Upgrading to Pro Tools 6.2

Version 6.2 for Pro Tools|HD Systems
on Windows XP or Mac OS X

digidesign

contents

chapter 1

Introduction

This guide documents how to upgrade to Pro Tools|HD systems to Pro Tools TDM 6.2 on a Digidesign-qualified Windows or Macintosh computer.

This guide also includes instructions for adding an HD Accel card to a Pro Tools|HD system.

If you are configuring a new Pro Tools|HD system, follow the complete hardware and installation steps in the Getting Started with HD Guide.

New Features

For complete details on Pro Tools TDM 6.2 features, see the Pro Tools TDM 6.2 Addendum.

The following is an overview of new and enhanced features in Pro Tools TDM 6.2:

New Hardware for HD Systems

Pro Tools TDM 6.2 supports the following new hardware:

- HD Accel cards, featuring newer, faster DSP chips. HD Accel cards nearly double the available processing power in most systems when compared to HD Process cards.

- 96i I/O audio interface. For details on installing and configuring the 96i I/O, refer to the *96i I/O Guide* and to the *Getting Started with HD Guide*.

Additional Features

- Plug-in optimizations

- Windows Media Audio 9 Encoding (XP only)

- Tempo Query

- Custom Shuttle Lock Speed

System Requirements

Compatibility Information

Digidesign can only assure compatibility and provide support for hardware and software it has tested and approved. For a list of Digidesign-qualified computers, operating systems, hard drives, and third-party devices, refer to the latest compatibility information on the Digidesign Web site (www.digidesign.com/compato).

chapter 2

Installing Pro Tools 6.2 on Windows

This chapter explains how to install and configure Pro Tools TDM 6.2 for HD systems on a Digidesign-qualified Windows computer.

For complete system requirements and compatibility information, visit the Digidesign Web site (www.Digidesign.com/compato).

Windows System Settings

Configure your Window system settings, as follows:

Required Settings These instructions must be followed before installing Pro Tools.

Recommended Configuration These instructions should be followed to optimize your system's capabilities, or to let older computers run Pro Tools.

⚠ *If problems occur after configuring all required and suggested settings, see Appendix A, "Windows System Optimizations" for information on troubleshooting and configuring advanced settings.*

Required Settings

To ensure optimum performance with Pro Tools, configure the following Control Panel settings for your version of Windows XP.

Disable Hyper-Threading

For Pentium IV computers with Hyper-Threading, disable Hyper-Threading in the BIOS.

Enable DMA

Enabling your computer's DMA (Direct Memory Access) frees up CPU bandwidth so your computer can do other Pro Tools tasks.

In most cases the DMA option will already be set correctly, as Windows XP detects and activates DMA mode by default.

Enable DMA for any IDE hard drives:

1 Choose Start > Control Panel.

2 Launch System.

3 Click the Hardware tab.

4 Under Device Manager, choose Device Manager.

5 In the Device Manager window, double-click IDE ATA/ATAPI controllers, then double-click the Primary IDE Channel for your IDE hard drive.

6 Click the Advanced Settings tab.

7 For each device, set the Transfer Mode to "DMA if available," and click OK.

In most cases, this will already be set correctly as Windows XP will detect and activate DMA mode by default.

8 Repeat steps 5–7 for any additional IDE Channels.

9 Close the Computer Management window.

Disable Virus Protection Software

Avoid running virus protection software while using Pro Tools, since it adversely affects system performance (as do all background processes). If you are using virus protection software, you must turn it off or remove it and restart your computer.

Disable System Standby and Power Management

When using Pro Tools, the Windows System Standby power scheme must be set to Always On. This helps prevent long record or playback passes from stopping due to system resources powering down.

To configure Windows Power Management:

1 Choose Start > Control Panel.

2 Launch Power Options.

3 Click the Power Schemes tab.

4 From the Power Schemes pop-up menu, select Always On.

5 Click OK.

This sets System Standby, System Hibernate, and "Turn off hard disks" to Never.

Disable ClearType Font Smoothing

When using Pro Tools, the Effects "Clear Type" setting must be disabled.

To disable ClearType font smoothing:

1 Choose Start > Control Panel.

2 Click Display.

3 Click the Appearance tab.

4 Click Effects.

5 Deselect "Use the following methods to smooth edges of screen fonts."

6 Click OK to save your settings and close the Effects dialog.

7 Click OK.

Completing Windows System Settings

⚠ *When finished updating required Windows system settings, power down your computer.*

Recommended Configuration

Pro Tools can also be affected by other software and hardware drivers installed on your computer. For best possible performance, it is recommended (but not required) that you:

- Avoid running other Windows programs at the same time as Pro Tools.
- Turn off any software utilities that run in the background, such as Windows Messenger, calendars, and disk maintenance programs.
- Turn off any nonessential USB devices while using Pro Tools.
- If your video display card supports it, enable Bus Mastering in the manufacturer's Control Panel.
- Disable any networking cards (other than any 1394 "FireWire" cards).

▤ *See "Disabling Network Cards" on page 23.*

Installing Pro Tools Hardware

If you are adding an HD Accel card to your Pro Tools|HD system, you must install it before you update to new software. The following steps cover complete hardware installation, from adding cards to your system, to connecting them with the TDM FlexCable.

Disabling Driver Signing Warnings

Before you install your Pro Tools cards, temporarily disable the Driver Signing warning option. This expedites and automates much of the installation process. If you do not temporarily disable this option, warning messages (that you are installing an unsigned driver) will appear for each DSP chip detected during the software installation.

