape, questions and answers, backup strategies, special considerations, troubleshooting, reference, a glossary, and an index.

---

## If You Don't Want to Read This Manual

DiskFit was designed to be straightforward and easy to use. If you would like to get started immediately, copy DiskFit and DF.Help to your hard disk, and launch DiskFit. The application has complete on-line help if you need it.

---

## DiskFit's Answer to Backup Requirements

DiskFit has many features for your backup requirements. Both DiskFit and Network DiskFit have the following features:

- Backs up to any Macintosh® HFS volume: a hard disk, 3.5-inch HFS floppy disks, DTC/Kodak cartridges, Bernoulli cartridges, Syquest removable hard disk cartridges, read/write optical drives such as SuperMac's LaserFrame™, DC 2000 tape cartridges (provided that the tape drive has a 3M MCD 40 controller and the SuperMac™ TapeDriver™ file is in the System Folder), any other Macintosh HFS volume, or any combination of the above.
- Does not require that you indicate which files have changed—just insert a disk or a tape and begin.
- Keeps all backup files in Macintosh Finder™-readable format, even on tape. You can access any file from the backup using the Finder. You do not have to launch DiskFit to access your backup files.
- Automatically performs incremental backups. After the first backup, only files that are new or changed are copied, so you do not have to do a full backup every time. If you delete files on your source volume, DiskFit will always reclaim unused space on the

backup. This space is used for files that are new or different, so backups remain as compact as possible.

- Uses the TapeDriver file to make backing up to tape as easy as backing up to any Macintosh disk. DiskFit is compatible with Apple Computer's Tape Backup 40SC, SuperMac's DataStream, DataFrame XP™40+40 and XP60+40, General Computer's HyperTape, and any other DC 2000 tape drives that use the 3M MCD 40 controller.
- Backs up single files up to 2 gigabytes (2000 megabytes), automatically splitting them where necessary. Split files are joined automatically during restore and can be manually joined if desired.
- Runs in the background under MultiFinder®. DiskFit uses the Notification Manager under Apple® system 6.0 (or later) to inform you when an additional disk or tape is needed. A special "attention" sound is played and the notification icon flashes over the Apple logo in the menu bar. If a backup is in progress and you choose **Shut Down** or **Restart** from the Finder's File menu, an alert appears to ask if you really want to stop the backup. Also, the desktop file can be backed up under MultiFinder, and restored under Finder, with all comments intact.
- Allows you to create a Duplicate of your hard disk if the destination can hold all files to be backed up from the source volume. You can duplicate your entire hard disk or exclude certain folders from the Duplicate. You can duplicate to another hard disk, tape, an optical cartridge, a Syquest cartridge, a folder on another volume (provided that the folder is defined as a DiskFit Subvolume), etc. In a Duplicate, the folder hierarchy is retained, and backups are incremental. If you duplicate to another hard disk, you can have a complete ready-to-use Duplicate at all times.
- Allows you to create a SmartSet if you are backing up to multiple Finder-ejectable volumes. In a SmartSet, the folder hierarchy is not retained on the backup media, but it will be reconstructed when you perform a complete restore from the SmartSet. Files are split when necessary and automatically joined during a restore. Split files can also be manually joined if desired.
- Allows you to create multiple Duplicates or SmartSets and automatically numbers them. For details on Duplicates and SmartSets, please see Chapter 2, "Using DiskFit."
- Allows you to limit a backup in one or more ways. You can create:
  - a SmartSet that backs up only documents;
  - a SmartSet that backs up only system files and applications;

- a SmartSet that backs up a single large file up to 2 gigabytes;
- a SmartSet that backs up only the folders you specify;
- a SmartSet that backs up everything except for certain types of files you specify;
- a SmartSet that uses a combination of these file and folder limitations.

In addition to these features, DiskFit:

- Is extremely reliable. DiskFit will not consider a backup complete until each file is copied successfully. You can double-check that each file was precisely copied to the backup media using the Verify option. Each file is individually accessible from your backup, should any part of the backup be lost or damaged. DiskFit does not depend on any type of “directory” disk, since files are stored in Finder-readable format.
- Creates a report each time you back up that logs the backup time and any errors, as well as a list of the backed up files and folders and the SmartSet volume(s) where the files are located. This report can be viewed and printed from DiskFit or from any word-processing application that will open a text file.
- Preserves comments you enter in a file’s Get Info box and keeps locked files locked.
- Allows you to pause a backup and continue later. If you wish, you can also cancel a backup and later resume where you left off.
- Allows you to define folders as Subvolumes for backup or restore purposes. This is particularly useful if users are backing up workstation files to a file server.

## **Special Notes**

- **Former DiskFit 1.4 Users:**
  - 1) Ignore instructions regarding DataForm found in 1.4 release notes. DataForm has been eliminated and all tape formatting and initializing procedures have been integrated into the TapeDriver software.
  - 2) When you back up or restore with DiskFit 2.0 using a SmartSet that was created with an earlier version of DiskFit, the SmartSet will automatically be made into a DiskFit 2.0 set. The conversion only happens the first time you use the old set with DiskFit 2.0. All files will still be Finder readable. If you first use an older SmartSet in a backup, DiskFit will scan all disks and then proceed with the incremental backup. If you first use an older SmartSet in a restore, the restore will proceed as usual and the SmartSet will be automatically converted.

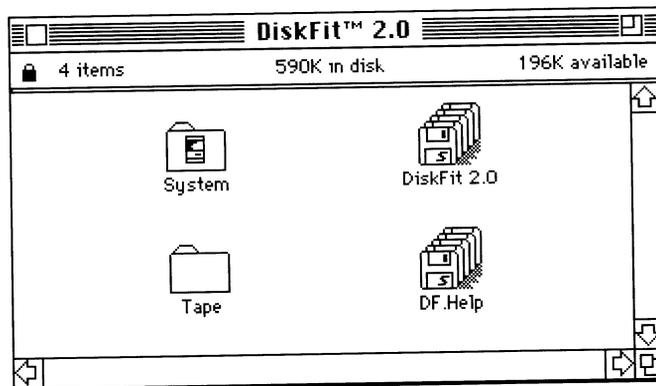
- DiskFit operates significantly faster with Apple's Control Panel RAM Cache on. We recommend setting it to 64K. However, setting the cache to a very large size (1 MB, for example) could, under certain situations, reduce DiskFit's performance. Using the cache with DiskFit will not reduce reliability.
- It's important that you use the latest version of Apple's System software. Although DiskFit is compatible with System 4.2 (or later), System 6.0.2 (or later) will allow you to take advantage of DiskFit's new features. If you are using an earlier System, contact your Apple authorized dealer for an update.
- If you have installed a copy-protected program on your hard disk with a special installer program, you may need to reinstall the program or use a key disk after you restore your hard disk with DiskFit.
- If you are using a 512K Macintosh with 64K ROMs and single-sided internal drive, you will need the HD 20 System File in your System Folder.
- To access on-line help while running DiskFit from a file server, 512K Macintoshes with 64K ROMs must have Net.DF.Help, in their local System Folder.
- DiskFit works with the Macintosh Plus or later. It does not work with the 128K Macintosh, the Macintosh XL/Lisa®, nor will it backup up MFS (nonhierarchical) volumes.

## INSTALLING DISKFIT

The DiskFit floppy disk contains a System Folder, the DiskFit application, the DF.Help file, and the Tape folder. If your hard disk ever crashes, you can start up from a copy of this disk to restore your files.

### Copying the Files onto Your Hard Disk

- Insert the DiskFit floppy disk into a workstation Macintosh.



*DiskFit disk*

- Copy the DiskFit application to your hard disk, and copy the DF.Help file into the folder on your hard disk that contains the DiskFit application file, or into the startup System Folder.
- If you are using a DC 2000 tape drive, locate the TapeDriver file in the Tape folder. Then copy the TapeDriver to the startup volume's System Folder.

*NOTE: You **must** have 650K of free **contiguous** disk space to use tape. Please see Chapter 4, "Using Tape," for details.*

The TapeDriver file must be in the startup volume's System Folder or DiskFit will not be able to read from or write to tapes.

*NOTE: If your System Folder contains any other tape drivers, REMOVE them before installing the TapeDriver.*

- Once you have installed the TapeDriver software, turn on the tape drive and restart the Macintosh.

The “Welcome to Macintosh” screen appears, and the startup icon pictured on the left should appear briefly on the screen:



*TapeDriver installed*



*TapeDriver not installed*

If the icon on the right is displayed, or if no icon appears at all, the TapeDriver has not been properly installed.

Make sure the TapeDriver is in the startup volume’s System Folder and that it is not in another folder within the System Folder. Also, make sure the tape drive is connected and powered on before startup. Refer to Chapter 4, “Using Tape,” for information on tape backup.

- Make a copy of the DiskFit floppy disk, putting the TapeDriver file in the System Folder if you are using tape. You will use this disk to start up if you need to restore files to an empty or corrupted hard disk.
- Store the original DiskFit disk in a safe place, away from heat, humidity, or anything magnetic.

## USING DISKFIT

We recommend that you read this chapter so you can use DiskFit most effectively. The following sections outline the procedures for beginning a backup, creating SmartSets and Duplicates, and using DiskFit's other features.

---

### About Duplicates and SmartSets

DiskFit can create two different types of backups—Duplicates and SmartSets—depending on the backup media you are using and which files you wish to back up. Both Duplicates and SmartSets allow you to retrieve individual files. Both types will rebuild your hard disk to the state it was in after your last backup when you restore.

#### Duplicates

If you are backing up to a single destination volume, you can create an exact copy of your source volume, called a Duplicate. You can duplicate your entire hard disk or exclude certain folders from the Duplicate. The destination volume must be of equal or greater capacity than the source volume. If the destination is smaller than the source volume, you can use the **Exclude [Folders]** option to exclude folders so the contents will fit, then choose **Disk Duplicate** from the File menu to make the Duplicate. You can duplicate to another hard disk, tape, an optical cartridge, a Syquest cartridge, a folder on another volume (provided that the folder is defined as a DiskFit Subvolume), etc. In a Duplicate, the folder hierarchy is retained on the backup media. If you duplicate to another hard disk, you can have a complete, ready-to-use Duplicate at all times.

#### SmartSets

If you are backing up to multiple Finder-ejectable volumes, you will create a SmartSet. SmartSets allow you to specify exactly which folders or file types you wish to back up. In a SmartSet, the folder hierarchy is not retained on the backup media, but it will automatically be reconstructed during a restore. Files are split where necessary and are automatically joined during a restore. Split files can also be manually joined if you wish to retrieve them individually.

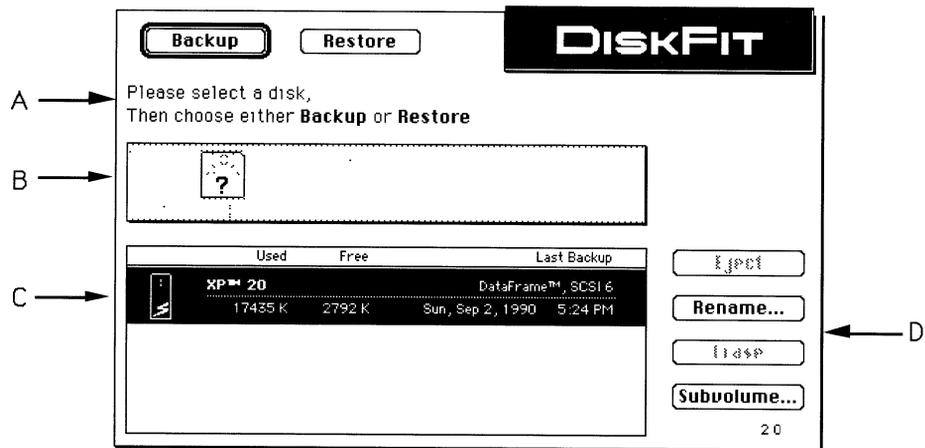
You can back up just applications or documents, choose specific folders, or exclude certain files according to their type and creator codes. Any file or folder selections you

make are recorded in the information for that SmartSet. You can later change the folders and file selections of a SmartSet by choosing **SmartSets** from the Windows menu.

