

## **NOTICE**

**The Hard Disk ToolKit™ PE floppy included with this package is not bootable; you cannot use the floppy as a Startup disk. Please follow the instructions below if you need to build a System 6 or a System 7 Startup disk. The increased number of devices supported and additional features have prevented us from creating a Startup disk with this version. We apologize for the inconvenience.**

Additional features/notes of HDT not mentioned in the manual:

### **HDT Installer**

- BEFORE proceeding with the installation, disable any virus protection software.
- Discard older HDT modules with version numbers in their names ie. HDT Primer™ 1.2, HDT Prober™ 1.3, HDT Extension™ 1.5.1, etc. especially those stored in the Control Panel and Extension folders, the installer will not replace these versions.
- The installer will install HDT Prober™ and HDT Extension™ directly into the Control Panel and Extension folders of your System Folder.
- You must restart the system after installing the CDEVs and the system extension in order for the installation to take effect.

### **General**

- In this release note, HDT and HDT PE are used interchangeably. For example, HDT Primer PE and HDT Primer are one and the same application.
- Serial numbers are of the format ZZXXXXXXZXZ, where X are numbers and Z are letters. If you are upgrading from an older version of HDT, please use your old serial number. Older JackHammer serial numbers are of the format JXXXXXXZXZ, where J is the letter 'J', X are numbers and Z are letters. Do not enter any spaces or confuse zeros with the letter O.
- The disk from which you run the program must also be write-enabled before personalization can occur. You can run the program off a write-protected disk without saving the personalization information. Do not use the original master disks to personalize the program, make a working backup copy.
- We recommend a minimum of 2MB of system memory for Hard Disk ToolKit™ PE.

### **SCSI Manager 4.3**

Hard Disk Tool Kit is fully compatible with Apple's SCSI Manager 4.3. Updating or installing the latest FWB drivers will allow you to exploit the capabilities of Apple's SCSI Manager on Apple's AV, PowerMacintosh, and PowerPC Upgraded Macintosh computers. The benefits of FWB's latest driver coupled with Apple's SCSI Manager 4.3 are: reduced SCSI I/O processing overhead, asynchronous SCSI I/O, and maximized SCSI bus utilization which translates to higher overall data throughput.

### **PowerPC Native Applications**

HDT Primer™ PE is a "fat" application. This means that this application contains both 68K and PowerPC code to allow it to run native in either 68K-based and PowerPC-based machines without user intervention. As the term implies, this application consumes more disk space and memory than "slim" a application but it provides better performance when launched in its native CPU.

### **Helpful Hints**

On dual SCSI bus machines with SCSI Manager 4.3 ie. PowerMacintosh 8100 and Quadra 900/950 with a PowerPC upgrade card, HDT Primer™ PE and HDT Prober™ will display all online devices connected to the internal SCSI bus by default. Use the SCSI Bus menu or "Next Bus" (via CMD key) on HDT Prober™ to display other devices attached to the external SCSI bus.

### **Starting up a Centris, Powerbook, Quadra or PowerMacintosh computer that has only one hard drive**

You will not be able to reinitialize the boot or start up hard disk; you will need to start up your computer with a different disk, such as a RAM Disk. Perform the following steps to create a RAM Disk:

1. Start up the computer with System 7, 7.0.1, 7. 1, or newer (as required by your CPU). Make Sure that this System Folder contains the Memory and Startup Disk Control Panels.
2. Use the Memory Control Panel to create a RAM disk of at least 1536K in size for the size of your current System folder). Make sure you leave at least 3000K of free RAM for the computer to startup and for HDT Primer to load.

3. Restart the computer to initialize the RAM disk and make it mount on the Desktop.
  4. Insert the Apple System Software Disk Tools floppy disk (or Emergency Startup Floppy disk that you have created for your computer) into your floppy disk drive and copy the System Folder (or copy your hard drive's System folder) to the RAM Disk.
  5. Use the Startup Disk Control Panel to select the RAM Disk as the Startup Device.
  6. Restart the computer to start off of the RAM Disk.
  7. Insert a copy of the HDT PE disk and run the the HDT PE installer to install a copy of HDT PE Primer on your RAM disk.
  8. Launch HDT PE Primer to initialize your hard disk.
- You are now ready to manipulate your hard disk drive. (You could also copy HDT Primer PE and Drive Data to the RAM Disk.)

