

DiskUtil IITM

The complete utility for hard drives.

**Owner's
Manual**

by

FWB, Inc.

Copyright Notice

This manual and the software described in it are copyrighted. All rights are reserved. Under the copyright laws, neither the programs nor the manual may be copied, reproduced, translated or reduced to any printed or electronic medium or to any machine-readable form, in whole or in part, without the written consent of FWB, Inc., except in the normal use of the software or in the making of an archival copy.

This software may be used on any computer owned by the purchaser, but extra copies may not be made for this purpose. A license may be purchased to allow use of the software on more than one computer owned by the purchaser.

© 1987, 1988 FWB, Inc.
2040 Polk Street Suite 215
San Francisco, CA 94109

Disclaimer of All Liability and Warranty

FWB, Inc. makes *no warranty*, either expressed or implied, regarding the merchantability, quality, functionality, or fitness of either the diskette or the information provided. This software is sold "AS IS". It is solely the responsibility of the consumer to determine its suitability for a particular purpose or use.

FWB, Inc. will in no event be liable for direct, indirect, special or incidental damages resulting from any error or omission on the diskette or in the information provided or from any other events including, but not limited to, any interruption of service, loss of business, legal action or any other consequential damages. The user assumes all responsibility arising from the use of this software. FWB, Inc. will be neither responsible nor liable for any illegal use of its software. FWB, Inc. reserves the right to make corrections or improvements to the information provided and to the related software at any time, without notice. The warranty and remedies set forth above are exclusive and in lieu of all others, oral or written, expressed or implied.

Table of Contents

1-1	Preface	1
1-2	Introduction to <i>DiskUtil II</i> TM	2
2-1	Backup Copies on Floppy Disks	3
2-2	Copying to a RAMdisk or Hard Disk	4
3-1	Using <i>DiskUtil II</i>	5
	A. Using Copy Volumes	5
	B. Using Apply Patches	6
	C. Using Copy Files	7
	D. Pull-down Menu Options	8

Appendix

A-1	Disk Structure	9
A-2	Protection Schemes	10
A-3	Update Information	12

1-1 Preface

Copy protection, its pros and cons, has long been a controversial topic. Valid arguments existing on both sides, the debate continues, and, in the meantime, it is the user who suffers. We have been alarmed at the attitude of many Apple IIGS™ software developers toward copy protection. Most of their schemes require that the user keep the original master disk within reach. This is barely acceptable when working with floppy disks alone, but for those who use RAMdisks or who have made a substantial investment in a hard disk system, the need to insert the master disk each time a copy-protected program is loaded becomes unreasonable. Expensive investments in hard disks and extra memory are, in most cases, made to gain speed and efficiency; the limitations created by copy-protection schemes often severely limit these benefits by forcing users to continue to shuffling floppy disks. With *DiskUtil II* this need to shuffle Master Disks can usually be eliminated!

DiskUtil II was written with the intent of freeing Apple IIGS users from the drudgery of using master disks. In most cases, *DiskUtil II* achieves this goal by actually patching the program disks. Once the software has been patched (and thus no longer copy-protected), programs may then be copied by the click and drag method in the *Finder*™, and, as a result, can easily be copied to other floppies, RAMdisks, ROMdisks, hard disks, etc.

We must stress that the end user has a responsibility to heed the conditions set forth in the software license agreement for each and every software package on which *DiskUtil II* is used. Under federal copyright laws, a backup copy may be made for archival purposes only. Our software is supplied for lawful purposes and may not be used in violation of any federal copyright laws or end user agreements.

1-2 Introduction to *DiskUtil II*™

DiskUtil II is a backup utility that allows users to make backups of protected software which will usually be compatible with hard disks and RAMdisks, in addition to other floppy disks. The copies made using *DiskUtil II* will behave as though they are the actual master disk and will not ask you to insert the original.

To begin, insert *DiskUtil II* in your disk drive and turn on your computer. If you set your disk drive as the startup device, it should automatically load the disk. Consult the owner's manual of your computer if you do not know how to boot up your disk drive.

Because protection schemes change so often, it is necessary to include specific directions in special cases as they arise. This disk based documentation can be found in the README file. If the program you are interested in copying has a README file, read the file with a text editor like *AppleWorks*™, but in any event, always read the Errata file before starting.