To disable the warning option:

1 Open the System Control Panel.

2 Click the Hardware tab in the System Control Panel.

3 Click the Driver Signing button.

4 Select "Ignore—Install the software anyway and don't ask for my approval."

5 Click OK twice.

6 Turn your computer off.

7 Proceed to install your Pro Tools cards.

Installing Pro Tools|HD Cards

This section shows how to install Pro Tools HD cards into a Windows computer. To install cards into an expansion chassis, see the *Expanded Systems Guide*.

To install Pro Tools cards:

1 Turn off your computer and any peripherals. Leave your computer's power cable plugged in so the computer is grounded.

2 Disconnect all cables attached to the computer (such as hard drives, displays, USB and FireWire connections) except for the power cable.

3 Open the computer case.

⚠ *Before handling any card, discharge static electricity from your clothes or body by touching a grounded metal surface, such as the power supply case inside your computer.*

4 Remove the metal access port cover behind the PCI slot you want to use by removing the screw and sliding the cover out from the access port.

5 Install the HD Core card in the first PCI slot.

6 If you are installing additional Pro Tools cards, skip to the next step. If you have no additional cards to install, do the following:

- Secure the card in place with the slot access port screw you removed earlier.
- Close the computer case.
- Skip the following steps and continue with "Installing Pro Tools TDM Software" on page 7.

7 Install the first HD Accel card (if any) in the second PCI slot. If you are adding HD Accel cards to a system that also includes HD Process cards, remove the HD Process cards to make room for HD Accel (HD Process cards will be re-installed later).

8 Install any remaining HD Accel cards in the remaining consecutive PCI slots.

9 Install any HD Process cards in the remaining consecutive PCI slots.

10 If you are installing a SCSI HBA card, install it in the highest-numbered remaining slot.

Check to be sure that your cards are installed in the following order:

- HD Core card
- HD Accel cards
- HD Process cards, if any
- SCSI host bus adapter (HBA) card
- Display card for your computer monitor

The above guidelines may include optional cards not present in your system.

11 Secure each card in place with the slot access port screws you removed earlier.

12 Proceed to "Connecting Pro Tools|HD Cards" on page 6.

13 Connect audio interfaces as needed (see the *Getting Started with HD Guide* for instructions).

⚠ *The IBM Intellistation M Pro 6850 may not boot after updating the BIOS or changing the order of Pro Tools cards. Should this problem occur, remove all plug and play cards and you will be able to boot Windows, then shut down and re-install the cards according to the installation instructions described in "Installing Pro Tools|HD Cards" on page 5. You should now be able to boot Windows.*
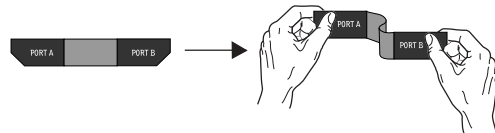
Connecting Pro Tools|HD Cards

In HD systems that include more than one card, you must connect all the HD cards to each other with TDM FlexCables.

Each HD card has two ports along the top of the card, labeled *Port A* and *Port B*. The FlexCable has two connectors, also labeled Port A and Port B, to ensure proper connection. Data communication across multiple HD cards is achieved by connecting Port B of the first card to Port A of the next card with a TDM FlexCable.

To connect HD cards with the TDM FlexCable:

1 Shape the FlexCable before installing it on your HD cards by grasping the cable with both hands and moving the Port B portion of the cable straight towards you and inwards, as shown below. Do not bend the cable more than you need to, as you may damage the traces in the cable.

Preparing TDM FlexCable for installation

2 Slide the FlexCable into the notch of the *first* card, so that the Port B connector of the FlexCable can be aligned with Port B of the first card; and the Port A connector of the FlexCable can be aligned with Port A of the second card, as shown below.

Inserting TDM FlexCable

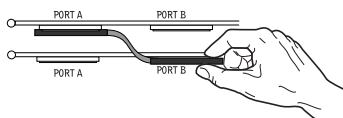**3** Connect the Port A connector of the FlexCable to Port A on the second card. Push down gently but firmly until the cable is fully connected to the card. Attach the other end of the FlexCable (labeled Port B) to Port B on the first card.

Top view of two HD cards connected with TDM FlexCable

4 Verify the connection, as shown below (orientation may be different depending on your type of CPU or chassis).
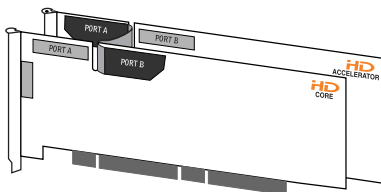
Side view of two HD cards connected with TDM FlexCable

5 For systems with more than two cards, connect each additional card to its preceding card. Use FlexCables to connect card pairs together, as described above, until all cards are connected. (Each HD Accel card is packaged with a FlexCable.)

6 Close the computer case.

Installing Pro Tools TDM Software

To install Pro Tools software for TDM systems:

1 Start Windows, logging in with Administrator privileges. For details on Administrator privileges, refer to your Windows documentation.

2 Make sure you have configured all the required Windows system settings for your system, and rebooted your computer. See "Windows System Settings" on page 3 for more information.

3 Wait for the Found New Hardware Wizard dialog to appear and leave it open.

4 Insert the Pro Tools Installer CD-ROM for Windows in your CD-ROM drive. Locate and open the Pro Tools Installer folder, and double-click the Setup icon.

5 Click Next to begin installation.

6 Select the install location. For maximum reliability, install Pro Tools on your startup drive. Click Next.

7 Select available install options as needed.

8 Click Next to install the selected options.

A demo version of MacOpener is included on the Pro Tools Installer CD-ROM, and requires a separate installation process. Installing MacOpener is required only if you need to use HFS or HFS+ formatted hard drives. See "Installing MacOpener" on page 9 for more information.