## Running DiskFit

The procedure for creating either a SmartSet or a Duplicate begins by launching the program and choosing the source and destination volumes.

- Double-click the DiskFit application icon to launch the program. The main window appears:



*DiskFit main window*

The main window contains: [A] the message area; [B] the current volume area; [C] the available volume list; and [D] the volume buttons.

The first message in the message area asks you to select the volume that you wish to back up or restore. The current volume area informs you about the progress of the backup. The highlighted volume in the list indicates the volume that will be backed up when you click **Proceed**. The volume buttons perform their functions on the selected volume.

## Choosing the Source and Destination Volumes

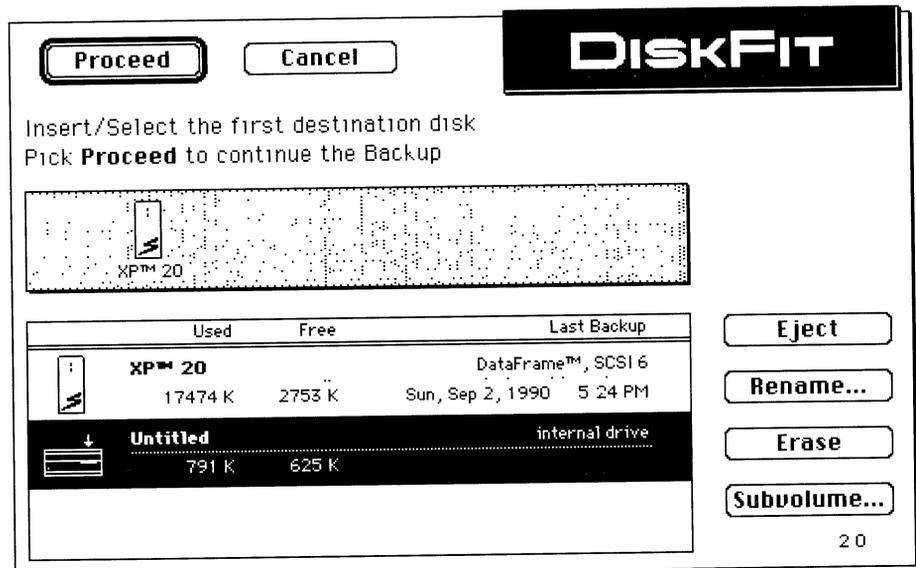
To begin a DiskFit backup, you must first select the volumes you wish to work with. The volume you wish to back up is called the *source* volume and the volume(s) to which files will be copied is the *destination*.

- Select the source volume in the volume list. Any volume appearing in the volume list can be a source volume.

The source volume can be a local disk or a Subvolume. For information about these types of volumes, refer to the sections “Defining a Subvolume” in Chapter 3 and “Using Subvolumes” in Chapter 6. (Note: A Subvolume can be particularly useful if you wish to restore files to a volume you do not wish to completely erase.)

- Click **Backup**.

The “Backup” button becomes “Proceed”:

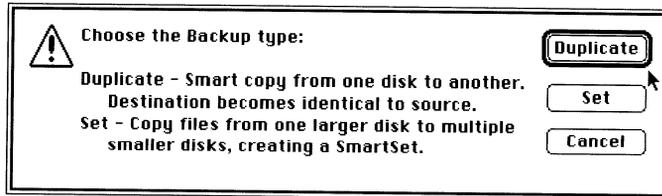


*Selecting the destination volume*

- Select a new destination volume for a new backup, or an existing Duplicate or SmartSet for an incremental backup. The destination volume can be any volume that appears in the volume list that is not locked.
- If you are backing up to floppy disks or another type of ejectable volume, insert the first destination disk into the appropriate drive and select it in the list.
- If you are backing up to tape, insert a tape cartridge into the tape drive. DiskFit will inform you if the tape needs to be formatted or initialized, provided that the TapeDriver file is properly installed. For information on backing up to tape, refer to Chapter 4, “Using Tape.”

Make sure the correct destination volume is highlighted in the volume list.

- Click **Proceed**. The Backup Type dialog box appears, if the selected destination is large enough to contain the entire backup:



*Backup Type dialog box*

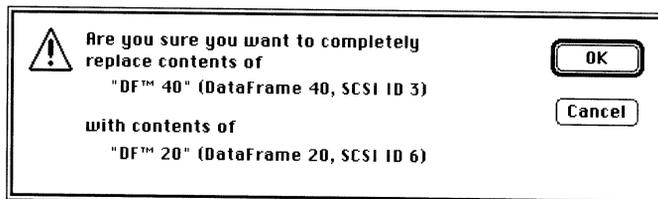
If you are backing up to more than one destination volume, you will not see this dialog box. Skip to the section in this chapter “Creating a SmartSet.” If the Backup Type dialog box appears and you wish to create a Duplicate, read the following section, “Creating a Duplicate.”

## **Creating a Duplicate**

If the capacity of your destination volume is greater than or equal to the capacity of your source volume, you can create a Duplicate of the source. In a Duplicate backup, the folder hierarchy is retained. You can duplicate an entire volume or you can exclude certain folders from the duplicate.

You can also maintain an archive folder (one that will not be updated or erased) on a Duplicate destination, if there is room. Refer to the section “Exclude [Folders]” in Chapter 3 for information on this feature.

When you click **Duplicate** in the Backup Type dialog box, you are asked to confirm that you wish to erase the destination volume, unless you have chosen **Fewer Safeties** in the Options menu.



- Make sure you have chosen the correct source and destination volumes, and click **OK**.

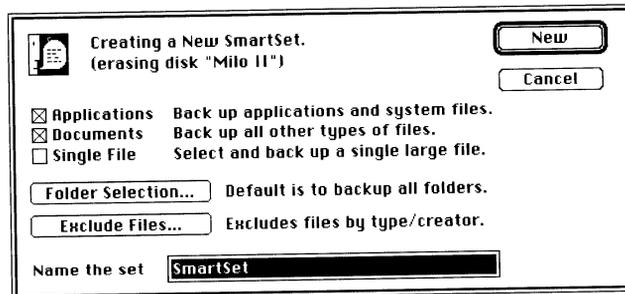
The DiskFit message area informs you about the progress of the backup, and tells you when the backup is complete.

- When the backup is complete, choose **Quit** from the File menu to return to the Finder.

Notice that DiskFit has closed any open windows on the destination to avoid confusion after the backup. Subsequent incremental backups using the same Duplicate destination will be extremely fast; DiskFit will only back up files that are new or have been changed since the last backup.

## **Creating a SmartSet**

If you are backing up to a series of Finder-ejectable destination volumes, you will create a SmartSet. You can back up your entire source volume, or use one or more of the Folder Selection, Folder Exclusion, and/or File Exclusion features to limit a particular SmartSet backup. When you click **Set** in the Backup Type dialog box, or when you select a destination volume that is smaller than the source, the SmartSet dialog box appears:



*SmartSet dialog box*

- Enter a new name for the SmartSet if you wish.
- Click **New** to back up all your files to a new SmartSet.

You can limit a SmartSet backup to just applications, just documents, or a single large file. Please refer to Chapter 3, “Selecting Folders and Files,” for information on these features. You can also select certain folders you wish to include in the backup or specify types of files you wish to exclude from the backup. For more information on these features, refer to the sections “Folder Selection” and “Exclude Files” in Chapter 3.

- After you insert each destination volume, click **Proceed** to continue (unless you have chosen **Fewer Safeties** in the Options menu.)
- DiskFit automatically numbers all destination volumes in a SmartSet. *NOTE: You should write the volumes’ numbers on their labels if you plan to do incremental SmartSet backups, since DiskFit will ask for the volumes by number.*

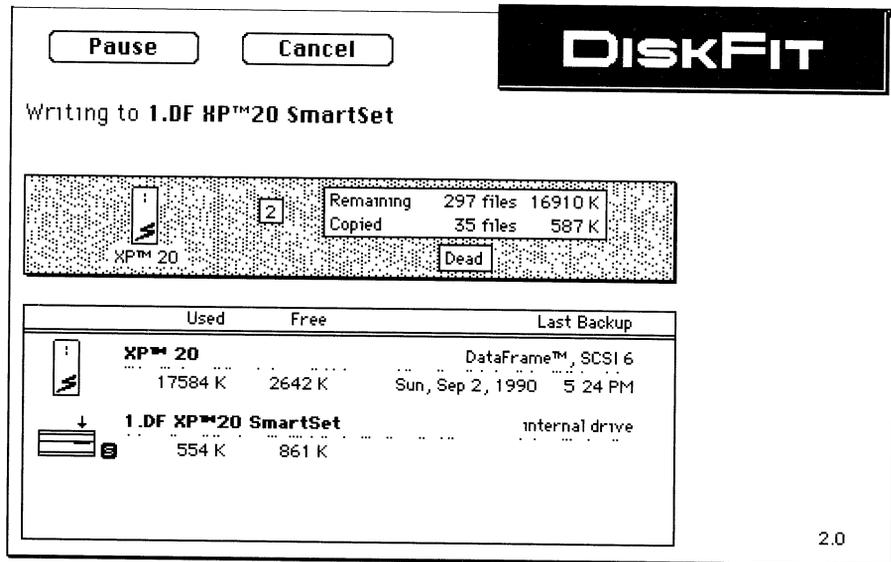
The DiskFit message area tells you when the backup is complete. If the message indicates that the backup completed with errors, choose **Error Log** from the Windows menu to determine where the errors occurred.

- When the backup is complete, choose **Quit** from the File menu to return to the Finder.

## During a SmartSet Backup

This section contains general information about SmartSet backups. During the backup, DiskFit displays information in the current volume area and in the message area.

The message area informs you about the operations in progress. The current volume area displays the volume being backed up, the next SmartSet volume number needed, the number and size in kilobytes (K) of the files copied and remaining, and the names of the files currently being copied. When another destination is needed, the current volume area displays the number of volumes you will need to complete the backup.



*A SmartSet Backup*

When DiskFit informs you approximately how many more destination volumes you will need, the number is calculated according to the size of the most recently used SmartSet destination volume. For example, if you are using both 800K and 1440K floppy disks in a backup, and you have just used a 1440K disk, the message tells you how many more 1440K disks you would need to complete the backup using only 1440K disks. If you insert an 800K disk, the message indicates how many 800K disks you would need.

On the backup media, files will be put in whatever folder they were in on your hard disk. DiskFit keeps track of folders containing other folders. However, on a SmartSet volume, folders are not placed within other folders. For example, if you had a folder on your hard disk that contained two files and two folders, the SmartSet disk would contain three folders. Of course, when you restore your hard disk, the original folder arrangement is automatically recreated.