The procedure to make uploadable copies from originals consists of three steps: first, making a backup copy of the Master with the **Copy Volumes** option in *DiskUtil II*; second, patching the backup copy with the **Apply Patches** option, and third, uploading the program to the hard disk with the **Copy Files** option. The following sections will describe this procedure in greater detail and will contain the instructions for using each of these applications. In addition, there is an appendix at the end which contains some general background information that may be of interest.

Not all programs are copy protected, so, in general, you should try copying your program by dragging the icon to the desired target before using *DiskUtil II*. In addition, some software packages now include their own hard disk installing systems. If the program you are interested in does not fit in either of these criteria and if *DiskUtil II* does support this program, then consult the patch listing sheet, the "Notes," for the plan of attack.

2-1 Backup Copies on Floppy Disks

The Primary Method...

For backups that do not require master disks, follow this procedure:

1. Check the Patch Disk Notes sheet or open the *Patches* folder on the desktop to see if a patch is available for the program you want to backup. If it is, then continue.
2. Make a backup copy of your master disk onto another floppy disk using the **Copy Volumes** menu option in *DiskUtil II*. Consult section 3-1.A Using Copy Volumes.
3. Use **Apply Patches** to patch this backup copy of the program. Refer to section 3-1.B Using Apply Patches. (Note that certain patched programs will only run from floppies and will either not function or continue to ask for the original if run off a RAMdisk or hard disk. *DiskUtil II* includes a notes sheet that indicates whether or not the patched copy of your program will run on a hard disk/RAMdisk.)
4. This patched backup of your original master disk can now be used as if it were the original. It can also be copied to another floppy disk by any of the normal methods including clicking and dragging.

If Nothing Works ...

If you encounter a program for which *DiskUtil II* cannot make a backup, please let us know. If no patches are available, we may ask you to send in your original for evaluation.

2-2 Copying to a RAMdisk or Hard Disk

RAMdisks and hard disks have the same patching requirements, and anything uploadable to a RAMdisk or hard disk will always be copyable to other floppies.

Step-by-Step Procedure

1. Check the Patch Disk Notes sheet or open the *Patches* folder on the desktop to see if a patch is available for the program you want to backup. If it is, then continue.
2. Make a backup copy of your master disk onto another floppy disk using the **Copy Volumes** menu option in *DiskUtil II*. Consult section 3-1.A Using Copy Volumes.
3. Use **Apply Patches** to patch this backup copy of the program. Refer to section 3-1.B Using Apply Patches. *DiskUtil II* includes a notes sheet that indicates whether or not the patched copy of your program will run on a hard disk or RAMdisk since certain patches are only floppy compatible.
4. The backup copy on the floppy disk is no longer copy-protected and can now be transferred to your RAMdisk or hard disk.

The **Copy Files** option (refer to section 3-1.C) in *DiskUtil II* may be used to copy files to a RAMdisk or hard disk volume if either is online. As an alternative, you can move the files to your RAMdisk or hard disk by dragging the icons of the files you need from the patched disk unto the RAMdisk boot disk or onto your hard disk, respectively. (Be sure to copy all necessary files to your hard disk, including the program itself and all its support files including system resource files.)

3-1 Using *DiskUtil II*

DiskUtil II performs three functions: it makes backup copies of disks, patches disks, and transfers files from a disk to another storage device. The next three sections will describe in detail how to perform these operations with the three options under the **Utilities** pull-down menu in *DiskUtil II*, and the two subsequent sections will describe additional features of *DiskUtil II*.

3-1.A Using Copy Volumes

The **Copy Volumes** option is used to make a backup copy of the disk you wish to patch and transfer, and is selected from the **Utilities** pull-down menu. **Copy Volumes** supports most disk drive configurations and will utilize dual disk drives.

Have a **preformatted** destination disk ready, and insert the disk to be copied into the source disk drive. Select the **Copy Volumes** option, and *DiskUtil II* will then prompt for the original disk. Select the volume to be copied by pressing the **Drive** button. Every time you press this button, the name of the current volume, in the upper left corner of the dialog box, will change. When the desired volume is selected, hit the **OK** button. The disk will now be read into memory. *DiskUtil II* fully utilizes any available memory. If not enough memory is available for a full disk, it will prompt the user to swap disks. After the disk is read in, you will be prompted for the destination volume. If you have one disk drive, eject the disk in the drive and insert the formatted destination disk and click on the **OK** button. If you have two disk drives, simply insert the formatted destination disk into your other disk drive and click on the **Drive** button until your other disk drive is selected.