9 Select your work environment. This loads an initial set of Pro Tools Preferences that include some of the more popular settings for post production, audio, or audio with MIDI.

Preference settings can be customized at any time in Pro Tools. See the Pro Tools Reference Guide for more information about Preferences.

10 Select whether to install the Surround Mixer plug-in. This plug-in is required for mixing, mastering, and monitoring in surround.

- Select "Yes – Monitor in Pro Tools Film Format" if your monitoring is configured for Film Format surround.
- Select "Yes – Monitor in ProControl (DTS Format)" if you are using a ProControl dedicated controller.
- Select "No – Stereo mixing only" if your monitoring is configured for Stereo.

The Surround Mixer can be installed at any time in Pro Tools. For instructions, see the Pro Tools Reference Guide.

11 After making a selection, click Next.

Wait for the installer to finish installing all software components, drivers, and PACE System files before proceeding to the next step.

12 If QuickTime is not already installed, you will be prompted to install the Recommended QuickTime installer option (see "Installing Pro Tools TDM Software" on page 7). Follow the on-screen instructions to complete the QuickTime installation process.

13 When installation is complete, click Finish to restart your computer.

Installing QuickTime

(Optional)

QuickTime 5 or later is required for Pro Tools if you plan to include movie files in your sessions. Installing the latest version of QuickTime for Windows is highly recommended (available from www.apple.com). Be sure to install the "Recommended" install of QuickTime or Pro Tools will not handle QuickTime video correctly.

To install QuickTime:

1 Locate the QuickTime Installer on your Pro Tools Installer CD-ROM (located in the Additional Files folder). Follow the on-screen instructions to complete the QuickTime installation process.

2 When installation is complete, click Finish to restart your computer.

3 When you are ready to launch Pro Tools for the first time, proceed to "Launching Pro Tools" on page 12.

See "Optional Software" on page 8 to learn more about optional software included with Pro Tools.

If you disabled Driver Signing warning as instructed before installing Pro Tools, remember to re-enable it after confirming Pro Tools installation.

If your computer does not startup after installing QuickTime, use Add/Remove Programs to remove Pro Tools and QuickTime, then repeat the installation process for Pro Tools TDM 6.2.

Optional Software

Your Pro Tools Installer CD-ROM includes several software options.

Digidesign ASIO Driver 6.2

Digidesign ASIO Driver 6.2 is a single-client, multichannel sound driver that allows ASIO-compatible programs to record and play back through Digidesign hardware.

ASIO Driver 6.2 is automatically installed when you install Pro Tools TDM 6.2.

Stand-Alone ASIO Driver Installer

Digidesign ASIO Driver 6.2 can be installed on Digidesign-qualified Windows XP systems with Pro Tools TDM 6.2 (for example, if the ASIO Driver was uninstalled), or it can be installed as a stand-alone driver on systems that do not have any version of Pro Tools installed.

📖 *For detailed information on installing and using the Digidesign ASIO Driver, see the electronic PDF of the Digidesign ASIO Driver Usage Guide.*

Installing the Demo Session

The Pro Tools Installer CD includes a demo session that you can use to verify that your system is working.

To install the demo sessions:

1 Insert the Pro Tools Installer CD in your CD-ROM drive.

2 From your CD-ROM drive, choose Additional Files\Pro Tools Demo Session Installer.

3 Double-click Setup.exe.

4 Set the install location to your audio drive and click Install.

5 When installation is complete, click OK.

Installing MacOpener

(Optional)

MacOpener 6.0.5 and higher lets you mount HFS/HFS+ drives on a Windows-based Pro Tools system, as a Transfer drive.

To share Pro Tools sessions between Macintosh and Windows systems, select the "Enforce Mac/PC Compatibility" option when creating the session, or when saving a session copy to a Windows audio drive formatted using NTFS or FAT32.

⚠ *Avoid using MacOpener on HFS-formatted drives (it is recommended that you use NTFS or FAT32 instead). Use the Save Session Copy In command in Pro Tools to copy the session material to a Windows audio drive formatted using NTFS or FAT32.*

💡 *While SDII files can be exported or converted on import, they cannot be used within Pro Tools sessions on Windows.*

To install and configure the MacOpener demo included with Pro Tools:

1 Insert the Pro Tools Installer CD into your CD-ROM drive.

2 Locate and double-click the MacOpener installer file in the MacOpener Demo folder located at D (CD-ROM drive):\Additional Files\MacOpener Demo Installer. Follow the on-screen instructions to install MacOpener. After installation is complete, restart your computer.

3 Choose Start > Programs > MacOpener > MacOpener Driver Preferences.

4 Verify that the MacOpener Driver is enabled. Under Driver Settings, select "Enable Mac-opener Driver."

5 Under Extension Mapping, select "Do not add the PC extension to the Mac file name."

6 Click OK to quit the MacOpener Driver Preferences.

7 Choose Start > Programs > MacOpener > Mac Lic.exe. When installation is complete, close the installer.

⚠ *All formatting and maintenance of HFS/HFS+ drives should be carried out when the drive is connected to a Macintosh.*

▤ *For more information about MacOpener and its performance limitations, see the Pro Tools Reference Guide.*

Checking Your HD System

Before you launch Pro Tools, start your system and run the DigiTest diagnostic application to ensure that all TDM cards in the system are recognized, installed in the proper order, and have valid TDM FlexCable connections.

Starting Up Your System

Whenever you start your system, turn on all of your system components in a specific order.

