Addendum for Tempo HD (Without Drive)

You Should Have (Part Number THD-M)

In addition to the parts listed on the Tempo HD quick start guide, the following items should be included in your product package:

• 4 hard drive mounting screws

The following item is required for installation of a 2.5 inch hard drive to the Tempo HD:

• Medium Phillips screwdriver

The following items may be required for installation of a 2.5 inch hard drive:

• Small flat blade screwdriver
• Needle nose pliers

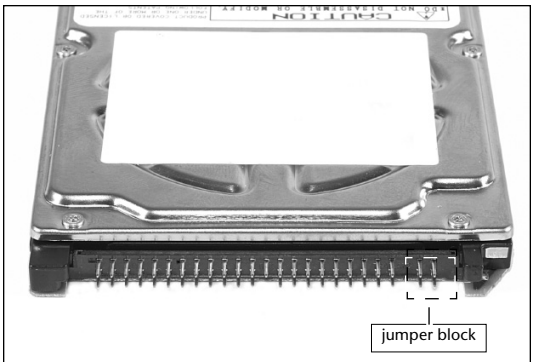


Figure 1

Installation Preparation

Prior to installing a hard drive onto the Tempo HD, you may need to prepare the drive by installing, moving or removing jumpers.

1. Remove your 2.5 inch hard drive from its packaging.

2. Locate the jumper block on your hard drive. Figure 1 shows the most common jumper block location.

Support Note: Refer to the hard drive user's manual for jumper setting information specific to your drive. Alternately, you may find jumper setting information printed on your hard drive's labels. Make sure the drive is oriented the same way as the illustration before moving jumpers.

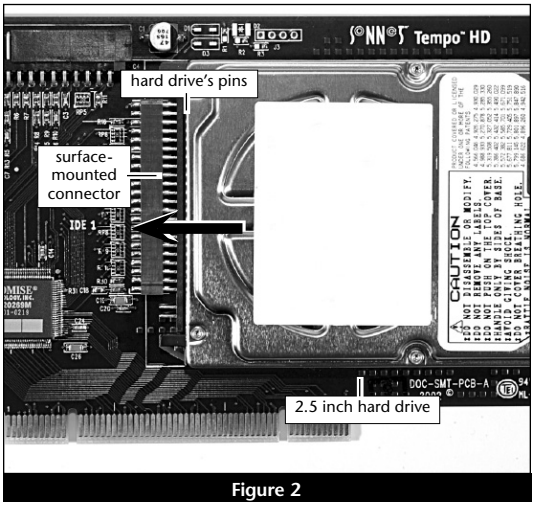


Figure 2

2.5 Inch Hard Drive Installation Steps

This section covers the configuration, and the installation one 2.5 inch hard drive onto your Tempo HD card.

1. Configure the hard drive's jumper(s) for use as a master drive.

2. Remove the Tempo HD card from its packaging, and lay it on a flat surface with the surface-mounted connector face up.

3. Lay the 2.5 inch hard drive on the card within the rectangle imprinted on the Tempo HD card, and align the hard drive's pins with the Tempo HD card's surface-mounted connector **(Figure 2)**. Push the hard drive's pin's into the Tempo HD's connector until the drive is completely seated.

4. Holding the drive against the card, flip the assembly over. Using the 4 screws provided, secure the hard drive to the Tempo HD; **be sure to use the correct holes, and do not overtighten the screws (Figure 3)**.

5. Follow the instruction in the attached quick start guide to install the Tempo HD into your system. Please note, it is likely you will need to format the drive you just installed. Refer to the drive formatting information sections of the QSG for specific information.