If only one disk drive is available, *DiskUtil II* will automatically prompt for the disk swaps.

Note that the copy made is a sector copy and does not contain the weird formatting present on the original, thus it will usually not function correctly without patching. You may also use any sector copier that ignores disk errors to produce a backup for patching.

3-1.B Using Apply Patches

Patching is the most important function *DiskUtil II* performs. This operation involves modifying the specific information on the disk to allow for greater functionality of program in general.

The **Apply Patches** option is used to patch floppy copy prepared by the **Copy Volumes** option, and is also found under the **Utilities** pull-down menu.

When this option is selected, *DiskUtil II* will prompt for the patch file to use. Select by double-clicking the one corresponding to the program you are patching. *DiskUtil II* will then prompt for the volume to be patched. Insert the disk to be patched, click on the **Drive** button until it is the selected disk, and click on **OK** to start the patching. Once started, the patching process will begin automatically and will usually take 5-10 seconds. In any event, once the copy is patched, this backup can be copied by normal means and can be moved over to other storage devices with the **Copy Files** option, also under the **Utilities** menu. Consult the Notes sheet for compatibility with hard disks and RAMdisks.

During the patching process, *DiskUtil II* looks for specific strings to replace, and if it does not locate them, it will give you a "No matches found" error. If you encounter this error, check to insure that the patch selected corresponds to the correct program and version number. Patches look for specific errors, and newer versions of a program will not have the same errors as older ones; as a result, patches are not interchangeable with different versions. Contact FWB, Inc. to determine the origin of this error if it persists, and, if necessary, to check whether an update that contains the patch for your version is available. Note that whenever this error is encountered, *DiskUtil II* aborts from patching and leaves the copy in an altered state.

3-1.C Using Copy Files

The **Copy Files** option is used to move files from a one disk to another storage device. This device can be another floppy disk, RAMdisk, ROMdisk, or a hard drive.

When this option is selected, *DiskUtil II* will prompt for the source file. Insert the source disk into the drive and click on **Drive** until it is the selected disk. Select the file to be copied by double clicking on it. Once it has been selected, it will be read in and you will be prompted for the destination volume. Select the destination by clicking on the **Drive** button until it is the selected volume and then click on the **OK** button.

The destination volume can be another floppy disk, a RAMdisk, a ROMdisk or hard disk volume (be sure it's mounted before you choose **Copy Files**). Always make certain that you have enough space in your destination volume before starting. An error message will appear if *DiskUtil II* encounters any errors in the transfer process. The **Copy Files** option copies files one at a time. (Note that transferring files patched by *DiskUtil II* can also be performed by clicking and dragging in the *Finder*.) When transferring files to another volume, be sure to copy all the program's files including data files and system resource files. Some programs might include files within folders, be sure to maintain the folder/subdirectory structure on your destination volume.

3-1.D *DiskUtil II* Menu Items

The following section explains all pull-down options available from within *DiskUtil II*.

"Apple" Menu options:

About DiskUtil II™: Shows information about *DiskUtil II* – such as the version number.

About Upgrades: Displays information on upgrading.

Disclaimer: Presents an important disclaimer on program usage.

Quit: Quits the program.

Utilities Menu options: (As outlined in the previous three sections.)

Copy Volumes...: Duplicates a volume.

Apply Patches...: Performs the patching operation on a floppy disk.

Copy files...: Moves the files from a volume onto another volume.

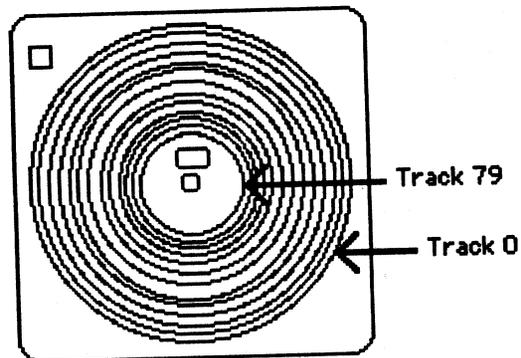
Disk Operations options:

Format...: Formats a disk. Be sure to have a **formatted** disk in the drive before selecting this option. It is used to select the volume to be formatted.

Other menu option might exist or be unselectable. These will give you a sense of what future versions of this program will contain.

A-1 Apple IIGS™ Disk Structure

The Apple IIGS uses 3.5" floppy diskettes that are divided into 80 concentric tracks with track zero at the outside and track seventy-nine nearest the center.