SmartSet information is contained in two places. One copy is in a file called DiskFit Info, which is created automatically in the System Folder of your startup disk. The other copy is stored on each SmartSet volume. The copy in your System Folder helps you perform an incremental backup more quickly. If DiskFit Info is deleted or corrupted, the next incremental backup takes somewhat longer because DiskFit must rescan each SmartSet volume to rebuild the information.

### **Incremental SmartSet or Duplicate Backups**

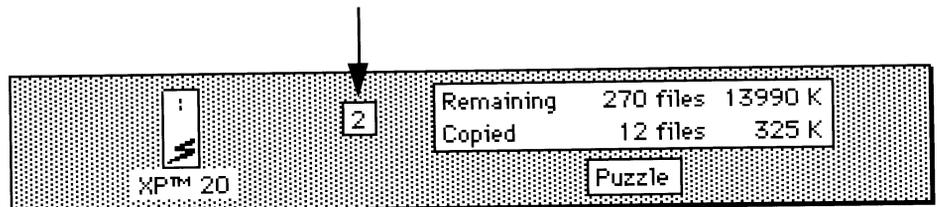
Incremental backups are extremely fast and easy. All you have to do is follow the instructions for a backup and select the existing SmartSet or Duplicate as the destination volume.

In an incremental Duplicate backup, select the destination in the DiskFit volume list when you are asked to select the destination volume. DiskFit will only update the changed or new folders and files.

*NOTE: If you add files to your hard disk so that there is no longer enough room on the Duplicate destination volume, you will be asked to create a new SmartSet backup.*

In an incremental SmartSet backup, you should insert the first disk in the SmartSet when you are asked to select the destination volume. During an incremental SmartSet backup, the contents of the source are compared with the contents of the destination. DiskFit only requests SmartSet volumes containing files that have changed on the source volume, so incremental backups are extremely fast.

The next SmartSet volume that will be requested



*The current volume area*

The number to the right of the source icon in the current volume area corresponds with the next volume that will be requested, so you can look for the next labeled volume while the previous one is being used by DiskFit.

If the files on your source volume will not fit on existing SmartSet volumes, DiskFit informs you approximately how many more destination volumes you will need.

### **Missing or Defective SmartSet Volumes**

If you are missing any SmartSet volume during an incremental backup, even if it is the first volume, simply insert the next volume in the series. DiskFit will ask you if you are really missing the volume(s). Click **Missing** and DiskFit will recopy the information onto a new volume.

If you are missing any SmartSet volume during a restore, even if it is the first volume, simply insert the next volume in the series. DiskFit will ask you if you are really missing the volume(s) that came before it, and continue to restore the files on all of the available volumes. You will only lose the files that were on the missing volume, since DiskFit doesn't depend on any type of catalog information to restore files. If a disk is unreadable, you may try to use a data recovery program to repair the disk.

If a disk or tape produces read or write errors during a backup, a dialog box will appear asking whether you want to continue using the questionable volume or rebuild the information on a more reliable one. If you have extra destination volumes, click **Rebuild** and insert a new one. DiskFit will not consider a backup complete until all selected files from the source are successfully backed up to the SmartSet.

### **Converting Old SmartSets to 2.0 Format**

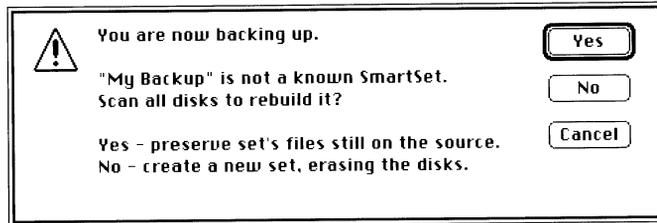
When you back up or restore with DiskFit 2.0 for the first time using a SmartSet created with an earlier version of DiskFit, the SmartSet will automatically be converted into a DiskFit 2.0 set. The conversion only happens the first time you use the old set with DiskFit 2.0. All files will still be Finder readable.

If you first use an older SmartSet in a backup, DiskFit will scan all disks and then proceed with the incremental backup. If you first use an older SmartSet in a restore, the restore will proceed as usual and the SmartSet will be automatically converted.

### **Updating Old SmartSet Volumes**

You may want to update an out-of-date SmartSet that contains files similar to those on your hard disk. If you have not done so already, follow the instructions in the section "Changing or Deleting SmartSet Information" in Chapter 3. DiskFit will no longer think that these volumes are part of another set. If you then insert one of these unknown

volumes whose name begins like a SmartSet disk (following the pattern "1.SmartSet"), the following dialog box appears:



If you click **Yes**, DiskFit scans the SmartSet for files similar to those on the source volume, and update the SmartSet so its files will be identical to those on your source.

If you do not wish to scan the SmartSet for similar files, click **No**. The SmartSet disks will be erased and treated as new disks.

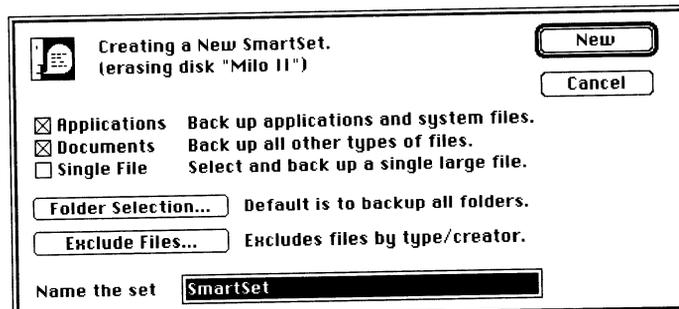


## SELECTING FOLDERS AND FILES

DiskFit allows you to limit backups by selecting or excluding folders and/or file types. Most of this chapter is devoted to limiting a SmartSet backup. However, note that the Folder Exclusion feature applies to both Duplicates and SmartSets. This chapter also explains how to define a folder as a Subvolume for backup purposes.

### Limiting a SmartSet Backup

When you are creating a SmartSet, you can limit which files are backed up using the check boxes and/or Folder Selection and Exclude Files buttons in the SmartSet window. You can create separate SmartSets for different types of files or for certain folders, or you can exclude certain files by Type and Creator codes.



*SmartSet dialog box*

- If you do not wish to include document files in this SmartSet, uncheck **Documents**. If you do not wish to include applications and system files, uncheck **Applications**.
- To back up a single large file (up to 2 gigabytes), check **Single File**. A standard Directory dialog box appears, allowing you to select the file you wish to back up.
- To select folders for backup, click **Folder Selection**, and refer to the following section, “Folder Selection,” for instructions.

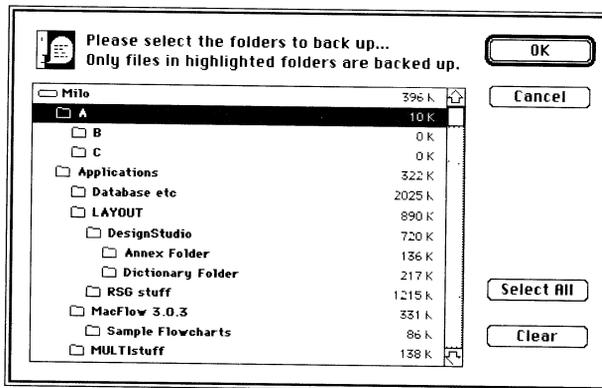
- To exclude certain types of files, click **Exclude Files**, and skip to the section “Exclude Files” for instructions.

*NOTE: You can use both folder selection and file exclusion in the same backup.*

- When you have selected the folders and files you wish to back up, click **New** to proceed. DiskFit will ask you to confirm that you wish to erase the destination volume unless you have chosen **Fewer Safeties** from the Options menu.

## **Folder Selection**

When you click **Folder Selection** from the SmartSet window, DiskFit scans the source disk for folders, and the Folder Selection Window appears. In this window, the folders on your source volume are listed hierarchically. No files appear in the window. In the Folder Selection window pictured here, notice folders A, B, and C:

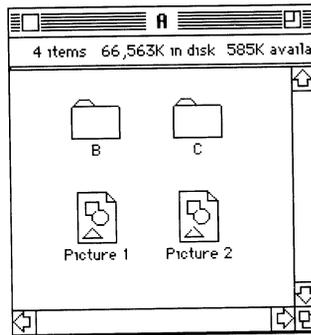


*Folder Selection window*

The illustration above represents the folders on a local hard disk. If you are selecting folders on a server, folders to which you have no access appear grayed. You cannot copy files from grayed folders.

DiskFit’s Folder Selection window allows you to specify folders to include in a SmartSet. **Each folder must be selected individually.** When you select a folder in the Folder Selection window, *only the files* within it are backed up; if the chosen folder contains a nested folder, the nested folder’s contents will not be included unless you select that folder also. The following is an example of how folder selection works:

Let’s say folder “A” contains four items: two other folders “B” and “C,” and two files, “Picture 1” and “Picture 2.” In the Finder, folders A, B, and C looked like this:



If you select folder A for backup by highlighting it, folder A's contents, Picture 1 and Picture 2, will be copied to the SmartSet. (Note: Folders B and C will not be copied unless they are selected separately.)

- In the Folder Selection window, select the folders to include by clicking them.

If you plan to select most of your folders, you can click **Select All**, and deselect folders by clicking them. To deselect all folders, click **Clear**.

- When you have selected the folders you wish to include, click **OK**. The SmartSet window reappears.
- If you wish, you can also use any other backup limitation features. Any other limitations you specify will only be applied to files within the folders you selected in the Folder Selection window.
- Click **New** to proceed with the backup.

The folders you selected will be copied to the SmartSet. The DiskFit Report contains a listing of these folders. (Note: Files will also be included in the report, if Expanded Report in the Options menu remains checked. Expanded Report is the default setting on your original program copy.) You can select **View Report** from the Windows menu, and **Print Report** from the File menu, or you can open and print the report from a word-processing program that reads text files.

### **Exclude [Folders]**

DiskFit also allows you to specify folders that you do not want to include in a backup. You may want to do this if your destination volume will not hold the entire contents of your source volume. For example, if you wish to back up your source hard disk to another hard disk or a tape which is not large enough to hold the entire source, you may exclude enough folders from the backup using the **Exclude [Folders]** feature so the

backup will fit. When enough folders have been excluded, you can choose **Disk Duplicate** from the File menu (to “force” the Duplicate), or create a SmartSet. To exclude folders:

- Using the Finder, type brackets around the name of any folder you wish to exclude from the backup. For example you would change the name of the folder called “Utilities” to “[Utilities]” on your source volume.
- Launch the DiskFit application.
- Choose **Exclude [Folders]** from the Options menu.

Now any folders whose names are bracketed will automatically be excluded from the backup. If you wish to periodically back up these folders, you can uncheck Exclude [Folders] or remove the brackets from the folders you wish to back up.

If you later wish to include the previously excluded folders, you can either deselect the Exclude [Folders] option, or remove the brackets from any folders you wish to include.