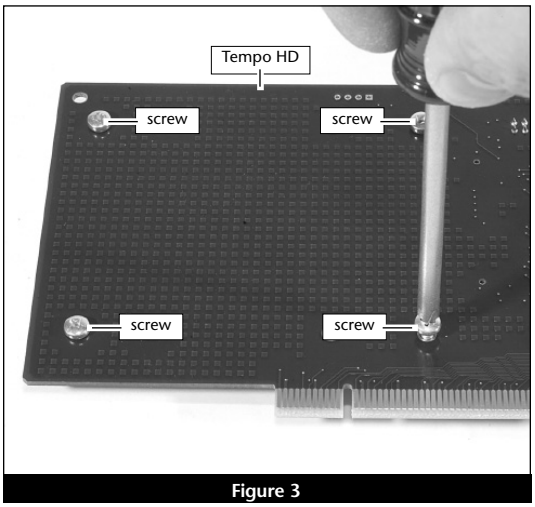


Figure 3

Support Note: The files referred to in the attached QSG are not included with this product. You may download the Sonnet software from our web site at www.sonnettech.com/support/tempoata. You may download the free Adobe® Acrobat® Reader program at www.adobe.com.

TEMPO™ HD
Integrated Hard Drive/PCI Card

Quick Start Guide for Tempo HD

You Should Have

The following items should be included in your product package:

• Tempo HD Integrated Hard Drive/PCI Card

The following items may be required for installation of the Tempo HD:

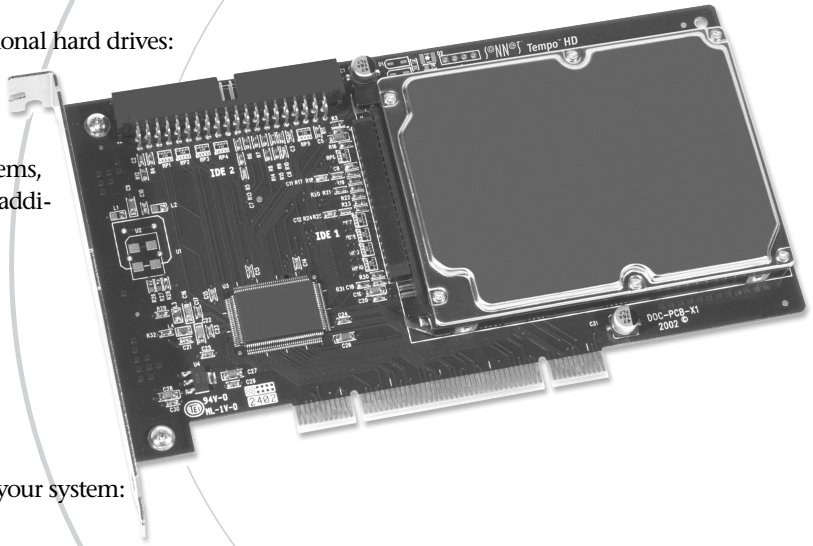
• Medium Phillips screwdriver

The following items may be required for installation of additional hard drives:

• Small flat blade screwdriver
• Needle nose pliers

Along with one or more available drive bays, the following items, which are sold separately, may be required for installation of additional hard drives:

• Ultra ATA cable
• Drive mounting brackets/carriers or drive mounting sleds
• Hard drive mounting screws
• One or more power cable Y-adapters



System Requirements

The Tempo HD requires the following in order to operate in your system:

• One available PCI slot
• Mac® OS 8.0 through OS X Version 10.2.x

Support Notes: We recommend that you make a backup of important information on your system's current hard drive(s) prior to installing new hardware or software.

When handling computer products, you must take care to prevent components from being damaged by static electricity. Before opening your computer or removing parts from their packages, always ground yourself first by touching a metal part of the computer, such as a port access cover, and work in an area free of static electricity; avoid carpeted areas. Handle all electric components only by their edges, and avoid touching connector traces and component pins.

WARNING: If you are installing the enclosed Tempo HD card into a system running Mac OS X Version 10.0–10.1.5, you MUST update the card's firmware in order for OS X to recognize any attached drive. For complete instructions, visit our web site at www.sonnettech.com/support/tempoata.