Inside a 3.5" Floppy Disk

Each track is divided into sectors. The number of sectors per track is variable, depending on its location on the disk. Since the outer tracks are longer, they contain more sectors than the smaller inside tracks. Each sector can store 512 bytes of information.

Sectors are often referred to as blocks. A single-sided disk is divided into 800 blocks, each containing 512 bytes (400K bytes total). A file consists of a bunch of sectors that may be spread throughout the disk. For example, on one disk the directory file may fill 12 sectors (6,000 or 6K bytes) and be found in blocks 4-15 on that disk. Looking at those blocks with a disk-editing program will show you the coded information that is contained in that file.

Double-sided disks contain 1600 blocks. The blocks are arranged on alternate sides of the disks to achieve the greatest possible access speed.

A-2 Copy Protection Information

This section has been included in the manual to provide some background information on copy-protection schemes used on Apple IIGS™ programs. It contains some general information on the different levels of copy protection that may be of interest to Apple IIGS users.

Level 1

The first method of copying disks, or copying files between disks, was to drag them from one disk to another in the *Finder*™. The first level of copy protection uses an invisible file on the Master Disk to keep it from being copied successfully by this method. Because this file is invisible and cannot be duplicated in the *Finder*™, it will not exist on the backup disk. The program then checks for this invisible file and will not run without it, so it will then ask for the master disk, which contains the invisible file. Copying the program to a RAMdisk or a hard disk results in the same request to insert the master disk when the application is opened.

Level 2

The next level of copy protection uses "flags" in certain files to prevent their being copied or moved. The flag labels the given file with the information that it cannot be moved or copied, and trying to move it or copy it usually results in an error message that says it cannot be done.

Level 3

The third level of copy protection utilizes a "bad" sector on the disk that is either erased, unformatted or altered from normal form. A disk-copy program will try to read and write this sector as if it were normal, sometimes generating an error message, sometimes not. If the program checks for the existence of the bad sector on the backup disk and doesn't find it, it will ask you for the master disk before it will run. Many weird sectors have been generated on the Macintosh™.

Level 4

Some of the newer methods in copy protection involve disk-timing schemes. In one such scheme, sometimes called nibble counting, a flag bit is inserted on a track, and then a specific number of bytes are written. The program checks to make sure that the correct number of bytes pass by before the flag bit appears

with a bit-copy program shows no errors, yet the backup copy usually will not run, or will request insertion of the Master Disk. Track synchronization is another disk-timing scheme. It involves writing tracks on the disk in a specific pattern. After the first track is written, the disk drive head is immediately stepped to the next track and more information is written. This synchronization can occur throughout the disk and is often teamed with nibble counting to make the scheme more complicated.

Yet another technique uses special disks with laser holes in them. The program attempts to write information to the sector with the hole, and if there is no media there, an error results that allows the program to run. If the program is copied onto a normal disk there is no laser hole (thus no error) and the program cannot run.

Protection Schemes of the Future

Because the disk controller in the Apple IIGS is similar to the one that is used in the Apple //™ series, the protection schemes designed for those computers are now being used on the GS. Some of the schemes of the future could make more use of modified address and data markers. There could be new timing schemes and special encoding of tracks with less data or different encoding algorithms. Memory protection could utilize encrypted code, self-modifying code, checksums and possibly ROM checks. Future protection schemes will continue to utilize the older protection schemes in various combinations with the new ones. The merry-go-around of disk protection/unprotection will continue forever; there is no way a scheme could be implemented and prevent 100% of users from tampering with it. What is done by a human can eventually be undone, all it takes is time.

A-3 Update Information

Updates to the Program Disk

Registered owners can update their program disk if a newer version is available for \$15. These updates will consist of updated parameters for new versions of programs that are already on the disk, as well as any updates to any of the application programs. Return the original *DiskUtil II* disk with \$10 to receive an update. Major upgrades may cost more, but will contain major revisions in most of the software. Registered owners will be notified only on major upgrades.

Technical Support Offer

We also make a special offer of technical support. If you encounter a new program that you'd like *DiskUtil II* to support, please let us know. Call our technical support line at (415) 474-8055 to tell us what program(s) you'd like to have patched. We cannot guarantee that we can find parameters for every program, but we'll do our best! We won't, however, find parameters for programs that have a bulletproof installation/removal procedure.