To start your Pro Tools system:

1 Make sure all your equipment (including your computer) is off.

2 For TDM systems with an expansion chassis, turn on the expansion chassis.

3 Turn on any external hard drives. Wait approximately ten seconds for them to spin up to speed.

4 Turn on any MIDI interfaces and devices, or synchronization peripherals.

5 Lower the volume of all output devices, then turn on your Pro Tools audio interfaces. Wait at least fifteen seconds for the audio interface to initialize and the status LEDs to stop flashing.

6 Turn on your computer.

Running DigiTest

DigiTest is installed with Pro Tools and resides in the Digidesign Utilities folder located on your hard drive, under Digidesign/Pro Tools/Pro Tools Utilities.

⚠ *Before you run DigiTest, lower the volume of all output devices. Very loud digital noise may be emitted during the test.*

To run DigiTest:

1 Quit Pro Tools if it is running.

2 Lower the volume of all output devices on your system.

3 Choose Start > Programs > Digidesign > Pro Tools > DigiTest.

DigiTest main test page

💡 *The order in which cards are listed within DigiTest may not match the actual slot locations of cards installed in your computer or expansion chassis. This is normal, and does not affect DigiTest operations in any way.*

4 Test the cards in your system by doing one of the following:
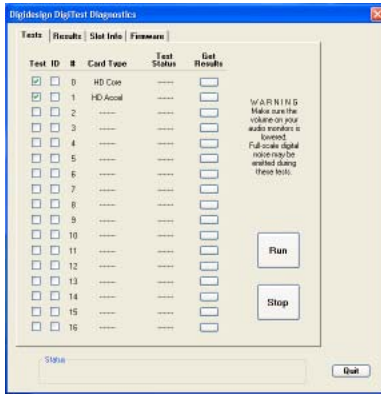
• To test only one Digidesign card in your system, click the button that corresponds to that card.

• To test all Digidesign cards at once, click Test All Cards.

5 When prompted, power cycle all Pro Tools peripherals in your system. Click Continue.

6 Check the "Test I/O Box."

💡 *LEDs on your digital interfaces may light up during this test. This is normal.*

7 Exit DigiTest by clicking the close box in the top right-hand corner of the application window.

8 Restart your computer.

Errors and Undetected Cards

Complete the steps below if:

▪ DigiTest fails to launch.

▪ There is a problem with a component in your system and an error message has been displayed for a card in DigiTest.

– or –

▪ A supported card is installed but not automatically detected during DigiTest.

If a supported card is installed and is not automatically detected:

1 Close DigiTest.

2 Turn off your entire Pro Tools system.

3 Reinstall the cards (see "Installing Pro Tools|HD Cards" on page 5).

4 Check the card seating.

5 Check the TDM FlexCable connections. Check the orientation of the cable from card to card (ports A and B), and check the integrity of the FlexCable connections to the cards.

6 Turn on your system.

7 Run DigiTest again.

For test details, click the Info button to the right of the reported error, then click Failures in the pop-up menu and choose Detailed.

If a card continues to fail DigiTest, contact Digidesign Technical Support through Digidesign Web site, or using the numbers listed on the cover of this guide.

Updating Audio Peripheral Firmware with DigiTest

If it becomes necessary to update the firmware in any of your HD-series audio interfaces, (192 I/O, the 192 Digital I/O, 96 I/O, or 96i I/O), you can use DigiTest to perform the update. Within DigiTest, the Firmware Update page tells you the firmware version for the selected peripheral and lets you update to a newer version, if necessary.

To update the firmware in an HD-series audio interface:

1 Quit Pro Tools if it is running.

2 Locate and double-click the DigiTest application on your hard drive.

3 Click the Firmware tab.

4 Choose a card slot from the pop-up menu. If any HD audio interfaces are connected to the card, the Primary or Secondary options will become available in the HD Peripheral section of the Firmware page.
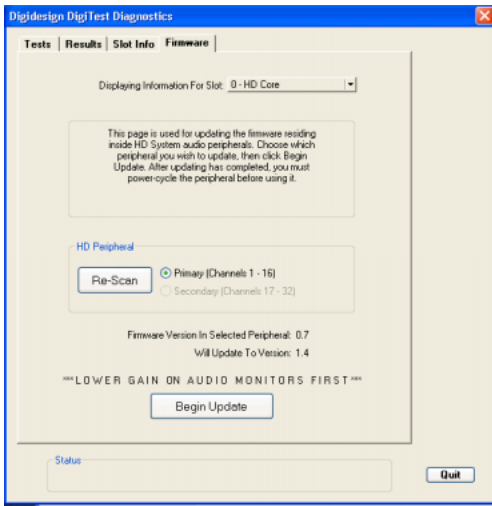
DigiTest firmware page (96i I/O shown)

If any connected interfaces are not recognized, check the connections and power to each interface and click Re-Scan.

5 Under HD Peripheral, select Primary or Secondary to view the firmware version for the corresponding interface. The firmware version is displayed just below the HD Peripheral section of the Firmware page.

6 If the firmware version is not current, click Begin Update to update the firmware in the selected audio interface.

The status of the firmware update process is displayed in the status area at the bottom of the Firmware page.

7 After the update process is complete, click Quit to close DigiTest.

Launching Pro Tools

When launching Pro Tools the first time, you are prompted to enter an authorization code to validate your software.

To validate Pro Tools software:

1 Double-click the Pro Tools application, located in the Pro Tools folder inside the Digidesign folder.

2 Enter the authorization code in the dialog, making sure to observe any spaces, then click Validate.

Your authorization code is located on the inside cover of this guide.

Configuring Pro Tools

You can adjust the performance of your system by changing certain Pro Tools *system settings* that affect its capacity for processing, playback, and recording.