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Quick Start Guide for Tempo HD

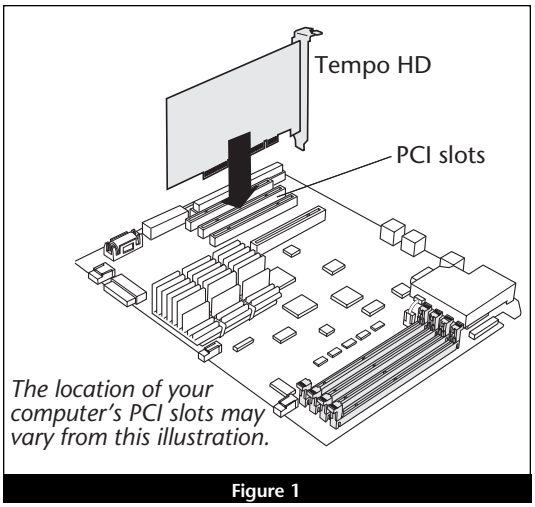
Installation Preparation

Prior to installing the Tempo HD into your system, you should read the section in your computer's user manual that address PCI card installation.

Tempo HD Installation Steps

This section covers the installation of the Tempo HD without additional hard drives into your system. For more information on attaching additional hard drives, see page 3.

1. Shut down your computer.
2. Open your computer to access its expansion card area (PCI slots); refer to your computer's user manual for specific information.
3. Remove the Tempo HD card from its packaging.
4. Locate an available PCI slot inside your computer and, if present, remove its port access cover from the rear of the computer.
5. Install the Tempo card into the PCI slot; **make sure the card is firmly seated and secured (Figure 1)**.
6. Close your computer.
7. Turn on your computer; the Tempo HD hard drive will mount and appear on the desktop **(Figure 2)**. Because the Tempo HD hard drive is already formatted, it is ready for immediate use.



The location of your computer's PCI slots may vary from this illustration.

Figure 1

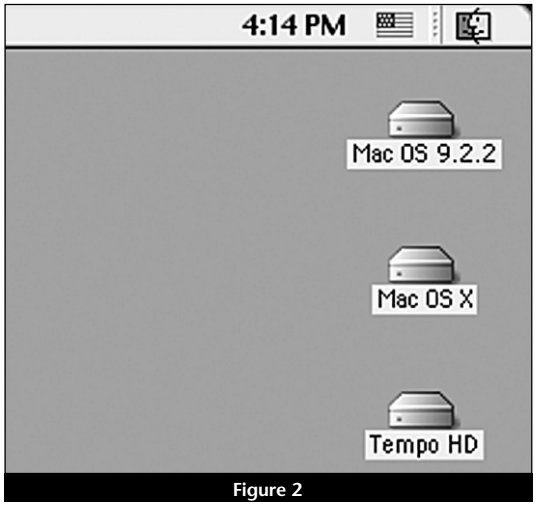


Figure 2

Support Note: The Tempo HD hard drive is pre-formatted as a single Mac OS Extended (HFS Plus) volume. You may change the name by selecting the Tempo HD icon on the desktop, then clicking inside the name field and typing over the text. You may also reformat and partition the drive using the Drive Setup utility (Mac OS 8–9.x) or Disk Utility (Mac OS X) to suit your needs. If you do decide to reformat the drive, please read the following section, "Files Included on the Hard Drive", before proceeding; there are several files included on the Tempo HD hard drive that may be of use to you.

Files Included on the Hard Drive

This section describes the files that are included on the Tempo HD hard drive.

- Adobe® Acrobat® Reader Installer: Installs Adobe Acrobat Reader 5.0 application and web browser plug-in. This program lets you view and print Adobe Portable Document Format (PDF) files.
- Tempo HD QSG (complete).pdf: Complete quick start guide for the Tempo HD. This version includes information on installation and formatting up to two additional hard drives connected to the Tempo HD.
- Tempo AV Tool Control Panel: This control panel helps to resolve some issues that arise from the playback of audio and video files from drives attached to the Tempo HD when installed in a pre-G3 Macintosh system. See the included Read Me file for more information.

Support Note: Technical knowledge may be required to gain access to the drive expansion bays in certain computer models. We recommend you first consult your computer's user manual. If you feel you are unable to install the computer hardware, contact a qualified technician.

Installation Preparation

Prior to installing additional hard drives into your system, you should familiarize yourself with the parts to be installed. We also strongly recommend that you read the section in your computer's user manual that addresses hard drive installation.