New Product Ideas

FWB, Inc. is committed to develop programs directed towards performance without compromise, hence our main focus on utility products. If you have ideas for helpful products that you'd like to see developed, or if you have a program you'd like to market, please let us know.

FWB, Inc.
2040 Polk St. Suite 215
San Francisco, CA 94109

DiskUtil II™ v1.03 Notes

© 1987, 1988 FWB, Inc.

Hard Disk/RAMdisk/Floppy Compatible after patching:

Bard's Tale™, Draw+™, Deluxe Paint II™, Fantavision™, Graphics Studio™, GraphicWriter™, 1.0R/1.1R, Hacker II™, Instant Music™, Music Studio™, Paintworks Plus™, Print Shop™, Shanghai™ (Rename System/Start to System/Shanghai.start), Showoff™, Softswitch™, Tass Times in Tonetown™, Thexeder™, TopDraw™, World Tour Golf™, Writer's Choice Elite™, 816Paint™v2/v3.

(All the hard disk compatible patched programs are RAMdisk and floppy compatible.)

RAMdisk/Floppy Compatible after patching

Hardball™ (To launch Hardball from the RAMdisk, launch the Prodos.sys file by typing "-Prodos".)

Note: You probably need an 800K RAMdisk for the program to fit. You should also have enough memory for the program to run. Therefore, you should only try running a program in a RAMdisk if you have at least 1.25 megs of total RAM.

Floppy Only

GBA Basketball™, Music Construction Set™, ReaderRabbit™, Silent Service™, Tower of Myraglen™.

Special Cases

Winter Games™, World Games™: These are both RAMdisk compatible if you rename your RAMdisk: "WORLD.GAMES" or "/WINTER.GAMES" before running them on your RAMdisk.

Mean 18™: Same as above, rename RAMdisk: "/Mean18" before running.

Marble Madness™: Same as above, rename RAMdisk: "/Musicgs" before running.

Word Attack™: Same as above, rename RAMdisk: "/Word" before running.

Leisure Suite Larry™: Same as above, rename RAMdisk: "/LL1" before running.

Award Maker Plus™: Same as above, rename RAMdisk: "/AM.A1" before running.

Destroyer™: Same as above, rename RAMdisk: "/Destroyer" before running.

Space Quest™: Same as above, rename RAMdisk: "/SQ1". You'll have to insert disk 2 unless you can partition your ramdisk into two volumes.

Dream Zone™: Copy the data disk onto your RAMdisk, rename it "/Zone.Data", then run the program off the boot disk. This will allow the data to be loaded automatically from RAMdisk.

(To launch any of these special cases, launch the Prodos.sys file by typing "-Prodos".)

Trouble Shooting

If you are having trouble running something off a hard disk or RAMdisk, check to make sure that the version of Prodos you are running is the same as that on the original. Also make sure all toolbox files in the system folder of the original are in the system folder of the destination volume.

Errors: If you have a different version of the program, the patch will not apply and you will get an error, check with FWB, Inc. for info.

If you have new programs you need patches for, contact us.

FWB, Inc., 2040 Polk St. Suite 215, San Francisco, CA 94109, 415-474-8055

DiskUtil II™ v1.1 Notes

© 1987-1989 FWB, Inc.

Hard Disk/RAMdisk/Floppy Compatible after patching:

4th and Inches™, Bank Street Writer Plus™, Bard's Tale™/II, Calendar Crafter™ 1.0-1.2, California Games™, Chessmaster 2100™, Club Backgammon™, Draw+™, DejaVu™, Deluxe Paint II™, Fantavision™, Graphics Studio™, GraphicWriter™ 1.0R/1.1R/2.0, Hacker II™, Instant Music™, Miniputt™, Multiscribe™ 3.0c/3.01c, Music Studio™, Paintworks Plus™, Print Shop™, ShadowGate™, Shanghai™ (Rename System/Start to System/Shanghai.start), Showoff™, Softswitch™, Tass Times in Tonetown™, Tetris™, Thexeder™, TopDraw™ 1.0/1.01A, Uninvited™, World Tour Golf™, Writer's Choice Elite™, 816Paint™v2/v3, Vegas Craps™.

(All the hard disk compatible patched programs are RAMdisk and floppy compatible.)

RAMdisk/Floppy Compatible after patching

Hardball™ (To launch Hardball from the RAMdisk, launch the Prodos.sys file by typing "-Prodos".)