### **Building a System 6 Startup Disk**

Please perform this BEFORE a situation arises where a bootable floppy is needed.

1. Start up your computer and initialize a fresh double density or high density floppy disk.
2. Copy the 'System' file from the System 6.0.7 or 6.0.8 System Tools onto this disk.
3. Copy 'HDT Primer' and 'Drive Data' onto this floppy.
4. Rename 'HDT Primer' to 'Finder'.

You have just created an emergency startup disk that will automatically launch HDT Primer when you start up off this disk.

### **Building a System 7 Startup Disk**

Please perform this BEFORE a situation arises where a bootable floppy is needed. Before proceeding, make sure that you have HDT Primer PE application handy on your hard drive already.

1. Start up your computer and initialize a fresh high density disk. Unmount the disk by dragging it to the Trash.
2. Restart your computer and start up off the Macintosh System Software Installer disk that came with your computer. (Installer or Install Me First disk.)
3. Select the Custom button. Select 'Minimum System' for your particular computer from the list of choices.
4. Click on Switch Disk button until the name of the Installer floppy comes up and hit the 'Eject' button. Insert the floppy created in step 1.
5. Click on the Install button and insert the correct floppy when prompted. Quit the Installer and restart the computer and start up off the Disk Tools disk.
6. When at the Desktop, select the Disk Tools floppy icon and select 'Eject' from the Special menu. Insert the newly created minimum system start up floppy.
7. Open the System folder on your floppy. Drag the file entitled 'System' and any Enabler file out of the System folder onto the main window of your floppy. Drag the System Folder into the Trash and empty the Trash. Swap disks as many times as prompted by the system.
8. With your newly created floppy in the drive, copy HDT Primer PE application from your hard drive into your System folder in your floppy.
9. Rename 'HDT Primer PE' on your floppy to 'Finder'.

You have just created an emergency startup disk that will automatically launch HDT Primer when you start up off this disk.

### **HDT Extension™**

- 1) The extension normally displays icons with numbers showing which SCSI IDs drivers were loaded. if it displays a question mark then either an unsupported removable drive was encountered, the disk has a foreign driver on it, or the extension could not allocate itself enough memory.
- 2) The Desktop icon representing removables mounted with an HDT Extension-loaded driver is the default icon stored inside HDT Extension (not one chosen by HDT Primer).
- 3) The Multiple Bus Support checkbox allows HDT Extension to scan and load drivers for drives on all alternate SCSI buses which are fully compliant with SCSI Manager 4.3. (This will mount drives at identical SCSI ID's on different SCSI buses on the Power Macintosh 8100/80, Quadra 9001950 with the Power Macintosh Upgrade Card and Macintosh with FWB JackHammer SCSI Nubus card.)

### **HDT Primer™ PE**

- 1) If you are having problems running out of System Heap space under System 6 Finder, try running MultiFinder instead; it handles memory much better. Alternatively, You can use HDT Util to increase the System Heap size. System 7 has no such problems.
- 2) In the predefined partitions dialog that is brought up after formatting or initializing, there are now two A/UX 2.0 setup options:  
A/UX (Min Mac) creates all standard A/UX partitions and a small 2048K Mac Partition.  
A/UX (Max Mac) creates all standard A/UX partitions and puts the balance in a large Mac Partition.