1. Identify the connectors on an Ultra ATA cable (sold separately) as shown in **Figure 3**; the host connector plugs into the Tempo HD controller card, while the master and slave connectors plug into the hard drives.

2. Remove the hard drive from its packaging.

3. Locate the jumper block on the hard drive. **Figure 4** shows the two most common jumper block locations.

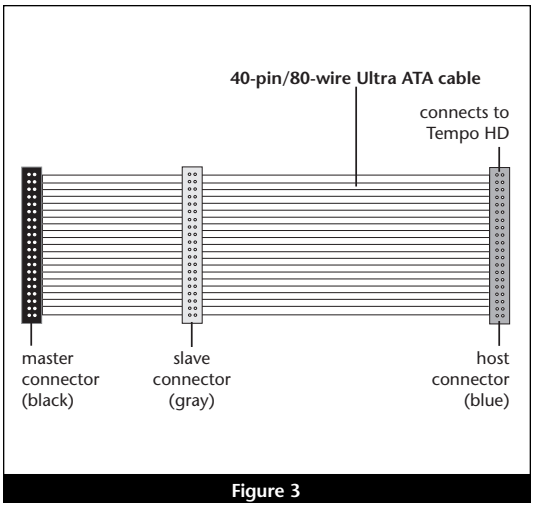


Figure 3

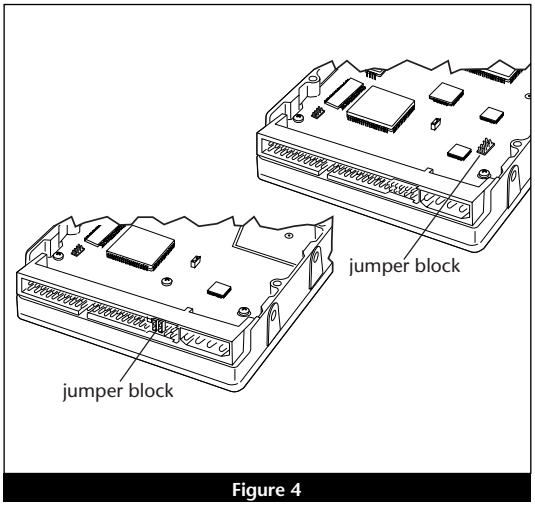


Figure 4

Support Note: Most hard drives are factory preset for use as a single or master drive. To change the setting, you will need to reconfigure the hard drives' jumpers. Be sure the jumpers are configured properly, otherwise, your computer may not boot, or your new drives may not be recognized.

Standard Hard Drive Installation Steps

This section covers the installation and configuration one or two standard hard drives into your system.

1. Shut down your computer.

2. Open your computer to access the expansion card area (PCI slots) and drive bay(s); refer to your computer's user manual for specific information.

Support Note: Refer to the hard drive user's manual for jumper setting information specific to your drives. Alternately, you may find jumper setting information printed on your hard drives' labels. Make sure the drives are oriented the same way as the illustration before moving jumpers.

3. Configure the hard drives' jumpers as follows:

   - When installing **one drive**, you must set its jumpers to the single setting when available, or the master setting when not.

   - When connecting **two drives**, you must set the jumpers on one drive to the master setting, and to the slave setting on the other.

4. Install the hard drives into your computer's expansion bays. (Depending on your computer model, drive mounting brackets/carriers or drive mounting sleds may be required to install your hard drives. Refer to your computer's user manual.)

5. Connect the drive(s) to the Ultra ATA cable (sold separately) as follows:

   - When connecting **one drive**, plug in the Ultra ATA cable's master (black) connector to it. **Verify the connector is plugged in securely (Figure 5)**.

   - When connecting **two drives**, connect the Ultra ATA cable's master (black) connector to the drive with jumpers set in the master setting; connect the slave (gray) connector to the drive with jumpers configured in the slave setting. **Verify the connectors are plugged in securely (Figure 5)**.

6. Locate the 4-pin power connector plugged into your computer's existing hard drive. You should find at least one extra power connector near the existing drive; if you have installed only one new drive, plug the extra power connector into it. If you have installed two new drives, or there are no additional power connectors, you must use a power cable Y-adapter (sold separately). **Verify the connectors are plugged in securely**.