Note: You probably need an 800K RAMdisk for the program to fit. You should also have enough memory for the program to run. Therefore, you should only try running a program in a RAMdisk if you have at least 1.25 megs of total RAM.

Floppy Only

Aesop's Fables™, Adv of Sinbad™, Arabian™, Defender of the Crown™, Gauntlet™, GBA Basketball™, Mavis Beacon™, Music Construction Set™, ReaderRabbit™, Sea Strike™, Silent Service™, Streets Sport Soccer™, Tower of Myraglen™.

Special Cases

Winter Games™, World Games™: These are both RAMdisk compatible if you rename your RAMdisk: "WORLD.GAMES" or "/WINTER.GAMES" before running them on your RAMdisk.

Last Ninja™: Same as above, rename RAMdisk: "/The.Last.Ninja" before running.

Mean 18™: Same as above, rename RAMdisk: "/Mean18" before running.

Marble Madness™: Same as above, rename RAMdisk: "/Musicgs" before running.

Word Attack™: Same as above, rename RAMdisk: "/Word" before running.

Award Maker Plus™: Same as above, rename RAMdisk: "/AM.A1" before running.

Destroyer™: Same as above, rename RAMdisk: "/Destroyer" before running.

Cavern Cobra™: Same as above, rename RAMdisk: "/Cobra" before running.

Skate or Die™: Same as above, rename RAMdisk: "/SOD" before running.

Zany Golf™: Same as above, rename RAMdisk: "/Disk" before running.

Leisure Suite Larry™: Same as above, rename RAMdisk: "/LL1" after copying contents of disk 1 onto it. You'll have to insert disk 2 after most of the game, but everything else will be in RAM.

Read and Rhyme™: Same as above, rename RAMdisk: "/Rhyme1.dsk" after copying contents of disk 1 onto it. You'll have to insert disk 2 after most of the game, but everything else will be in RAM.

All About America™: Same as above, rename RAMdisk: "/America1.dsk" after copying contents of disk 1 onto it. You'll have to insert disk 2 after most of the game, but everything else will be in RAM.

Space Quest™ I/II: Same as above, rename RAMdisk: "/SQ1" after copying contents of disk 1 onto it. You'll have to insert disk 2 after most of the game, but everything else will come from RAM.

Kings Quests™: Same as above, rename RAMdisk: "/KQ2" after copying contents of disk 2 onto it. You'll have to boot off disk 1 unless you can partition your ramdisk into two volumes.

Dream Zone™: Copy the data disk onto your RAMdisk, rename it "/Zone.Data", then run the program off the boot disk. This will allow the data to be loaded automatically from RAMdisk.

(To launch any of these special cases, launch the Prodos.sys file by typing "-Prodos".)

SpringBoard Pub™: You must rename RAMdisk to "/SP" before running, and must also have a disk (any kind) in the drive when booting it up. Hard disk must be renamed to "/SP" also.

Trouble Shooting

If you are having trouble running something off a hard disk or RAMdisk, check to make sure that the version of Prodos you are running is the same as that on the original. Also make sure all toolbox files in the system folder of the original are in the system folder of the destination volume.

Errors: If you have a different version of the program, the patch will not apply and you will get an error, check with FWB, Inc. for info.

If you have new programs you need patches for, contact us.

Apple IIGS Public Domain Software

Why waste time and money downloading all day? No membership fees! Up-to-date programs No filler

1) Communications

Includes programs to call up other computers with a modem and to download files. All the latest information on file transfer protocols and conversions is on this disk. Programs included are BinaryII, FreetermGS, Squeeze, and Talk is Cheap.

2) Desk Accessories

This is a disk full of many useful desk accessory programs for your computer. Desk accessories are available at anytime in most any program. Most programs include source code, so you can learn how they were done. Included are one like memory peeker, disassembler, clock, notepad, calendar, sieve, and many others.

3) Pictures

A disk full of useful clip art and pictures. Feel free to cut pieces out of these files and integrate them into your own creations. All pictures stored in Paintworks Plus™ format. A picture viewer utility is included as are some graphic demos showing off the GS's lovely graphics and some picture translators.

4) Games

Everybody loves playing games and your Apple is especially great at it. Included are 6 scenic golf courses for Mean18™, supercharacters for Bard's Tale™, an educational games, and several public domain arcade games.

5) Utilities

Utilities contains useful programs that perform various tasks. Programs to edit text files, create and print disk labels, manipulate and edit diskettes. Programming systems, command processors, and macpaint to GS are also on this disk.