In most cases, the default settings for your system provide optimum performance, but you may want to adjust them to accommodate large or processing-intensive Pro Tools sessions.

Refer to the *Getting Started Guide* that came with your system for instructions on configuring the Number of Voices, Hardware Buffer Size, CPU Usage Limit, the DAE Playback Buffer Size, System Memory Allocation, and other Pro Tools settings.

Removing Pro Tools on Windows XP

If you need to remove Pro Tools from your computer, use the Add or Remove Programs command.

To remove Pro Tools 6.2 from your computer:

1 Choose Start > Control Panel.

2 Launch Add or Remove Programs.

3 From the Currently Installed Programs list, select Digidesign Pro Tools TDM.

4 Click the Change/Remove button.

5 Follow the onscreen instructions to remove Pro Tools.

chapter 3

Installing Pro Tools 6.2 on Macintosh

This chapter explains how to install and configure Pro Tools TDM 6.2 for HD systems on a Digidesign-qualified Macintosh computer.

For complete system requirements and compatibility information, visit the Digidesign Web site (www.digidesign.com/compato).

Apple System Settings for Mac OS X

To ensure optimum performance and compatibility, configure the following settings for Mac OS X before you install Pro Tools software.

⚠ *Do not use the Mac OS X automatic Software Update feature, as it may upgrade your system to a version of Mac OS that has not yet been qualified for Pro Tools. For details on qualified versions of Mac OS, refer to the latest compatibility information on the Digidesign Web site (www.digidesign.com).*

To configure Mac OS X for Pro Tools:

1 Turn on your computer.

2 Make sure you are logged into an administrator account where you want to install Pro Tools For details on Administrator privileges in Mac OS X, refer to your Apple OS X documentation.

3 Choose System Preferences from the Apple Menu and click Energy Saver.

4 Click the Sleep tab and turn off the Energy Saver feature by setting the sleep feature to Never.

5 Return to the System Preferences and click Software Update.

6 Deselect "Automatically check for updates when you have a network connection."

7 Close the Software Update dialog box.

Installing Pro Tools Hardware

If you are adding an HD Accel card to your Pro Tools|HD system, you must install it before you update to new software. The following steps cover complete hardware installation, from adding cards to your system, to connecting them with the TDM FlexCable.

Installing Pro Tools|HD Cards

This section shows how to install Pro Tools|HD cards into a Macintosh computer. To install cards into an expansion chassis, see the *Expanded Systems Guide*.

To install Pro Tools cards:

1 Turn off your computer and any peripherals. Leave your computer's power cable plugged in so the computer is grounded.

2 Disconnect all cables attached to the computer (such as hard drives, displays, USB and FireWire connections) except for the power cable.

3 Open the computer case.

⚠ *Before handling any card, discharge static electricity from your clothes or body by touching a grounded metal surface, such as the power supply case inside your computer.*

4 Remove the metal access port cover behind the PCI slot you want to use by removing the screw and sliding the cover out from the access port.

5 Install the HD Core card into the lowest-numbered PCI slot in the computer based on your computer model, as follows:

Power Macintosh "Mirrored Door" G4 The Power Macintosh "Mirrored Door" G4 has reflective drive bay doors and four holes across the front. Its PCI slot numbers increase from *left to right* as you face the open computer case from the front.

Note that the PCI slot numbering in the newer "Mirrored Door" G4 computer runs in the opposite direction of previous G4 models.

⚠ *Be very careful when opening or closing the case of a "Mirrored Door" G4 computer. Any PCI cards installed in the higher-numbered slots may be damaged if they touch the top of the computer case.*

AGP slot 1 (video card)
PCI slot 2
PCI slot 3
PCI slot 4
PCI slot 5
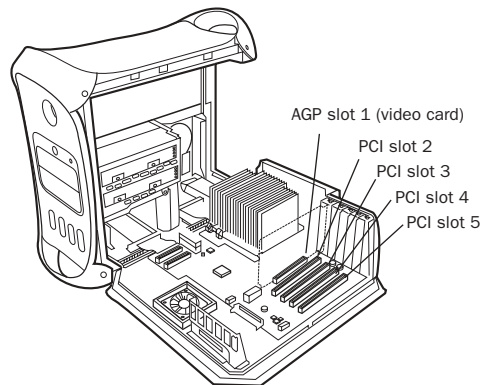
Power Macintosh "Mirrored Door" Dual Processor G4

Power Macintosh "QuickSilver" G4 The Power Macintosh "QuickSilver" and earlier G4 models have a single speaker grille or hole on the front. Their PCI slot numbers increase from *right to left* as you face the open computer case from the front.

PCI slot 4
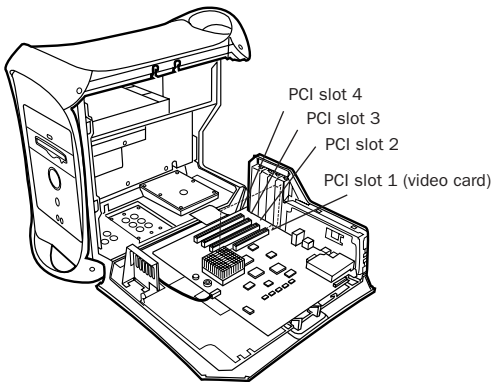PCI slot 3
PCI slot 2
AGP slot 1 (video card)
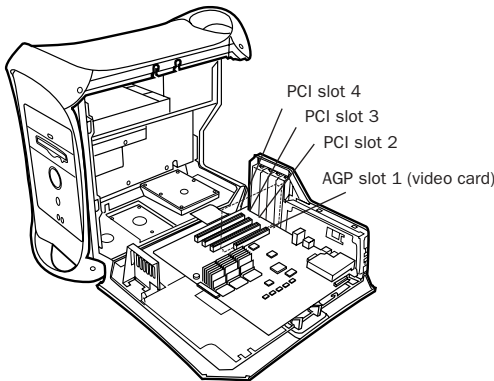
Power Macintosh "QuickSilver" Dual Processor G4

PCI slot 4
PCI slot 3
PCI slot 2
PCI slot 1 (video card)

Power Macintosh Single Processor G4

6 If you are installing additional Pro Tools|HD cards, skip to the next step. If you have no additional cards to install, do the following:

- Secure the card in place with the screw you removed earlier, and close the computer.
- Skip the following steps and continue with "Installing Pro Tools Software" on page 20.