***IMPORTANT NOTE:** The **Exclude [Folders]** option also allows you to create archive folders on a Duplicate destination (but not on a SmartSet). Please read the following section for information if you are creating a Duplicate and using this feature.*

### **Archive Folders on a Duplicate Destination**

*Use this option with caution for the following reasons:*

**1)** *You can only create archive folders on a Duplicate destination volume. Do not try to create excluded folders on a SmartSet destination of any type since DiskFit will not acknowledge that the folders are excluded, and they **will be erased**.*

**2)** *If you are excluding folders from a backup as described in the previous section, “Exclude [Folders],” note that **deselecting** this option will cause any archive folders on the destination to be **erased**.*

Normally DiskFit erases any files on a Duplicate destination that no longer exist on the source, and updates folders that have changed since the last backup. The Folder Exclusion option allows you to create an archive folder (that is, one that will not be erased or updated) on a Duplicate destination disk. You may wish to store archive folders on a Duplicate destination disk if there is extra space on it.

For example, if you have a 20 MB drive in your SE and wish to Duplicate to a DataFrame XP40, you may create a folder with brackets around the name (such as “[Archive]”) on your XP40 and store files there. These folders will not be updated or erased during a

Duplicate—even though they may have changed or no longer exist on the SE's 20 MB disk.

To create an archive folder on a Duplicate Destination:

- Using the Finder, type brackets around the name of a folder on the destination volume. You can create a new folder or change the name of an existing one. For example you would change the name of the folder called "Archive" to "[Archive]" on your destination volume.
- Launch the DiskFit application.
- Choose **Exclude [Folders]** from the Options menu.

Now any folders on the destination whose names have brackets will be preserved during Duplicate backups.

If you wish to remove an archive folder, simply remove the brackets from the folder name or deselect Exclude [Folders] in the Options menu. When you later back up to that destination, the archive folder will be erased.

Instead of using excluded folders, you can create an "archive" backup. Simply perform a backup and store that backup in a safe place. However, be careful not to reuse this backup if you wish to keep a permanent archive.

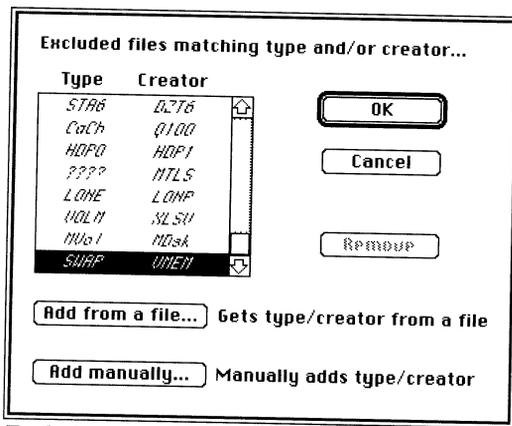
### **Exclude Files**

DiskFit's File Exclusion window allows you to automatically exclude specific types of files from a SmartSet, using the four-letter Type and Creator codes assigned to each Macintosh file.

A document's Creator code is what tells the Macintosh which application to launch when you double-click the Document icon. For example, when you double-click a document you created in MacDraw® II, the Macintosh looks at the creator code, locates a copy of the MacDraw application, and launches the program.

A document's Type code is what allows several applications to open a particular kind of file. For example, if you create a PICT file with MacDraw II, you can also open it from within another application, such as PixelPaint Professional® that will open PICT files.

When you click **Exclude Files** from the SmartSet window, the Exclude Files dialog box appears:



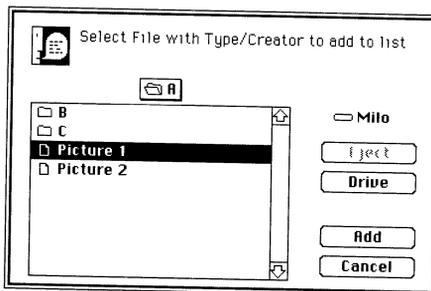
*Exclude Files dialog box*

The Exclude Files window already contains a list of Type and Creator codes in italics. These codes correspond to files that are automatically excluded from every backup. They cannot be removed. DiskFit 2.0 will automatically exclude partition files created by FWB's Hard Disk Partition, SUM's HD Partition, Infosphere's MacServe, ALSoft's MultiDisk, and Connectix's Virtual Swap. Please see "Partitioned Hard Disks" under the section "Special Considerations" in Chapter 6 for details.

You can add your own Type and Creator codes to the list, either by matching those of an existing file or by typing them. The codes you add to the list will appear in plain text, and they can be removed. Note that *all* files corresponding to codes you add to the list will be excluded from all backups to this SmartSet, not just the highlighted ones.

As an example, let's say you wish to exclude MacDraw II PICT files from your backup.

- Click **Add from a file** in the File Exclusion window. A Directory dialog box appears:



- In this example, we will select any MacDraw II PICT file.
- Click **Add**. The File Exclusion window reappears with the MacDraw II PICT type and creator codes highlighted in the list.
- Click **OK** to exclude all MacDraw II PICT files from the backup. The SmartSet window reappears.
- Click **New** to proceed with the backup.

As another example, let's say you wish to add a Type or Creator code manually.

- Click **Add manually** in the Exclude Files window. The following dialog box appears:

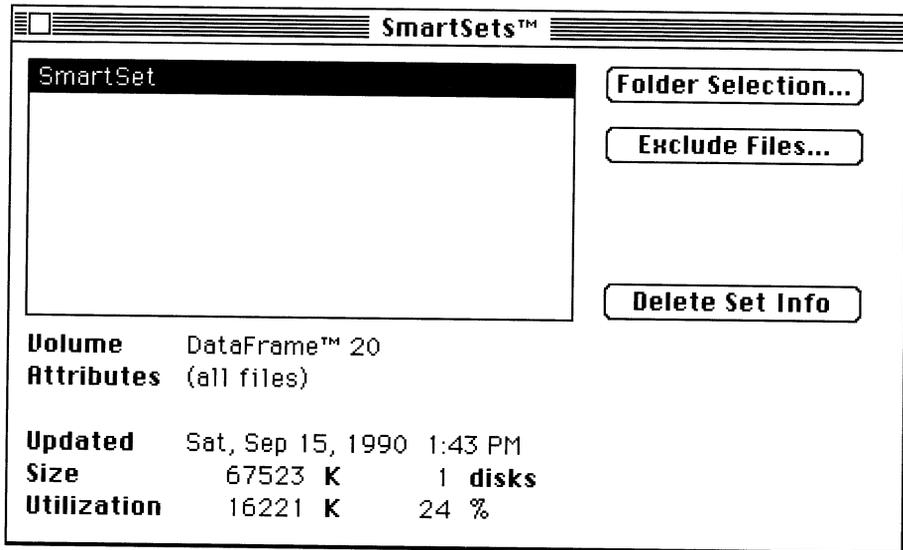
The dialog box is titled "Manually add type/creator to list...". It features two text input fields, one labeled "type" and one labeled "creator". To the right of these fields are three radio button options: "Type only", "Creator only", and "Both". The "Both" option is selected with a filled circle. A "Cancel" button is located on the right side of the dialog.

- If you wish to match all files of one Type, regardless of their Creator codes, select **Type only**. If you wish to match all files of one Creator, regardless of their Type codes, select **Creator only**.
- Enter the code or codes you wish to add.
- Click **Add**. The File Exclusion window reappears, with the codes you entered highlighted in the list.
- Click **OK** to exclude this type of file from the SmartSet backup. The SmartSet window reappears.
- Click **New** to proceed with the backup.

### **Changing or Deleting SmartSet Information**

You can change any of the folder and file selections of an existing SmartSet. You can also delete the SmartSet information if a SmartSet is no longer needed. If you delete the information, DiskFit will no longer recognize those SmartSet disks as part of an existing set, so they can be used in another set. To change the settings or delete the information:

- Choose **SmartSets** from the Windows menu. The SmartSets dialog box appears:



*Changing or deleting a SmartSet*

- If you wish to delete the information click **Delete Set Info**.
- If you wish to change the currently selected folders, click **Folder Selection** and refer to the section “Folder Selection” in Chapter 3.
- If you wish to change the currently excluded files, click **File Exclusion** and refer to the section “Exclude Files” in Chapter 3.

---

## Defining a Subvolume

A Subvolume is a folder you define as a volume to be used as a source or destination volume for backup and restore purposes. When you use a Subvolume as a source, you can create a SmartSet or a Duplicate backup. When you use a Subvolume as a destination, you must create a Duplicate backup. (This is because SmartSet destination volumes must be Finder ejectable.)

You can define a subvolume on any volume that appears in the DiskFit volume list. Using a subvolume minimizes memory usage, and is particularly useful if you wish to restore files to a volume you do not wish to completely erase. See “Using Subvolumes” in Chapter 6 for more information on how and when to use Subvolumes.

You could define a Subvolume on a file server and back up or restore files to it. You could also create a folder on your hard disk called “Backup Folder” and define it as a Subvolume. These folders would then appear in the DiskFit volume list, and you could select them as you would select any other source or destination. To define a folder as a subvolume:

- From the DiskFit main window, highlight the volume on which you wish to create a Subvolume.
- Click **Subvolume**. A standard Directory dialog box appears.
- Highlight the folder you want to define as a subvolume.
- Click **Define**. The Source window reappears with the subvolume highlighted in the list.
- Click **Proceed** to continue with the backup.

If you wish to remove a volume definition, highlight the subvolume in the Source list, and click **Release**. Note: If you drag a Subvolume folder into the Trash, it will be dimmed in the DiskFit volume list. To remove it from the volume list, highlight it and click **Release**.

If you wish to restore files to a destination you do not wish to erase, you should create a new folder using the Finder and define it as a Subvolume.

*NOTE: A subvolume and its parent volume are treated as separate entities, but files in a Subvolume are not necessarily excluded from the parent volume. If you back up the parent volume, the backup date for the subvolume will not be set, but the Subvolume's contents will be backed up in the parent volume backup.*

1

2

3

4

# CHAPTER 4

## USING TAPE

DiskFit makes backing up to tape as easy as backing up to another hard disk. Tape cartridges are treated like Finder-readable Macintosh disks, so you can select them from the volume list as you would any destination volume. The TapeDriver software tells your Macintosh how to communicate with DC 2000 tape drives that use the 3M MCD 40 controller, such as Apple's Tape Backup 40SC, and SuperMac's DataFrame XP40+40 and XP60+40 systems.

---

### Installing the TapeDriver

- If you have not already done so, copy the TapeDriver file into the startup volume's System folder of the Macintosh to which the tape drive is attached.

The TapeDriver file must be in the appropriate System Folder or DiskFit will not be able to read from or write to tapes.

*NOTE: If your System Folder contains any other tape drivers, REMOVE them before installing the TapeDriver.*

- Restart the Macintosh, and make sure the TapeDriver startup icon appears briefly on your screen:



*TapeDriver installed*



*TapeDriver not installed*

If the icon on the right is displayed, or if no icon appears at all, the TapeDriver has not been properly installed. Make sure the TapeDriver is in the appropriate System Folder, and that it is not in another folder within the System Folder. Also, make sure the tape drive is connected and powered on before or during startup.

- Make a copy of the DiskFit floppy disk, putting the TapeDriver file in the System Folder. You will use this disk to start up if you need to restore files from tape to an empty or corrupted hard disk.

---

## Formatting a Tape Cartridge

Tapes must be formatted and initialized to be used with DiskFit. DiskFit recognizes whether your tape is formatted or initialized, and prompts you accordingly.

Formatting takes about 40 minutes, during which the tape is completely erased. Initialization takes about one minute, during which the TapeDriver makes the tape into a Finder-mountable volume so you can select it in the DiskFit volume list.