All Public Domain disks are double-sided 800K Sony diskettes.

Prices (Sales Tax is included in pricing)

Our public domain disks are only \$10 each.

Check, Mastercard, and Visa accepted.

Please add \$3 for shipping per each 2 disks ordered.

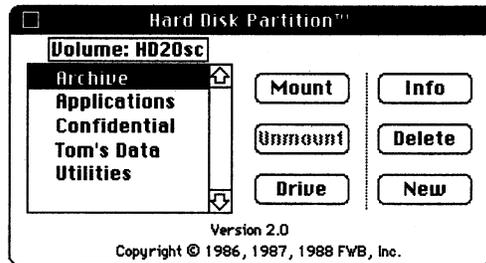
FWB Software, Inc.

2040 Polk St Suite 215

San Francisco, CA 94109

FWB Software Utilities 1988

Hard Disk Partition



Partitions any HFS volume into separate MFS/HFS volumes with optional password protection.

What does *Hard Disk Partition™* do?

Hard disk performance can suffer because of data fragmentation and an over-abundance of files. *Hard Disk Partition* prevents this deterioration by enhancing the HFS folder system. Through the creation of independent sub-volumes, *Hard Disk Partition* reduces fragmentation of data on the hard disk by utilizing contiguous allocation space for each partition. These sub-volumes allow the separation of data files from program files for improved organization. Personal sub-volumes can also be created allowing multiple users to share a hard disk without disturbing each other's data.

Can *Hard Disk Partition* secure files?

Sub-volumes can be both password protected preventing unauthorized tampering of valuable data and read-only protected allowing general user access to data while preventing it from erasure. Once a partition is password protected and unmounted from the desktop, unauthorized users cannot even view what files exist in the partition, let alone access them. Moreover, password protected partitions avoid time consuming encryption and decryption.

Does *Hard Disk Partition* improve hard disk performance?

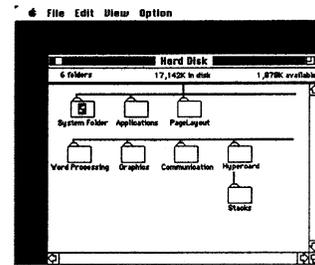
Most of the time spent in accessing data from a hard disk results from head seeking; as a result, if data is separated by immense distances, access times will suffer. *Hard Disk Partition* can therefore greatly improve hard disk performance by storing related data within small distances. Also, since only small sub-volumes are accessed instead of the entire hard disk volume, access times are further improved.

Hardware Requirements

Hard Disk Partition runs on any Macintosh™ except the Mac XL™ and supports any SCSI hard disk. *Hard Disk Partition* also supports daisy-chained hard disks.

List Price \$69.95

Hard Disk Manager



Purges and organizes files and folders on your hard disk quickly and easily.

What does *Hard Disk Manager™* do?

Because the Finder™ was originally designed to manipulate only a couple hundred files at a time, it is inadequate to manage the thousands of files contained on today's hard disks. *Hard Disk Manager* offers a much more effective organizational alternative by displaying, selecting, searching, and manipulating files on a global level. Files can be displayed in the natural graphic hierarchy of the disk volume allowing the user to globally manipulate files and folders. Files can also be displayed by name, data, size, and kind as in the Finder. By displaying files in these various ways, *Hard Disk Manager* allows you to easily select files, groups of files, folders, or even branches of files through standard Macintosh selection commands. Files can also be selected according to wildcards, or creation or modification date. Once selected, these files can be copied, moved, deleted, renamed, locked, etc. *Hard Disk Manager* also allows you to search for files with certain criteria, such as a name, modification date, or Finder flag.

How can *Hard Disk Manager* save me time?

By displaying and searching for files with specific criteria, *Hard Disk Manager* allows you to easily weed out redundant and older versions of files, saving you valuable disk space and time. Moreover, entire branches of the volume can be cut and pasted graphically offering you a quick method of reorganizing your files. *Hard Disk Manager* also allows you to print out a catalog of all your files graphically or textually. This feature gives you a quick reference guide to where files are located. *Hard Disk Manager* also displays important statistics on the status of your hard disk, including file system attributes and level of fragmentation.

Hardware Requirements

Hard Disk Manager runs on any Macintosh™ and supports any SCSI hard disk, AppleShare™, MFS, and HFS.