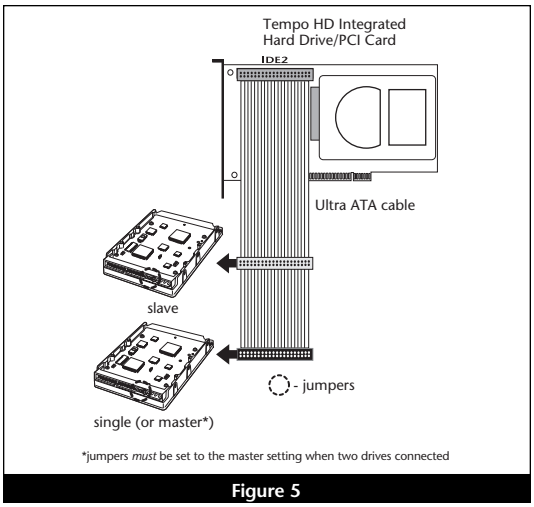


Figure 5

Support Note: Power Macintosh 7200, 7300, 7500, 7600 and G3 Desktop users must remove the access panel on the main chassis to route the Ultra ATA cables from the drives to the Tempo HD. *You may need tools to perform this procedure.* To remove the access panel, first unlock and tilt up the internal assembly; remember to lower the assembly support stand. Next, firmly twist the top edge of the panel forward toward the power supply, then lift the panel out **(Figure 6)**. Save the panel in case you ever need to use it again.

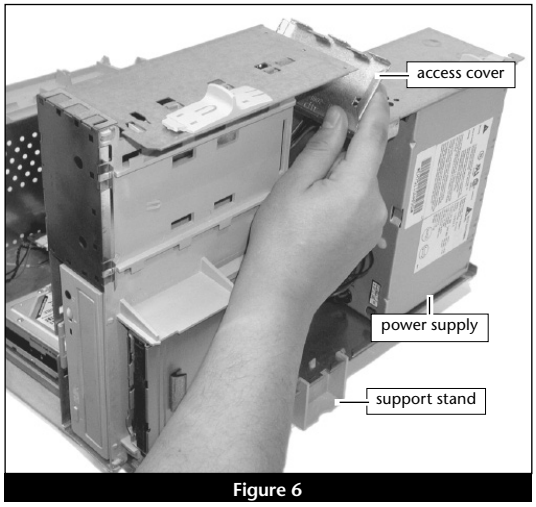


Figure 6

7. Route the Ultra ATA cable to the Tempo HD card; avoid the processor's heat sink and make sure it will not get crushed or pinched by any part of the case when you reassemble your computer.

8. Attach the Ultra ATA cable's host (blue) connector to the Tempo HD card. **Verify the connector is plugged in securely (Figure 5)**.

9. Check the cable connections; **make sure the cable is properly connected to the Tempo HD and the hard drives**.

Support Note: If your computer has an original internal SCSI hard disk drive, and you disconnect it when you install the Tempo HD and one or more drives, **you must terminate the SCSI chain properly; installation of a SCSI terminator connector may be required**. Failure to properly terminate any SCSI chain may result in system freezes and errors. Consult your computer's user guide or a qualified technician for more information.

10. Close your computer and carefully replace its cover; be very careful not to crimp the cables.

WARNING: Hard drives attached to the Tempo HD will not mount (appear on the desktop) until they have been formatted; this includes drives with data on them, previously used in other computers. Please be aware that **formatting a drive erases any data present**.

Drive Formatting—Mac OS 8.0 through OS 9.x

This section describes the process of formatting (initializing) hard drives connected to the Tempo HD using Apple Drive Setup under Mac OS 8.0–9.x. The Drive Setup application is installed during the Mac OS installation process and is usually located in the Utilities folder on the hard drive containing your active System Folder. If you wish to format your drives with Disk Utility under Mac OS X, please skip to the next section.