7 Install the first HD Accel card (if any) in the second PCI slot. If you are adding HD Accel cards to a system that also includes HD Process cards, remove the HD Process cards to make room for the HD Accel (HD Process cards will be reinstalled later).

8 Install any remaining HD Accel cards in the remaining consecutive PCI slots.

9 Install any HD Process cards in the remaining consecutive PCI slots.

10 If you are installing a SCSI HBA card, install it in the highest-numbered remaining slot.

⚠ *Do not use SampleCell hardware cards in a Pro Tools|HD system.*

Check to be sure that your cards are installed in the following order, starting with the lowest numeric slot:

- Display card for your computer monitor
- HD Core card
- HD Accel cards
- HD Process cards
- Digidesign-approved video capture card
- SCSI host bus adapter (HBA) card

💡 *The above guidelines may include optional cards not present in your system.*

11 Secure each card in place with the slot access port screws you removed earlier.

Connecting Pro Tools|HD Cards

If you are installing a Pro Tools|HD 2 Accel, HD 3 Accel, or an expanded HD system, connect the HD cards with TDM FlexCables.

Each HD card has two ports along the top of the card, labeled *Port A* and *Port B*. The FlexCable has two connectors, also labeled Port A and Port B, to ensure proper connection. Data communication across multiple HD cards is achieved by connecting Port B of the first card to Port A of the next card with a TDM FlexCable.

The PCI slot numbering in your computer determines whether you will be working right-to-left, or left-to-right when connecting cards. This determines the exact orientation of cards and TDM FlexCable connections in your system. Refer to the instructions below for your model of computer.

To connect HD cards with the TDM FlexCable on the Power Macintosh "Mirrored Door" G4:

1 Shape the FlexCable before installing it on your HD cards by grasping the cable with both hands and moving the Port B portion of the cable straight towards you and inwards, as shown below. Do not bend the cable more than you need to, as you may damage the traces in the cable.
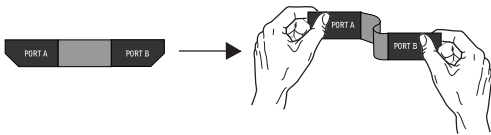

Preparing TDM FlexCable for installation

2 Slide the FlexCable into the notch of the *first* card, so that the Port B connector of the FlexCable can be aligned with Port B of the first card; and the Port A connector of the FlexCable can be aligned with Port A of the second card, as shown below.
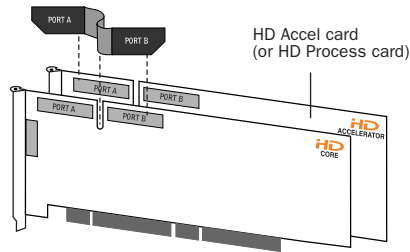
Inserting the TDM FlexCable

3 Connect the Port A connector of the FlexCable to Port A on second card. Push down gently but firmly until the cable is fully connected to the card. Attach the other end of the FlexCable (labeled Port B) to Port B on the first card.
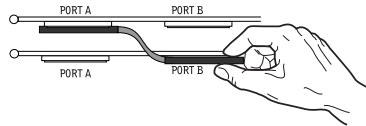
Top view of two HD cards connected with TDM FlexCable

4 Verify the connection, as shown below.
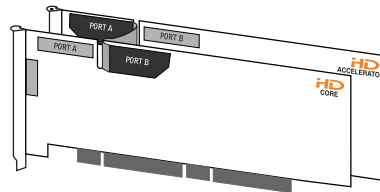
Side view of two HD cards connected with TDM FlexCable

5 For systems with more than two cards, connect each additional card to its preceding card. Use FlexCables to connect card pairs together, as described above, until all cards are connected. (Each HD Accel card is packaged with a FlexCable.)

To connect HD cards with the TDM FlexCable on Power Macintosh "QuickSilver" and earlier G4 computers:

1 Shape the FlexCable before installing it on your HD cards by grasping the cable with both hands and moving the Port A portion of the cable straight towards you and inwards, as shown below. Do not bend the cable more than you need to, as you may damage the traces in the cable.

Preparing TDM FlexCable for installation

2 Slide the FlexCable into the notch of the *second* card, so that the Port B connector of the FlexCable can be aligned with Port B of the first card; and the Port A connector of the FlexCable can be aligned with Port A of the second card, as shown below.
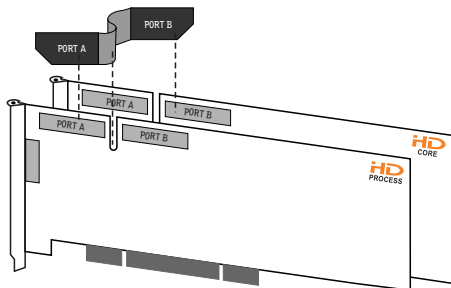

Inserting TDM FlexCable

3 Connect the Port A connector of the FlexCable to Port A on the second card. Push down gently but firmly until the cable is fully connected to the card. Next, attach the other end of the FlexCable (labeled Port B) to Port B on the first card.