List Price \$69.95

PLACE
STAMP
HERE

FWB, Inc.
2040 Polk Street Suite 215
San Francisco, CA 94109

Disk Util II Registration Card

Version 1.1 Serial Number 1546

Name _____
Street _____
City _____ State _____ Zip _____
Phone Number _____

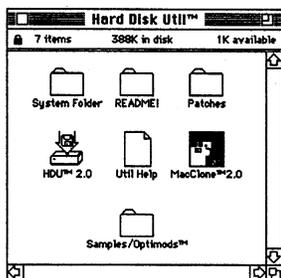
Date of Purchase _____ Place of Purchase _____

Type of Computer _____ Memory Size _____
Type of Hard Disk _____

Where did you hear about this? _____
Comments _____

I will abide by all conditions set forth in the manual.
Signature _____ Date _____

Hard Disk Util



Upload most copy-protected software onto your hard disk, RAMdisk, and 400K or 800K floppies.

What is *Hard Disk Util*?

Software manufacturers, in copy-protecting their software, have ignored the needs of users who have invested small fortunes in performance hardware; for these people, the compromise created by the requirement to use "master" disks is unreasonable. *Hard Disk Util* restores hardware's performance to its fullest potential by allowing your Macintosh to run programs directly off any storage configuration without the need to insert master floppies.

What are the differences between *Hard Disk Util* and *Copy II Mac*?

Hard Disk Util works with any storage system (i.e. RAMdisk, hard disk, or single or double-sided floppy) and is fully inter-compatible while *Copy II HD* works only with a hard drive, and *Copy II Mac* with floppies; there is no inter-changeability. Moreover, with *Hard Disk Util*, backups behave like normal programs so they can be moved to a hard disk even with the Finder. Back-ups made with *Copy II* are still protected so additional copies must still be made with *Copy II*.

Update Policy

Updates and new *PatchDisks*™ that contain patches for installing new programs will be available at nominal cost to all registered owners. Users can also generate their own patches. If, however, owners should encounter a program for which patches are not yet available, they may send it to us, and we will try to formulate new patches for them.

Hardware Requirements

Hard Disk Util runs on any Macintosh and supports any SCSI drive.

List Price **\$89.95**



2040 Polk Street Suite 215
San Francisco, CA 94109
(415) 474-8055

Programs *Hard Disk Util* can upload include:

Balance of Power™	Cuthroats™
Dollars and \$ense™	Flight Simulator™
Futura™	HitchHiker's Guide™
Lode Runner™	MacDraft™
MacGolf™	MicroPlanner+™
MGM Station™ 1.0	Omnis 3+™
Performer™	PFS File/Report™
Professional Bibliographer™	Professional Composer™
Psion Chess™	Sargon ///™
SmoothTalker™	Studio Session™
Typing Intrigue™	Ultima ///™
The Uninvited™	Wizardry™

For owners of *Hard Disk Util*, additional *PatchDisks*™ are available for more product support at **\$20 each**.

PatchDisk #2 support includes:

Airborne™	Bulk Mailer™
Deja Vu™	MacAtlas™
MacPlot™	MacPlots//™
MacRobots™	Quik Circuit™
Rambo™	Rogue™
Sierra Boxing™	Speller Bee™
Typing Made Easy™	Universe II™

PatchDisk #3 support includes:

DX7 Editor™ 1.15	EZ-Draft™ 1.0
Fontographer™	MacCad Schematic™
MacCad PCB Design™	MacCad SMT/PCB™
MacSpin™	MindSight™
MGM Station™ 2.0	Scriptor™
Sound Designer™	Stella™

PatchDisk #4 support includes:

DrumFile™	Deluxe Music™ 2.0
Ferrari Gran Prix™	Geometry™
MathTalk™	PrintShop™
Puppy Love™	SoftSynth™
ToyShop™	Word Attack™

PatchDisk #5 support includes:

4th Dimension™ 3.0 (French)	
Certificate Maker™	Enchanted Scepters™
King's Quest™ I, II, III	MacSafe™
MacOneWrite™ A/R, Cash, G/L	
MacRaquetball™	Ogre™
Salary Magic™	Scriptwriter™
ShadowGate™	Space Quest™

PatchDisk #6 support includes:

Breach™	Crystal Quest™
Crossword Magic™	ESQ-1 Editor™
FB-01 Editor™	First Shapes™
Leisure Suit Larry™	MasterTracks Pro™
MGM Generic™ & Mill™	PowerDraw™
Space Edit™	Word 3.01™ (French)