1. Turn on your computer.

2. Open Drive Setup **(Figure 7)**.

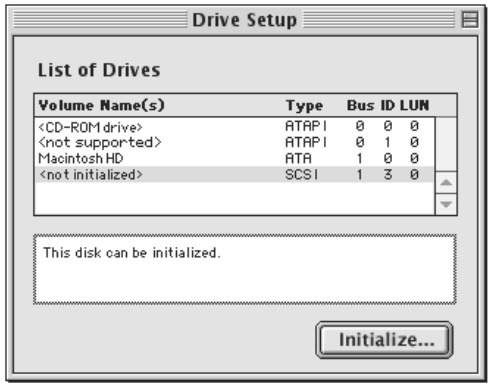


Figure 7

Support Note: IDE hard drives attached to the Tempo HD will register as SCSI devices to the computer under Mac OS versions prior to OS X. For example, in **Figure 7** the newly installed hard drive appears as <not initialized> under Volume Name(s) and SCSI under Type.

3. At this point, you may optionally choose to partition each drive to create smaller "virtual" drives to store and retrieve data faster and more efficiently; in the Drive Setup menu bar, select Functions: Volume Settings… Partition, and set up the partitions. When ready, select the drive listed as <not initialized>, then click Initialize… to format each of the unmounted drives **(Figure 7)**. For drives larger than 2 GB, you should format them as Mac OS Extended to take full advantage of their storage capacity.

4. Name each drive or volume once it has been initialized; each volume will appear on the desktop as an individual "virtual" drive **(Figure 8)**. You can now use your drive(s).

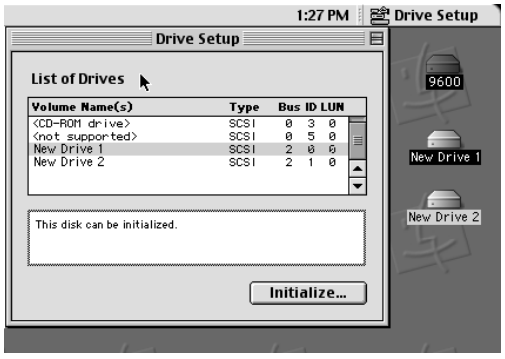


Figure 8

Drive Formatting—Mac OS X

This section describes the process of formatting (initializing) hard drives connected to the Tempo HD using Disk Utility under Mac OS X Version 10.1; the process under Version 10.2 is the same. The drive formatting utility is installed during Mac OS X installation and is located in the Utilities folder (within the Applications folder) on your OS X volume.

1. Turn on your computer.

2. During the boot process under Mac OS X, you may see an information window appear, stating "You have inserted a disk containing no volumes that Mac OS X can read." If this message appears, click the Initialize… button to launch Disk Utility **(Figure 9)**.

Figure 9

3. If you have not already done so, open Disk Utility **(Figure 10)**. Note that all attached drives appear in the Information tab window, regardless of being formatted or not.

Support Note: IDE hard drives attached to the Tempo HD will register as ATA devices to the computer under Mac OS X. For example, in **Figure 10**, the Connection Bus for the newly installed hard drive is listed as ATA.

4. Select the drive you want to format by single-clicking the drive symbol or the "name" of the drive **(Figure 10)**. In the *Information* tab window, the drive capacity and Connection ID (Master or Slave) are listed.

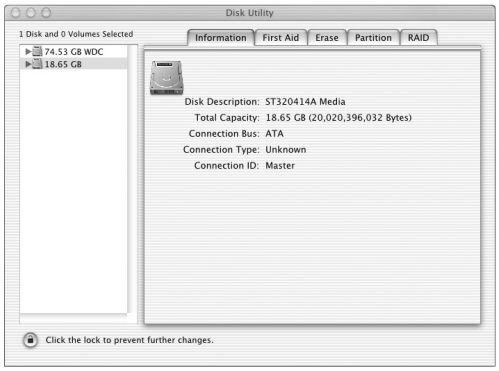


Figure 10

5. Click on the Partition tab **(Figure 11)**. When the *Partition* tab window appears, click on the drop down menu beneath "Volume Scheme:" and select a number of partitions for the volume; you may optionally choose to partition each drive to create two or more smaller "virtual" drives to store and retrieve data faster and more efficiently. For drives larger than 2 GB, you should format them as Mac OS Extended to take full advantage of their storage capacity. Click OK (or Partition if you are using Mac OS X Version 10.2).