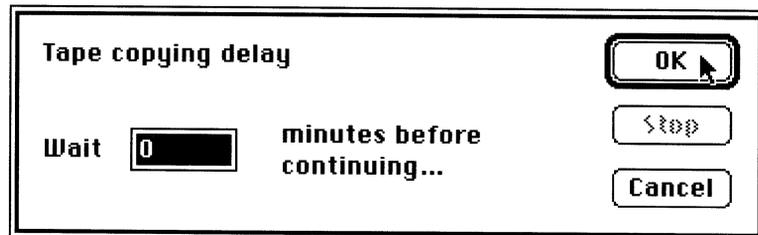
---

## Backing Up to Tape

When you insert a formatted and initialized tape, it takes about a minute to appear in the DiskFit volume list or on the Macintosh desktop. Because it takes much longer to access data from a tape than from a hard disk, avoid launching applications from the tape. Using the Finder, you can copy individual files *from* the tape, but avoid copying files *to* the cartridge using the Finder.

When you run DiskFit, backing up to tape is just like backing up to any Macintosh disk. Select the source volume, click **Backup**, select the tape cartridge, and click **Proceed**. If your entire source will fit onto the tape, you can create a Duplicate. If your source will not fit onto the tape, or if you want to back up selected files or folders, you need to create a SmartSet.

When you have selected the backup type, a dialog box appears giving you an opportunity to delay the start of the backup:



Since the tape mechanism can be quite noisy during the backup process, an immediate backup might be inconvenient. The delay enables you to instruct DiskFit to begin the

backup later—for example, at the end of the day after everybody has left the office. Type in a delay if you wish, and click **OK**.

*NOTE: You can also use the delay feature with other types of backup media. After you select the destination volume, type command-T. You should then see “(tape)” to the right of the destination volume name. When you then click **Proceed**, the delay dialog box will appear. If you do not wish the delay dialog box to appear, select the destination, type command-T again, and “(tape)” will disappear.*

The first time you back up to tape, it takes about one minute per megabyte to copy files from your hard disk to tape. Subsequent incremental backups will be much faster, because DiskFit only backs up data that has been added or changed. DiskFit also removes from the tape any files you have removed from the hard disk. After an incremental backup, the contents of the tape exactly resemble the contents of your hard disk.

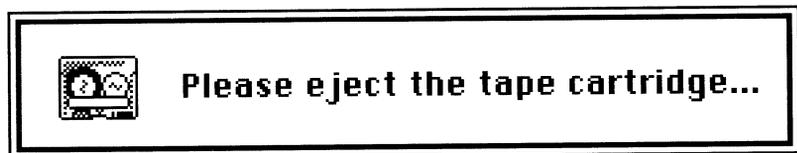
Subsequent incremental backups work as described previously in this manual. When DiskFit asks for a destination volume, insert the tape that contains the Duplicate, or insert the first SmartSet tape. If you add files to your hard disk so that it now contains more than your Duplicate tape can hold, you will need to create an entirely new backup using DiskFit’s SmartSet option. If your hard disk now contains more files than will fit on your SmartSet tapes, DiskFit will request an additional tape.

---

## Ejecting a Tape Cartridge

When the backup is finished or another tape is needed, DiskFit asks you to eject the tape. *Do not eject the tape before the dialog box requests you to.* Be sure to write the date and the appropriate name on the cartridge label, as you would with any backup. Follow these steps to eject a tape:

- Select the tape in the DiskFit volume list and click **Unmount**, or drag the tape icon into the Trash using the Finder.
- Wait while the Macintosh prepares to eject the tape. When the tape is ready to be ejected, this message box appears:



**WARNING:** *Ejecting a tape before this message appears may lead to data loss.*

- Eject the tape according to the tape drive manufacturer's instructions.

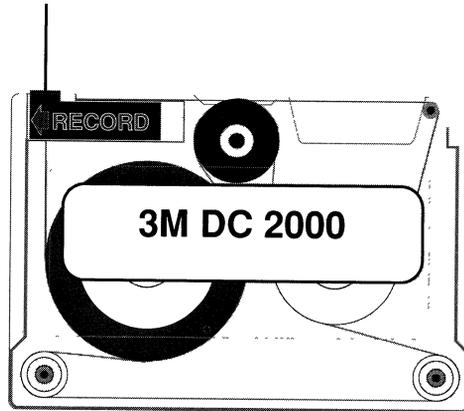
**NOTE:** Selecting **Shut Down** or **Restart** when there is a tape in the tape unit will also initiate the eject sequence.

---

## Locking and Unlocking a Tape Cartridge

Tape cartridges, like 3.5-inch disks, have a sliding tab that allows you to write protect the tape, so no files on it can be accidentally changed or deleted. You may want to lock any permanent archive tapes as a precaution.

### Write-protect tab



*Write-protect tab in unlocked position*

Unlock a tape by sliding the write-protect tab away from the center of the tape as shown in the diagram above. Lock a tape by sliding the tab toward the center of the tape.

---

## Special Notes for Tape Backups

DiskFit's tape backup capability works under MultiFinder. However, when running DiskFit in the background, there will be significant pauses in the foreground operations. This results more from the way tape works than anything specific to DiskFit. We suggest that you leave DiskFit in the foreground when you back up to tape. Of course, you may always Pause the backup, send DiskFit to the background, and proceed later.

**IMPORTANT NOTE:** *When the TapeDriver is in the System Folder, a file called “%%TapeCache%%” should be created when you first insert a tape. If you do not have*

*650K of contiguous space on your hard disk, this file will not be created, and operations to tape will be extremely slow. If the file is not created, either use a disk defragmenting program or archive some large files to create space for the cache file.*

---

## Restoring Files from Tape

DiskFit's Restore command lets you quickly and easily copy all the files from tape to your disk. If you need to restore only one or two files from a tape, just use the Finder to copy the files from the tape to your hard disk.

Particularly when restoring an AppleShare® server, you should first initialize the hard disk to which you will be restoring. Use DiskFit's or the Finder's Erase command or see the instructions in your hard disk manual to initialize it.

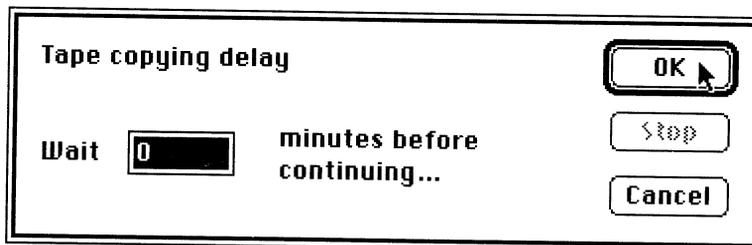
If you are restoring files from tape to a completely empty disk, you may need to start up from a floppy disk that contains DiskFit and has the TapeDriver file in the System Folder.

To make a DiskFit floppy disk and start up from it:

- Create a System folder on a floppy disk, and copy a System, the Finder, and the TapeDriver file into the System Folder.
- Copy the DiskFit application onto the floppy disk.
- Shut Down your Macintosh and switch off the hard disk.
- Insert the DiskFit disk in the Macintosh floppy disk drive.
- Switch on your hard disk, wait 15 seconds, and then switch on your Macintosh. The TapeDriver icon should appear briefly on the screen, and then the DiskFit floppy disk icon should appear in the upper-right corner of the desktop with the hard disk icon below it.
- Double-click the DiskFit icon to launch the program.
- Select the hard disk to be restored in the DiskFit volume list.
- Click **Restore**.
- Insert the tape containing your files. If you are restoring files from a multiple-tape SmartSet, insert the first tape in the SmartSet. The tape icon will take about a minute to appear in the volume list.

- Click **Proceed**. If you are restoring the files from a tape containing a Duplicate of your hard disk, a dialog box to confirm the Restore command may appear. If so, click **OK**.

The time delay dialog box appears:



- If desired, enter a time delay and click **OK**.

*NOTE: You can also use the delay feature with other types of backup media. After you select the destination volume, type command-T. You should then see "(tape)" to the right of the destination volume name, even though you are not using tape. When you then click **Proceed**, the delay dialog box will appear. If you wish to remove the delay feature, type command-T again, and "(tape)" will disappear.*

The rest of the restoration process will be automatic. If you are restoring from a multiple-tape SmartSet, DiskFit will request other tapes as required. When the restore is complete, the message "Restore to Hard Disk was successful" will appear.

- Choose **Quit** from the File menu to return to the Finder.

# CHAPTER 5

## RESTORING

Restoring rebuilds the information on your disk using a SmartSet or a Duplicate. The Restore command allows you to recreate your disk *exactly* as it was the last time you performed a backup. If you wish to restore just a few files, refer to the section in this chapter “Restoring a Few Files.”

---

### About Restoring

Your disk may actually speed up after a DiskFit Restore. This is because any files that have become fragmented (stored in various small pieces) will be copied in contiguous areas which are faster for your hard disk to read. If your disk becomes sluggish, you may want to back up and restore your hard disk just to defragment your files. Backing up and restoring can also correct certain file system problems.

*(Note: We strongly recommend that you make two backups before you erase your hard disk.)* Before restoring, we suggest that you first format your disk with the formatting utility supplied by the manufacturer of your hard disk.

If you have an Applications and System files SmartSet and a Documents SmartSet, restore the Applications set before the Documents set. Restoring files in this order will keep your files from fragmenting extensively so your hard disk will continue to perform optimally.

---

### Restoring an Entire Volume

To restore an entire hard disk, you should first create a DiskFit startup floppy disk by copying DiskFit onto a floppy disk, and copying a System and the Finder into a System Folder on the floppy disk. If you are restoring from tape, make sure the TapeDriver is also in the System Folder. Then, follow the rest of the instructions in this section.

To Restore an entire volume:

- Shut down the Macintosh.
- Start up the Macintosh with the DiskFit startup floppy disk.

It is best to always run from the same floppy disk while restoring, since information that speeds the restore is stored in the DiskFit Info file in the floppy disk's System Folder.

- Launch the DiskFit application from the startup floppy disk.
- Select the volume that you wish to restore by clicking on it in the volume list.
- Click **Restore**. Do not press the Return key yet.
- If you are restoring from a SmartSet, insert the first disk in a SmartSet.
- If you are restoring from a Duplicate, select it from the volume list. *(Note: If you have been duplicating to a hard disk and your source and Duplicate disks are named alike, be careful not to duplicate the source disk onto the Duplicate inadvertently. You can tell the difference by looking at the "last backed up" time in the volume list.)*
- Click **Proceed**.
- If you are restoring from a SmartSet, insert each SmartSet disk as requested. Once you have inserted the last disk in the SmartSet and DiskFit asks for another, click **Missing** and then **Done**. The message "Restore completed successfully" will appear.

---

## Restoring a Few Files

If you want to restore only a few files (and "Expanded Report" was selected in the Options menu during the backup), the best method is to check the DiskFit Report file for the files' locations as described in this section, and copy the files to the your disk using the Finder. See Chapter 8, "Reference" for more information on the DiskFit Report file.

To open a report from DiskFit:

- Launch the DiskFit application.
- Choose **View Report** from the Windows menu. A Directory dialog box appears.
- Locate the Report file in your System folder and open it. If you wish, you can print the report by choosing **Print Report** in the File menu.
- Locate the backup volumes containing the files you wish to restore.
- Insert the volumes, and copy the files onto your disk using the Finder.

- If any files are split between volumes, they will appear with Split File icons. To join a file, copy all the pieces of the file into an empty folder on your disk, launch DiskFit, and choose **Join Files** from the File menu.