Top view of two HD cards connected with TDM FlexCable

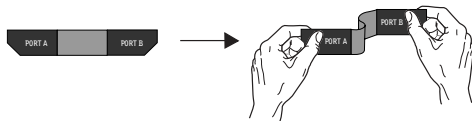**4** Verify the connection, as shown below.
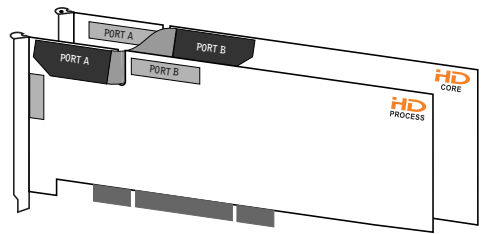
Side view of two HD cards connected with TDM FlexCable

5 For systems with more than two cards, connect each additional card to its preceding card. Use FlexCables to connect card pairs together, as described above, until all cards are connected. (Each HD Accel card is packaged with a FlexCable.)
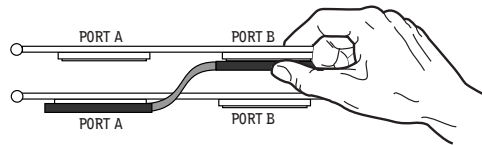
6 Close the computer case.

7 Connect audio interfaces as needed (see the *Getting Started with HD Guide* or the *Expanded Systems Guide* for instructions).

8 Proceed to "Installing Pro Tools Software" on page 20.

Installing Pro Tools Software

To install Pro Tools TDM on Mac OS X:

1 Make sure you are logged in as an Administrator for the account where you want to install Pro Tools. For details on Administrator privileges in Mac OS X, refer to your Apple OS X documentation.

2 Insert the Pro Tools 6.2 Installer CD-ROM in your CD-ROM drive. Double-click "Install Pro Tools."

    – or –

If you downloaded the Pro Tools 6.2 Update from our Web site, follow the instructions provided with it to expand and launch the installer.

3 Enter your Administrator password and click OK to authenticate the installation.

4 Make sure the Install Location is on your Startup hard drive.

5 Click Install.

6 Select your work environment. This loads an initial set of Pro Tools Preferences that include some of the more popular settings for post production, audio, or audio with MIDI.

Preference settings can be customized at any time in Pro Tools. See the Pro Tools Reference Guide for more information about Preferences.

7 Select whether to install the Surround Mixer plug-in. This plug-in is required for mixing, mastering, and monitoring in surround:

- For Surround systems, select "Yes – Monitoring Pro Tools Film Format" if your monitoring is configured for Film Format.
- Select "Yes – Monitoring in ProControl (DTS Format)" if you are using a ProControl dedicated controller.

- Select "No – Stereo mixing only" if your monitoring is configured for Stereo.

The Surround Mixer can be installed at any time. For more information, see the Pro Tools Reference Guide.

8 Click Continue.

9 When installation is complete, click Restart.

Be sure to restart your computer before continuing.

If you plan to use any MIDI devices with Pro Tools, configure your MIDI setup with the Apple Audio MIDI Setup (AMS) utility. See Appendix C, "Configuring AMS" for details.

Installing the Demo Session

The Pro Tools Installer CD-ROM includes a demo session that you can use to verify that your system is working.

To install the demo session:

1 Insert the Pro Tools Installer CD in your CD-ROM drive. Locate and double-click the demo session installer icon.

2 Set the install location to your audio drive, and click Install.

3 When installation is complete, click Quit.

Launching Pro Tools

When launching Pro Tools 6.2 the first time, you are prompted to enter an authorization code to validate your software.

To validate Pro Tools software:

1 Double-click the Pro Tools application, located in the Pro Tools folder, inside the Digidesign folder.

2 Enter the authorization code in the dialog when prompted, making sure to observe any spaces, then click Validate.

The authorization code is located on the inside cover of this guide.

Configuring Pro Tools

Pro Tools lets you adjust the performance of your system by changing *system settings* that affect its capacity for processing, playback, and recording.

In most cases, the default settings for your system provide optimum performance, but you may want to adjust them to accommodate large or processing-intensive Pro Tools sessions.

Refer to the *Getting Started Guide* that came with your system for instructions on configuring the Number of Voices, Hardware Buffer Size, CPU Usage Limit, the DAE Playback Buffer Size, System Memory Allocation, and other Pro Tools settings.

Removing Pro Tools on Mac OS X

If you need to remove Pro Tools from your computer, you can use the Installer CD-ROM or the downloaded Installer file.

To remove Pro Tools 6.2 from your computer:

1 Make sure you are logged in as an Administrator for the account where Pro Tools is installed. For details on Administrator privileges in Mac OS X, refer to your Apple OS X documentation.

2 Insert the Pro Tools TDM 6.2 Installer CD-ROM in your CD-ROM drive. Double-click "Install Pro Tools TDM."

3 Enter your Administrator password and click OK to authenticate the installation.

4 In the Installer window, choose Uninstall from the pop-up menu, and click Uninstall.

5 Click Quit to close the Installer window.

appendix a

Windows System Optimizations

When installing Pro Tools on Windows XP, there are many system variables that affect performance. If you have followed all the Windows configuration instructions in Chapter 2, "Installing Pro Tools 6.2 on Windows" and are still experiencing problems, try the following troubleshooting suggestions.