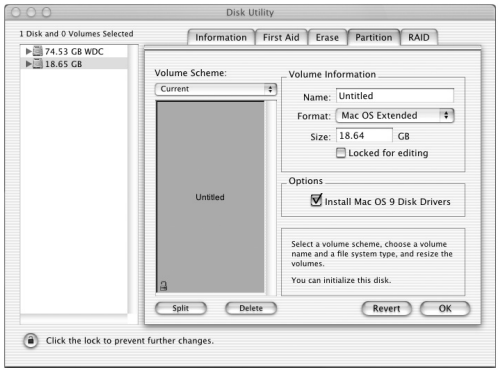


Figure 11

6. Name each volume; after formatting, each will appear in the *Finder* window as a drive. Once you have made your name and partition choices, click OK **(Figure 12)**.

7. When the *Warning!* window appears, click the Partition button **(Figure 12)**. If necessary, repeat steps 4–6 to partition other drives connected to the Tempo HD. When partitioning and formatting are complete, close the Disk Utility application; you can now use your drive(s).

Figure 12

Support Note: The Tempo AV Tool Control panel operates only under Mac OS 8.0 through OS 9.x, and only in the following computers: Power Macintosh 7200, 7215, 7220, 7300, 7500, 7600, 8200, 8500, 8515, 8600, 9500, 9515, and 9600, Workgroup Server 7250, 7350, 8550, and 9650, PowerCenter, PowerCenter Pro, PowerCurve, PowerTower, PowerTower Pro, PowerWave, UMAX J700, and S900. Attempted use of the Tempo AV Tool Control Panel in an unsupported system will result in an error message.

Install the Tempo AV Tool Control Panel

The Tempo AV control panel enables you to select an optimized setting for the playback of audio or video files from a drive connected to the Tempo HD when you encounter problems.

1. Locate the Tempo AV Tool Control Panel on the Tempo HD hard drive.

2. Click on and drag the Tempo AV Tool Control Panel to your active System Folder, then release the mouse button. When the dialog box appears, click OK; the Tempo AV Tool Control Panel will be copied from the Tempo HD hard drive and placed in the Control Panels folder.

Use the Tempo AV Tool Control Panel

Only use the Tempo AV Tool if you are experiencing problems with audio or video file playback from a drive connected to the Tempo HD. The Tempo AV Tool resolves playback issues by slowing down the data transfer from drives connected to the Tempo HD to better match your legacy Macintosh computer's bus and processing limitations.

1. Click on the Apple Menu: Control Panels and select Tempo AV Tool; the Tempo AV Tool control panel window will open (Figure 13).

2. Click on a radio button to make your selection, then close the window.

Note: If your initial selection does not remedy your playback issue, try other settings on the list until all options are exhausted; different file formats can exhibit different behaviors. **The Tempo AV Tool cannot address video playback issues related to insufficient or underpowered video support**.

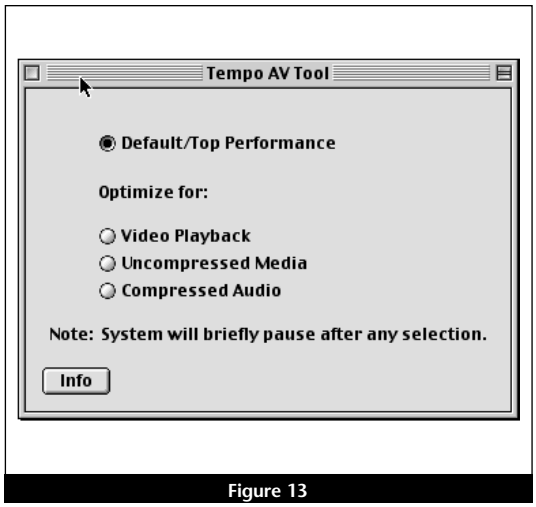


Figure 13