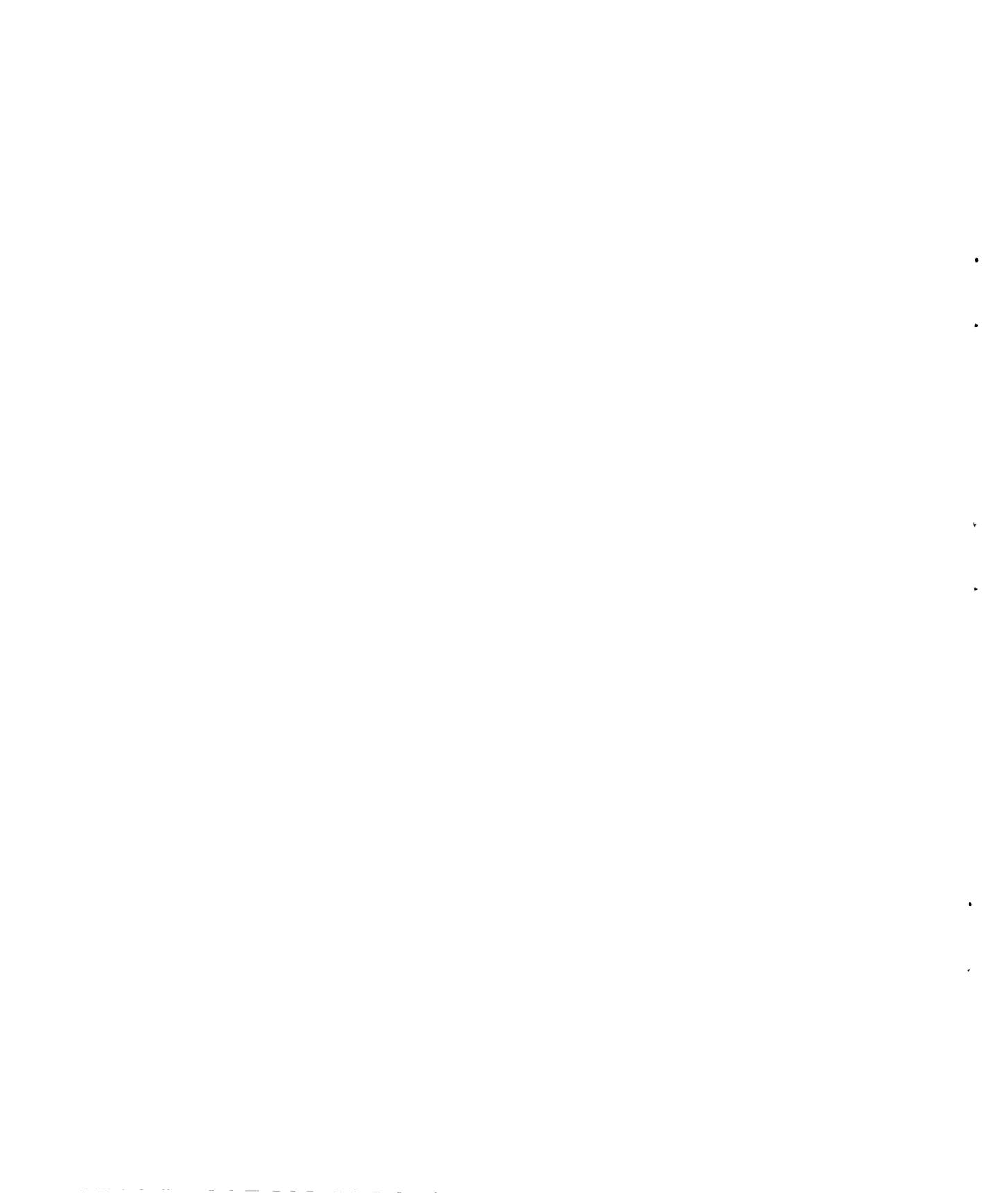
*NOTE: You can also open a DiskFit Report with any word processing application that reads text files. This might be handy if you need to search for a particular file name and the application has a search feature.*

---

## Using a Duplicate Hard Disk

If you have been Duplicating a hard disk to another hard disk, and something happens to the original, you may start up and use the backup hard disk directly. This is particularly convenient if your original drive needs to be physically repaired.

If the original hard disk had a software or file system problem, you may wish to reinitialize (format) it and then Duplicate to it from the backup hard disk. When copying from one hard disk to another, there is no real difference between clicking **Backup** and **Restore**. **WARNING:** *Be careful not to Duplicate the corrupted original to the backup hard disk.*



# BACKUP STRATEGIES AND CONSIDERATIONS

This chapter offers suggestions for backup strategies and covers special considerations for using DiskFit. The last section in this chapter answers some commonly asked questions about DiskFit.

---

## Backup Strategies

If you do not already have a backup strategy, it is a good idea to adopt one as part of your normal work routine. The simplest backup strategy is the daily, weekly, or monthly backup. The more often you back up, the less there is to lose, but only if nothing happens to the backup disks. A fire, for example, could destroy both the original hard disk and backup disks.

A secure strategy consists of daily and weekly backups to different sets of disks or tapes, with the weekly backups kept off site. That way, even in the worst case, only a week's worth of work will be lost. Another backup strategy is daily or weekly alternating backups, first to one backup set, then to another. You could even have three or more sets and rotate among them. It is important to decide what level of data security you require, and use a backup strategy consistent with your needs.

DiskFit allows you to limit backups in several ways. See Chapter 3, "Selecting Folders and Files," for information on this feature.

Since DiskFit supports backing up to tape or to another hard disk as well as to floppy disks, other possibilities exist. You could back up to a floppy disk SmartSet weekly or monthly and to tape daily.

Whatever strategy you use, DiskFit creates and maintains as many SmartSets as you need quickly and easily.

---

## Using Subvolumes

Subvolumes can enhance your backup strategy for backups and restores. You could define a Subvolume on another hard disk and Duplicate your hard disk to the Subvolume. This would allow you to use any free space on the destination drive for other purposes. You could also define a Subvolume on your source disk as a “Backup Folder.” You could copy into it any files you wish to back up, and create a SmartSet or a Duplicate of the Subvolume.

---

## Unattended Backups

DiskFit has three features to facilitate unattended backups. You can delay the backup, automatically shut down after backup, and/or can configure DiskFit for use with a floppy disk loader.

- **Backup Delay:** You can use the delay feature with any type of backup media. After you select the destination volume, type command-T. You should then see “(tape)” to the right of the destination volume name. When you then click **Proceed**, the Delay dialog box will appear. If you do not wish the Delay dialog box to appear, select the destination, type command-T again, and “(tape)” will disappear. See the section “Backing Up to Tape” in Chapter 4 for more information.
- **Automatic Shutdown:** If you hold down the Shift key when you click **Backup**, you will hear a beep signifying that DiskFit will shut down after the backup is complete. **USE WITH CAUTION!** Any open documents will not be saved at shutdown.
- To use an Automatic Floppy Disk Loader for unattended SmartSet backups:
  - For the first backup using unformatted floppy disks, check the **Auto Format** and **Fewer Safeties** options.
  - For the first backup using empty formatted floppy disks, check the **Fewer Safeties** option.
  - For the first backup using a combination of empty formatted and unformatted floppy disks, check the **Auto Format** and **Fewer Safeties** options.
  - For all incremental backups, check the **Scan Every Disk** and **Fewer Safeties** options.

Note that DiskFit will only use disks that 1) are named as part of the SmartSet you are using OR 2) are empty (erased). The Fewer Safeties option allows you to bypass dialog boxes that normally require you to click **Proceed** before using an empty disk in a SmartSet. Since these dialog boxes will interfere with unattended backups, this option must be checked if you are using a floppy disk loader. Please see Chapter 8, “Reference” for information on this option.

---

## Special Considerations

This section contains a discussion of several points of special interest: Using the RAM Cache, Partitioned Hard Disks, Files Contained in an Applications or Documents SmartSet, Invisible Files, and Contiguous Files.

- **Using the RAM Cache**

DiskFit will be significantly faster if the Control Panel RAM cache is on. 64K is the recommended size. Using the cache with DiskFit will not reduce reliability at all. Setting the cache to a very large size (256K, for example) could, under certain situations, reduce DiskFit performance.

- **Partitioned Hard Disks**

The best way to back up a partitioned hard disk is to back up each partition to its own SmartSet instead of treating each partition as a single file and backing up the entire hard disk at once, as some partitioning software allows. Backing up each partition to a separate SmartSet provides better error handling and an efficient incremental backup.

This is particularly important with programs that create “soft” partitions (a partial list is below). These programs do not change the modify date on the partition files (the files with the partition information) when a partition’s contents change. Incremental backups are partially based on the file’s modified date and therefore may not accurately reflect changes made within the partitions.

Note that DiskFit 2.0 will automatically exclude partition files created by FWB Hard Disk Partition, SUM HD Partition, Infosphere MacServe, ALSoft MultiDisk, and Connectix Virtual Swap.

- **Files Contained in an Applications or Documents SmartSet**

DiskFit determines which files to back up to an Applications and System Files SmartSet by following two rules:

—All files of type APPL are copied.

—Any files listed in resource PAR#, ID = 128 are copied.

The PAR# 128 list contains help files for common applications and system files.

DiskFit copies all files to a Documents SmartSet that would not be copied to an Applications and System Files SmartSet. The only exception is that files listed in the PAR# resource, ID = 130 are never copied. This list contains only DiskFit Info and tape cache files.

Note that you can always exclude files by Type and Creator codes as described in the section “Exclude Files” in Chapter 3.

- **Invisible Files**

DiskFit copies invisible files (such as the Finder’s desktop file) both to SmartSets and Duplicate volumes. Invisible files copied to a SmartSet are made visible on SmartSet disks and invisible again during restore.

If you use the Finder to copy files from a SmartSet disk that were originally invisible, they will appear visible on your hard disk. If you wish to make them invisible, you may do so with an editor such as ResEdit™ from Apple or with a desk accessory such as DiskTop from CE Software.

- **Contiguous Files**

Whenever possible, all files are copied contiguously, meaning that they are stored in one unbroken section of the physical disk. This means that your hard disk will most likely be faster after a restore than it had been before.

Occasionally large files joined manually may be placed on the disk noncontiguously.

---

## Questions and Answers

**Q:** *What happens if I am missing a disk or have a bad disk in a SmartSet backup or restore?*

**A:** If you are missing a disk or tape during an incremental backup, even if it is the first one, click **Missing** and DiskFit will automatically recopy the appropriate information from your source onto another volume. If you are missing a volume during a restore, even if it is the first one, click **Missing** and insert the next one. DiskFit will copy the available files from the rest of the SmartSet volumes. You will not be able to restore the files on the missing volume. If the volume is unreadable, you may try to read it with a disk recovery utility.

**Q:** *I’ve been making incremental backups to the same tape(s) for a while. Lately it takes a long time. What can I do?*

**A:** There are two reasons a tape backup would slow down:

One possibility is that files are “fragmented” as the tape has become nearly full. In other words, there isn’t enough space left on the tape to write the file(s) in one continuous pass. The result is that pieces of files become scattered throughout the tape—and the tape

mechanism takes longer and longer to search the tape to locate the file fragments. The solution is to erase the tape and do a new complete backup of the hard disk.