- 3) All icons on a single drive are the same. To have different icons for different partitions, use System 7's ability to cut and paste icons.
- 4) The Configure Driver Test needs more memory if you are testing a drive with >512 byte/block blocksize. Increase the application's memory size by using "Get Info" from the Finder File Menu.
- 5) When taking over a drive with multiple Macintosh HFS partitions, the default boot partition is the first HFS partition in the list. Use the Modify button in the Partition Directory Window to specify a different boot partition.
- 6) The compact driver option in the Configure Driver dialog described in the manual no longer exists because it is not necessary.
- 7) If you create more than 10 equal sized Macintosh partitions, only the first ten will be marked as "automount".
- 8) In order to resize and/or create partitions on a hard drive, you may have to start up and use HDT Primer from a different hard drive. If you only have one hard drive, you need to start up from a floppy disk and run HDT Primer from a floppy disk as well. Instructions for preparing a boot floppy are above.
- 9) On drive of greater than 1 GB capacity, the driver partition must reside in the first 1 GB of disk space or else the Macintosh cannot load it. Check the ordered list in the Partition Directory Window and ensure that this is true.
- 10) Versions 1.1 and higher of HDT Primer will install a PowerBook sleep compatible driver. Use Update Driver to update older drivers to the latest revision.
- 11) Formatting a MOST 3.5 Optical drive will cause a format configuration dialog box to appear. You can alter the number of groups within this dialog.
- 12) If you have an accelerator board that prevents the standard Macintosh SCSI blind data transfer from functioning, you can disable blinds by holding down Command-Shift-Option and selecting Update Driver from the File menu of HDT Primer™ PE.
- 13) Formatting an 800K or 1.44 MB floppy in an INSITE 1325VM drive will default to the regular Macintosh floppy format. If you use the Standard Partitioning and Maximum Macintosh preset partition method, the floppy can be used in a regular Macintosh floppy drive. If any custom partition method is used, the floppy can only be used in the INSITE 1325VM drive. Custom partitioning is required to boot from a floppy disk in the INSITE.
- 14) A/UX 3.x compatibility. Apple includes a universal formatter/partitioner with A/UX 3.x. FWB recommends that you use this program to install A/UX 3.0. If you need to create several Macintosh partitions on the drive, you can do an install HDT driver onto that drive. You should then convert the type of Free Slice partitions to Apple\_Free and create new Macintosh partitions. A/UX 3.x uses an Apple driver that does not recognize password protection or encryption. The program mounts protected partitions and asks if you wish to initialize them. Make sure you click CANCEL!
- 15) ProDOS partitions for the Apple IIe Card on the Macintosh LC/LCII/Performa 400 can be created with HDT Primer. The 'ProDOS File System' extension must have been installed in order for these partitions to be mountable.
- 16) Allow Disconnect. (SCSI Manager 4.3 only) The Allow Disconnect check box in the Configure Driver window allows the FWB driver to give permission to the drive to disconnect from the SCSI bus while the device fulfills the request. The resulting idle SCSI bus gives the system the opportunity to issue other SCSI I/O requests to other devices thereby increasing I/O throughput. Unfortunately, some older drives do not handle the disconnect privilege correctly. Run the Test function in the driver configuration dialog to ensure that your device handles disconnect satisfactorily.
- 17) SCSI Bus Menu. SCSI Bus Menu allows HDT to support computers with multiple SCSI buses. Additional SCSI buses can be formed with cards installed in your PDS and NuBus expansion slots on PowerPC Macintoshes and Macintosh 660AV and 840AV. The additional SCSI buses must be SCSI Manager 4.3 compatible and the accompanying PDS and NuBus card software must have loaded its SCSI Manager 4.3 -savvy drivers during bootup time. Refer to your PDS or NuBus SCSI bus hardware and software installation manual for more details. FWB's SCSI JackHammer is fully compatible with this option.
- 18) EMERGENCY boot partition. You have the option of selecting a partition to boot from by simultaneously pressing Shift-Command-Option-E and a number from "1" through "9" while in the early stages of startup. In order to use the feature, the drive containing the alternate boot partition must have been selected as the Startup Disk via the Control Panel and the partition must contain a valid System Folder. Each number from "1" through "9" corresponds to the ordered list of HFS partitions as displayed by HDT Primer. This feature is ideal for creating an emergency partition that contains a bootable system folder and disk recovery utility. If your machine crashes at startup, simply reboot the machine and hold down the appropriate key combination to boot from the emergency volume that contains your recovery tools.
- 19) At Ease and HDT drivers. HDT drivers are compatible with At Ease for Workgroup's Lock Startup Volume security feature. It is important that you disable the Lock Startup Volume security feature through At Ease BEFORE proceeding with a HDT Primer Update Driver or Install HDT Driver.
- 20) Update or install HDT 1.5 or higher drivers to fix and avoid Apple's HFS mount volume problem that inadvertently prevents booting from improperly shutdown drives.