The other possibility is that your hard disk does not have 650K of contiguous space for the TapeCache file. A file called “%%TapeCache%%” should be created in the System Folder after you insert a tape. This file is critical to efficient tape operation. If you do not have 650K of contiguous space on your hard disk, this file will not be created. If the file is not created, either use a disk defragmenting program or archive some large files to provide enough space for the cache file.

**Q:** *What do I do when DiskFit says “The current date is before the last backup date”?*

**A:** Check to see if your Macintosh Clock and Calendar, under the Control Panel, are set to the correct date and time. If not, change them and proceed as normal. If they are correct, then they must have been incorrect the last time you backed up. Choose **SmartSets** from the Windows menu, select your SmartSet Info file and delete it. Then back up and insert the first disk of your SmartSet. DiskFit will respond with “This is not a known SmartSet. Scan all disks?” Click **Yes** and DiskFit will rebuild the SmartSet.

**Q:** *I would like to Archive. Can I use DiskFit for this?*

**A:** Yes, absolutely. You can create a SmartSet or Duplicate of your hard disk at any time and label and store it. This is essentially a snapshot of your hard disk at that time and date. However, be careful that you do not use this SmartSet or Duplicate for future backups or any changes to your hard disk will be reflected. Also, if there is room on your Duplicate destination hard disk you can use the **Exclude [Folders]** option to archive specific folders on this duplicate volume.

*NOTE: You cannot use Exclude [Folders] on SmartSet destination volumes.*

**Q:** *Can I restore just one file, not a whole SmartSet?*

**A:** Yes. Since all SmartSets are Finder compatible, you simply drag the File icon from a SmartSet disk to your hard disk, instead of following the complete Restore procedure. You can locate your file by choosing **View Report** from the Windows menu and opening the report for the desired SmartSet. The report will tell you which SmartSet disk the file is on.

If DiskFit had to split a file over multiple SmartSet disks because it was too large to fit on one SmartSet disk, each piece will have a Split File icon. Copy all

fragments of a split file into an empty folder on your hard disk. Launch DiskFit and use DiskFit's **Join Files** command in the File menu to rejoin the split file.

### **For Technical Support**

If you still need help, call SuperMac Technical Support at (408) 245-0646 or FAX (408) 732-2696 for assistance, or you can log onto the SuperMac BBS at (408) 773-4500. You can also find technical assistance in the SuperMac RT on GENie, the SuperMac section on CONNECT, in APVENB, subtopic 16 on CompuServe, the SuperMac bulletin board on AppleLink®, or the SuperMac Forum on American Online.

## TROUBLESHOOTING

This chapter offers some suggestions for common DiskFit problems. DiskFit has undergone extensive development and testing to minimize the occurrence of problems. It displays informative messages if an error should occur. If you encounter a problem, read the error message. Choose **Help** from the Windows menu for a list of error messages and an explanation of each one.

DiskFit was designed to overcome many common problems. If it has trouble writing a file, DiskFit will notify you and try again, writing to different disks if necessary, until it copies the file successfully. Even if DiskFit is unable to read a particular file, it will inform you and move on to successfully back up all other files.

If DiskFit is unable to continue a backup, try returning to the Finder and running it again. If the problem persists, then try shutting down and turning off your Macintosh and starting again, or use a different program to see if it exhibits a similar problem. If the problem appears to involve only DiskFit and not your hardware or other software, check to see if the symptoms are similar to those described under “Power Failure/Reset” below, and follow those instructions.

If you are backing up to tape and operations are extremely slow, make sure a file called “%%TapeCache%%” is created in the System Folder after you insert a tape. This file is critical to efficient tape operation. If you do not have 650K of contiguous space on your hard disk, this file will not be created. If the file is not created, either use a disk defragmenting program or archive some files to provide enough space for the cache file.

Bad 3.5-inch disks often give some indication of trouble before they fail completely. If a disk generates an error, even if it subsequently appears to work correctly, we suggest that you replace it. DiskFit has a “Missing” button that allows you to do this very easily. The next time DiskFit asks for the disk, click **Missing** and insert a new disk. If you want to ensure that DiskFit asks for a disk, you may turn on **Scan All Disks** in the Options menu. You may turn off that option as soon as you have rebuilt the problem 3.5-inch disk.

- **Resuming**

DiskFit was designed so that if you choose **Quit** in the middle of a backup or restore, you can continue where you left off. The next time you launch DiskFit, insert the first

SmartSet destination disk when you are asked to choose the destination volume. DiskFit will know how many disks were already updated, and ask for the next one in the series without having to rescan the updated ones.

- **Out of Disks**

If you do not have enough volumes to complete a backup (DiskFit does not care if you mix and match types of backup media in a single backup), you may choose **Quit** and automatically resume right where you left off the next time you run DiskFit. The next time you launch DiskFit, insert the first SmartSet destination disk when you are asked to choose the destination volume. DiskFit will know how many disks were already used, and ask for a new one without having to rescan the used ones.

- **Missing a Disk**

If you are missing a disk or tape during an incremental backup, click **Missing** and DiskFit will automatically recopy the information onto another volume. If you are missing a volume during a restore, click **Missing** and insert the next one.

- **Will Not Read a Disk during a Backup**

If you insert a SmartSet disk and get the Eject/Initialize alert, try ejecting the disk, checking to make sure it is the right one and inserting it again. If you still are asked to Eject/Initialize, eject the disk and click **Missing**. Then either treat that disk like a new one and initialize it, or substitute a different disk.

- **Done, Yet Still Wants a Disk**

If DiskFit asks for a disk that does not exist, chances are that you are rescanning or restoring and DiskFit has already ejected the last disk in your set. In either situation, DiskFit has no way of knowing when it reaches the last disk. Just click **Missing** and then click **Done**.

- **Power Failure/Reset**

Normally if the power goes off or the Reset button is pressed during the middle of a backup, running DiskFit again will allow you to continue right where you left off. There are a few cases, however, when a power failure or pressing the Reset button might cause a problem with the DiskFit Info file. In such cases, DiskFit may crash (display a bomb box) when you launch it or try to use or create a SmartSet. If this occurs, move the DiskFit Info file in your System Folder to the Trash. You will have to rescan your SmartSets, but that does not take long.

If you still need help, please call SuperMac Technical Support at (408) 245-0646.

## REFERENCE

The DiskFit screen contains a message area, the selected volume area, and a volume list. The volume list itemizes all hard disks, 3.5-inch disks, partitions, file server volumes, tapes, Bernoulli cartridges, etc. that are currently mounted.

If you wish, you may eject, rename or erase the currently selected volume. A confirming message is displayed before erasing. If you rename or erase a SmartSet disk, it will no longer be considered a SmartSet disk.

The Apple () menu contains “About DiskFit” and whatever desk accessories you have installed. “About DiskFit” will tell you what version of the program you have.

The File menu contains the following options:

- **Close**  
Closes current window.
- **Disk Duplicate**  
Duplicates the selected disk. Manually specifies the Duplicate operation for any disk, where the source is copied precisely to the destination with folder hierarchy and desktop file intact. If the source will not fit on the destination, you are asked to confirm, and then all files that will fit are copied. The Duplicate operation also occurs without confirmation whenever a backup operation occurs between two large volumes and the source will fit entirely on the destination.
- **Join Files**  
Allows you to do manually what DiskFit will otherwise do automatically. To manually join a file, use the Finder to copy each piece of the file to be joined into the same folder on your hard disk. Very little extra disk space or memory is required. Launch DiskFit—by double-clicking the Split File icon, if you wish—and select **Join Files** from the File menu. Locate the folder that you copied the split files to and select the file that you wish to join. Click **Join**.
- **Eject**  
Ejects the current volume, if ejectable. Otherwise this button is dimmed.

- **Page Setup**  
Contains various options for printing the report.
- **Print Report**  
Allows you to print a report from within DiskFit.
- **Quit**  
Quits DiskFit and returns you to the Finder.

The Edit menu contains the normal clipboard commands.

The Windows menu contains four items:

- **Help**  
Shows a list of topics. Opening or double-clicking a topic brings up a short text on that subject.
- **SmartSets**  
Displays information on all SmartSets that DiskFit is keeping track of, and allows you to delete obsolete SmartSet information and change the selected folders and files in an existing SmartSet.
- **View Report**  
Allows you to open and view a report on a backup. This is handy to determine where particular files are located in a SmartSet.
- **Error Log**  
Keeps a record of any special messages or errors that occurred during the current session. If an error occurs, the last message of the backup or restore will be “Backup [or Restore] completed with errors.”
- **Clipboard**  
Opens the Clipboard window.

The selections in the Options menu allow you to change certain backup specifications. Normally you would leave these at the original settings. Any changes you make are preserved until you change them again.

- **Verify Writes**  
Performs an extra verification of the backup in addition to DiskFit’s normal verification. Verify Writes makes the backup about 30% slower. Originally set to off. In general, this option is most useful when backing up to 3.5-inch disks.

- **Sounds**  
Turns the program sounds on or off. Sound volume is determined by the Control Panel.
  
- **Scan Every Disk**  
The Scan Every Disk option, available during incremental backups only, allows you to verify the integrity of your SmartSet by checking every disk. When it is checked, DiskFit requests each disk in the SmartSet whether or not it needs to be modified. Scan Every Disk is useful if you suspect that one or more SmartSet disks have been modified, damaged, or lost since you last backed up. Originally set to off.  
  
Whenever DiskFit requests a disk, you may either insert it or click **Missing** and rebuild its contents on a new disk. You may rebuild the contents of any missing disks, or bring up to date any disks that have been modified outside of DiskFit.
  
- **Auto Format**  
Causes DiskFit to check for blank floppy disks. If an inserted disk has never been formatted, DiskFit formats it to be as large as possible given available formatting possibilities (i.e., 800K for normal media, and 1440K for high-density media). Holding down the Option key forces a 400K format in an 800K drive. Originally set to off.
  
- **Fewer Safeties**  
When checked, reduces the number of confirmations required to perform various operations. This option is to save time for experienced DiskFit users.
  
- **Faster Copying**  
This option overrides the normal HFS copying procedure in favor of a faster method in which files are copied contiguously onto the backup media. Since the backup device heads do not have to move back and forth as much, the copying speeds up. *NOTE: If you are backing up in the background under MultiFinder, Faster Copying will cause significant pauses in foreground operations.*
  
- **Exclude [Folders]**  
When checked, excludes folders with brackets around their names from a backup. See the section “Exclude [Folders]” for information.
  
- **Less Copying**  
When checked, a file’s modify date alone will not cause the file to be backed up. Instead, the file must change in size. HyperCard® and some database applications will constantly change a file’s modify date when the file is opened, even if the file has not changed. Use this option with care, since some files may not change in size even if they are modified. Uncheck this option periodically to ensure full SmartSet integrity.

- **Expanded Report**

Each time you back up, DiskFit Report logs the time, any errors, and the result, and creates a list of the folders and files on your hard disk and the SmartSet disks where the files can be found. DiskFit Report is a text file that can be read by choosing **View Report** from the Windows menu or with any word-processing program. The report can be printed from within DiskFit by choosing **Print Report** from the File menu.

- **Normal Report**

Same as Expanded Report, without the file location information.

# GLOSSARY

**Auto Format:** A command available on the Options menu that initializes disks that have never been formatted to their appropriate size, 400K in a single-sided drive and 800K in a double-sided drive, and depending on the disk type, 800K or 1440K in an FDHD drive.

**Backup strategy:** The backup technique you use regularly to ensure the integrity of files and data on your hard disk.

**Destination volume:** The disk that DiskFit will copy onto; a backup disk during a backup, a hard disk during a restore.

**DiskFit Info file:** The file containing SmartSet information created automatically in the System Folder to speed incremental backups. Also the files containing SmartSet information on each SmartSet disk.

**DiskFit Report file:** A text document created in your System Folder that logs each backup operation and reflects the correspondence of folders and backup disks. May be opened and/or printed from within DiskFit or with any word-processing application.

**Documents SmartSet:** A SmartSet that backs up only documents, not applications or system files. Will include all documents created except programming source code.

**Error Log:** A window containing a record of any unusual occurrences or errors during a backup. All of this information is also put in the DiskFit Report file.

**Format:** To completely erase a disk, dividing it into tracks and sectors where information is stored.

**Incremental backup:** The process of backing up only the files that are new or changed on your hard disk since the last backup. Bringing a SmartSet or Duplicate up to date.

**Initialize:** Dividing a disk into tracks and sectors where information is stored.

**Join:** The process of recreating a large document that was split because it would not all fit on one SmartSet volume.

**Expanded Report:** A log of the time, any errors, and a list of the folders and files on your hard disk and the SmartSet disks where the files can be found. Can be opened and printed from within DiskFit or any word processing application that reads text files.

**Normal Report:** Same as Expanded Report, without the file location information.

**Rescan:** The process of recreating a SmartSet when information has been partially lost or deleted.

**Restore:** The process of recreating or rebuilding a hard disk, sometimes necessary after a problem has occurred with the original.

**Scan Every Disk:** An option that requests every disk in the SmartSet whether required or not. Valuable if a backup disk is missing or damaged because it can be rebuilt, or if a SmartSet disk has been modified because it will be brought up to date.

**SmartSet:** A set of disks corresponding to a volume or part of a volume for which DiskFit is storing backup information.

**Split file:** Part of a file that has been split because it is too large to fit on one disk. Splitting during a SmartSet backup and joining during restore occur automatically.

**Subvolume:** A folder you define to be used as a source or destination volume for backup and restore purposes.

**Volume:** A named device that is a source of or destination for information organized into files.

**Volume list:** The list of volumes appearing in the main DiskFit window. Used to select a hard disk to be backed up or restored, and to identify disks for SmartSets.

# INDEX

- Add from a file 22
- Add manually 23
- Auto Format 47, 49
- backup 13, 17
  - delay 29
  - folder exclusion 19
  - limiting 2
  - main window 12, 14
  - missing volumes 14
  - partitioned hard disks 39
  - rebuilding bad volume 14
  - selecting folders and files 17
  - Special Considerations 39
  - strategies 37
  - unattended 38
- backup date 41
- backup media 1
- Backup strategy 49
- changing a SmartSet 24
- Clipboard 46
- Close 45
- Copy-protected program 4
  - delay 28
- deleting a SmartSet 24
- desktop file 2
- destination 8
- destination volume 49
- Disk
  - Duplicate 45
  - missing 44
- DiskFit
  - Report file 34, 49
  - using 7
- DiskFit Info 13, 49
- Duplicate 2, 7, 10
  - about 7
  - creating 10
  - using a duplicate hard disk 35
- Error Log 12, 46, 49
- Error messages 3
- Exclude [Folders] 19, 21, 41, 47
- Exclude Files 21
- Expanded Report 48
- Faster Copying 47
- Fewer Safeties 10–11, 47
- File Exclusion 17, 21
- File menu 45–46
- Files
  - archiving 41
  - contiguous 40
  - excluded from all backups 39
  - fragmented 33
  - invisible 40
- Floppy Disk Loader 38
- Folder Selection 17–18
- fragmented 41
- Glossary 49–50
- Hard disk-to-hard disk duplication 3
- help 4, 43, 46
- HFS 1
- Incremental backup 49
- incremental backups 1, 13
- Initialize 49
- Join 49
- Join Files 2, 35, 42, 45
- Less Copying 47
- Menus 47
- Missing 44

- missing SmartSet volumes 14
- MultiFinder 2
- Normal Report 48
- Options menu 46–47
- Partitioned hard disks 39
- Power Failure/Reset 44
- printing the Report file 19
- Quit 46
- RAM cache 4, 39
- Rebuild 47
- Reference 45–47
- Report file 3, 19
- Rescan 50
- Restoring 33, 50
  - delay 32
  - entire volume 33–34
  - single file 42
  - split file 42
  - using a duplicate hard disk 35
- Resuming 44
- Scan Every Disk 47, 50
- Selecting Folders and Files 17
- single file backup 2, 17
- SmartSet 2, 7, 11, 46, 49, 50
  - about 7
  - converting to 2.0 format 3, 14
  - creating 11
  - Exclude Files 21
  - files copied in 39
  - limiting 17
  - missing volumes 14
  - multiple 37
  - rebuilding bad volume 14
  - updating old volumes 14
- SmartSet Information
  - changing or deleting 24
- Sounds 47
- source volume 8
- split file 2, 35, 50
- Subvolume 9
  - defining 25
  - using 38
- System requirements 4
- tape 41
  - cache file 31
  - delay 32
  - ejecting 29
  - formatting 28
  - locking 30
  - restoring from 31
  - special notes 30
  - using 27–28
- TapeCache 31, 41, 43
- TapeDriver 1–2, 5–6, 27, 31
  - installing 27
- Technical Support 42
- Troubleshooting 43–44
- Type and Creator codes 17, 22–23
- Unattended Backups 38
- Verify Writes 46
- View Report 46
- volume buttons 8
- Volume list 50
- Windows menu 46

#### Disclaimer of Warranty and Limited Warranty

If you are not completely satisfied with this software at any time during the first 30 days after you receive it, return the software and manual, postage prepaid, during the 30-day time period, with proof of purchase to your dealer or to SuperMac Technology, 485 Potrero Avenue, Sunnyvale, CA 94086 for a full refund of the purchase price of the product. At your option, you may include a description of the source of your dissatisfaction.

If you discover physical defects in the media on which this software is distributed or in the manual provided with the software, SuperMac will replace the media or manual at no charge to you, provided you return the item to SuperMac Technology during the 90-day period after you received the product.

Except as specifically stated above, neither SuperMac Technology nor Dantz Development Corporation make any other warranties, express or implied, with respect to the software, media, or manual including (but not limited to) implied warranties of merchantability and fitness for a particular purpose.

APPLE COMPUTER, INC (“APPLE”) MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE APPLE SOFTWARE. APPLE DOES NOT WARRANT, GUARANTEE, OR MAKE ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE CURRENTNESS OR OTHERWISE. THE ENTIRE RISK AS TO THE RESULTS AND PERFORMANCE OF THE APPLE SOFTWARE IS ASSUMED BY YOU. THE EXCLUSION OF SOME WARRANTIES IS NOT PERMITTED BY SOME STATES. THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

The warranty and remedies set forth above are exclusive and in lieu of all others, oral or written, express or implied. No SuperMac Technology dealer, agent or employee is authorized to make any modification, extension, or addition to this warranty.

In no event will either SuperMac Technology or Dantz Development Corporation be liable for loss of profits or good will or other direct, indirect, incidental, or consequential damages resulting from any defect in the software, media or manual, even if advised of the possibility of such damages. SuperMac Technology’s and Dantz Development Corporation’s liability for damages to you or others will in no event exceed the total amount paid by you for the product. In particular, neither SuperMac Technology nor Dantz Development Corporation shall have any liability for any programs or data stored in or used with SuperMac Technology’s products, including the costs of recovering such programs or data.

IN NO EVENT WILL APPLE, ITS DIRECTORS, OFFICERS, EMPLOYEES, OR AGENTS BE LIABLE TO YOU FOR ANY CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES (INCLUDING DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION,

LOSS OF BUSINESS INFORMATION, AND THE LIKE) ARISING OUT OF THE USE OR INABILITY TO USE THE APPLE SOFTWARE, EVEN IF APPLE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.



**SuperMac Technology**

485 Potrero Ave.  
Sunnyvale, CA 94086  
(408) 245-2202

3001 703-001C

# DiskFit™

AUTOMATIC BACKUP AND RESTORE FOR YOUR HARD DISK



Not For Resale

Demonstration Copy

Not For Redistribution



 SUPERMAC™

## KEY FEATURES:

■ **Incremental backup:** DiskFit automatically scans for files that have been removed from your hard disk, and then reclaims space in the backup so it can be used for new files. Since new files aren't merely "tacked on" at the end of the backup media, storage space is conserved, and future backups remain fast, efficient and precise.

■ **Widest choice of backup media:** DiskFit is compatible with standard 3.5" disks, the new Apple FDHD SuperDrive 1.4 Mg floppy disks, 3M DC-2000 tape units, Kodak/DTC and Bernoulli cartridges, and hard drives.

■ **Select type of files for backup:** Select documents only, systems and applications only, or specify a particular file for backup. DiskFit also has an Exclude Folders option, so specific folders can be excluded from the backup process.

■ **Finder-readable storage format:** Backs up files in standard Macintosh™ format, so they are always accessible from the Finder.™ No need to run a special program to retrieve your files.

■ **Other features:** DiskFit also runs under MultiFinder,™ generates reports and error logs, estimates the number of disks required, and automatically formats and initializes disks.

Backing up 500K of new and revised files:

Finder = 22 min.

Brand X = 8 min.

DiskFit = 3 min.



Backing up with DiskFit takes just a few minutes a day. Insert the disks as they are requested, and DiskFit does the rest.

Unlike other backup programs, DiskFit's backup floppy disks remain a manageable size — even after months of incremental backups.

Brand X = 32 disks

Initial 8Mb backup; then backing up 50K of changes/day for a month.

DiskFit = 12 disks



# Insure Yourself Against Data Loss

Backing up your hard disk is something you know you should do every day — but you probably don't bother. With DiskFit,™ backup becomes so simple you won't mind doing it regularly. Here's why:

## DiskFit is Fast and Automatic

DiskFit automates the entire backup process. Simple, Macintosh-style controls guide you through the entire procedure. Then, with subsequent backups, DiskFit prompts you to insert only the disks required to create an exact copy of your hard disk. DiskFit will even prompt you to insert disks in the background under MultiFinder!

## DiskFit is Reliable

DiskFit works on a file-by-file basis, and verifies the integrity of each file as it's stored on the disk. Every backup disk contains a directory of its own — no separate directory disk is needed. If a backup disk is lost or damaged, DiskFit can automatically recreate it from the files on your hard disk.

## DiskFit. The complete backup solution.

### System requirements:

Macintosh 512K Enhanced, Macintosh Plus, SE or II; with HFS hard drive.  
Tape Backup requires 3M DC2000 tape units.



485 Potrero Avenue  
Sunnyvale, CA 94086  
(408) 245-2202

Macintosh, Finder and MultiFinder are trademarks of Apple Computer, Inc.  
©1988 SuperMac Technology. All rights reserved,  
including the look and feel of the product.

3001752-0001 Rev. C

THIS PRODUCT BACKED BY OUR  
**30-DAY  
MONEY BACK  
GUARANTEE**  
SEE MANUAL FOR DETAILS



0 97316 06040 8

---

# Utility Software

DiskFit v2.0

Not For Resale

STD6044

407159



Double  
Sided

© 1989/90 SuperMac Technology. All rights reserved  
including the look and the feel of the product.

123

0092131

030716