2 1) If you are creating a volume between 2 and 4 GB on a System that supports it, keep in mind that you need to make sure you do not startup from an older System that does not support volumes larger than 2 GB. You may get unexpected disk full error messages!

### **HDT Prober™**

Power user keys:

Return-Mount the selected drive, Arrow keys-Select a different drive, Option-Return-Mount all drives, Cmd-Select Next SCSI Bus.

### **HDT Util™**

For System 6 users only:

This additional module is not documented in the manual. This program allows you to customize some crucial settings of Apple System Software, to allow our programs to work fully. Launch this program off of the disk that will be customized, whether it is a backup copy of HDT Personal Edition or your startup hard disk.

1) Set File Limit - Applies to System 6 only. The default value for the number of files that can be open is 40. If you have lots of partitions being mounted, you should increase this number to allow for the increase in volumes that are open. You must reboot for changes to take effect.

2) Adjust System Heap Size - Applies to System 6 non-Multifinder only. You need to increase the System Heap Size if you are getting out of system heap errors in HDT Primer™. In the dialog box, enter the new figure for your system heap size. The System heap defaults to 131072 bytes. We recommend increasing the number in 30,000-byte increments, until the program succeeds, any crashing problems subside, or the Finder About window shows a healthy amount of white in the indicator bar. You must reboot for changes to take effect. The minimum value of this should be 196608.

3) Adjust Event Queue Size - Applies to System 6 only. The event queue is used to store operating system events. Events include keyboard presses, mouse clicks, and even disk mounting. If you are automounting many partitions, you need to adjust the event queue size to accommodate the larger number of mount events. The default value is 20. This should be adjusted upwards to allow many partitions to mount successfully. You must reboot for changes to take effect.

4) Adjust Internal HD Delay - Allows you to set the amount of time the computer waits for an internal drive at SCSI ID 0 to become ready for bootup. (Macintosh II family and newer)

### **Compatibility Notes**

1) Quadra 840AV - Be sure to use System Enabler 088 version 1.1 or newer. Previous versions contained quirks that could inhibit correct system operation, primarily when no monitor is connected to the built-in video port. Updates are available on Applelink or from your authorized Apple dealer.

2) SuperATM 3.5 - Does not perform asynchronous I/O correctly, so it does not work on the FWB JackHammer, Quadra AVs, PowerMacintoshes and Macintoshes with the PowerPC upgrade card. Call Adobe for an update to 3.6 or newer.

3) At Ease for Workgroups 2.0 - Do not use the Lock hard disk at startup feature with drives on a 4.3 bus. The program is not SCSI Manager 4.3 savvy.

4) QuickTime™ - QuickTime 1.5 has a 'quirk' that causes drivers that support true background asynchronous I/O to fail under some rare conditions. Upgrading to QuickTime 1.6 or newer fixes the problem completely. QuickTime 1.0 does not do asynchronous I/O, hence is fully compatible as is.

5) SyQuest 88 cartridges - HDT 1.5 Primer cannot access SyQuest 88 cartridges previously formatted with block size other than 512-byte block. Use pre-1.5 versions of HDT Primer if you need to perform HDT Primer functions on this type of cartridges.

6) AppleShare - It is suggested that volume sizes on AppleShare servers be kept at or below 2,066,441 Kbytes to avoid a limitation of Apple File Protocol. Volumes larger than this will show incorrect file and folder information on remote machines.

7) Stuffit Deluxe & Stuffit Expander ver. 3.0.X and Compact Pro erroneously report a data integrity error after decompressing files from encrypted volumes on systems running SCSI Manager 4.3. As a workaround, decompress the file from an unencrypted volume or just disregard the messages.

8) HDT 1.5 and later drivers are incompatible with Stac's Stacker 1.x product on systems with SCSI Manager 4.3.

9) PowerBooks and Duos in SCSI Disk Mode - These portables do not support an advanced SCSI function so disable the "Allow Disconnect" driver feature of your portable's internal hard drive before using the portable in SCSI disk mode. This driver feature is enabled by default.