💡 *Norton Ghost is highly recommended, as it lets you save your system in a working state and easily revert to that state should you accidentally disable anything that your computer needs.*

Troubleshooting

Blue Screen at Startup

If, after installing Pro Tools and QuickTime, your computer crashes with a blue screen, use Add/Remove Programs to uninstall Pro Tools and QuickTime. Then, repeat the installation instructions in Chapter 2, "Installing Pro Tools 6.2 on Windows."

Advanced Settings

The following system optimizations may help Pro Tools perform better on some systems. It is recommended that you only try these optimizations if necessary, as they may disable or adversely affect the functionality of other programs on your system.

Disabling Network Cards

If applicable, disable any networking cards (other than a 1394 "FireWire" card that you might use to connect an external drive to your system).

To disable a network card:

1 Right-click My Computer and choose Manage.

2 Under System Tools, select Device Manager.

3 In the Device Manager window, double-click Network adapters, then double-click the Network Adapter card you want to disable.

4 Under the General tab, choose "Do note use this device (disable)" from the Device Usage pop-up menu, and click OK.

5 Close the Computer Management window.

Processor Scheduling

To Adjust Processor Scheduling Performance:

1 Choose Start > Control Panel.

2 Launch System.

3 Click the Advanced tab.

4 Under the Performance section, click the Settings button.

5 Select the Advanced tab.

6 Under the Processor scheduling section, select the "Adjust for best performance of background services" option.

7 Under the Memory Usage section, select the System cache option.

8 Click OK twice. You will need to restart your computer for the changes to take effect.

Startup Items

The fewer items in use by your computer, the more resources are available for Pro Tools. Some startup applications may be consuming unnecessary CPU resources, and should be turned off.

Be very careful when disabling startup items, including (but not limited to) the following:

- Portable media serial number (required for applications that utilize a copy protection key)
- Plug and play
- Event log
- Cryptographic services
- DHCP Client, TCP/IP Net BIOS, and other networking-related items (unless the computer has no network or internet connection, in which case these items can be disabled)

💡 *Norton Ghost is highly recommended, as it lets you save your system in a working state and easily revert to that state should you accidentally disable anything that your computer needs.*

To Disable System Startup Items:

1 From the Start menu, choose Run.

2 Type "msconfig" and click OK. the System Configuration Utility opens.

3 Under the General tab, chose Selective Startup.

4 Deselect Load Startup Items and click OK.

5 Click Restart to restart the computer.

6 After restarting your computer, a System Configuration message dialog is displayed. Check to see if Pro Tools performance has increased before you deselect the "don't show this message again" option. If performance has not changed, run "msconfig" and return your computer Selective Startup back to Normal Startup. Alternatively, try disabling start up items and non-essential processes individually.

Digidesign ASIO Driver (Windows Only)

Introduction

The Digidesign ASIO Driver is a multichannel, multimedia sound driver that allows third-party audio programs that support the ASIO standard to record and play back through Digidesign hardware.

💡 *Check the Digidesign Web site (www.digidesign.com) for the latest third-party drivers for Pro Tools hardware, as well as current known issues.*

Full-duplex recording and playback of 24- and 16-bit audio are supported at sample rates supported by the hardware and ASIO program used.

Compatible Software

For a list of ASIO Driver-compatible software, see the compatibility documents available on the Digidesign Web site (www.digidesign.com/compato).

Installing the ASIO Driver

The ASIO Driver is installed by default when you install Pro Tools.

Removing the ASIO Driver

If you need to remove the ASIO Driver from your computer, complete the following steps.

To remove the ASIO Driver:

1 Choose Start > Control Panel.

2 Double-click the Add or Remove Programs icon.

3 From the Currently installed programs list, select Digidesign Pro Tools.

4 Click the Change/Remove button.

5 Modify your installation by unchecking the Digidesign ASIO Driver option only.
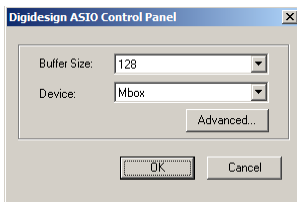
Changing ASIO Driver Settings

Changing ASIO Driver settings is done in your third party ASIO program. Refer to the documentation that came with your software program. For example, with Propellerhead Reason, click on the ASIO Control Panel button (shown below).
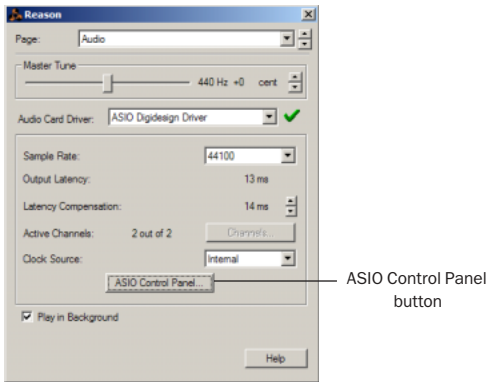
Setup Example, using Propellerhead Reason

ASIO Driver Control Panel

Digidesign ASIO Control Panel

The Digidesign ASIO Driver Control Panel cannot be accessed under the following circumstances:

- When Pro Tools is running.
- When playing or recording in an audio program that does not support the ASIO Driver.

- When using a third-party audio program that has an option to keep the ASIO Driver "open" even when you are not playing or recording. (You must close the audio program before you can open the ASIO Driver Control Panel.)

Buffer Size Control

When you play a file from a client audio program, the client program divides the file into buffers and sends each of these to the ASIO Driver. The ASIO Driver copies the client program's buffers to your Digidesign hardware's own buffers in a double-buffering scheme. The Buffer Size control in this dialog allows you to set the size of each of the two buffers the ASIO Driver uses on Digidesign hardware. You may select from the following buffer sizes:

- 128 samples
- 256 samples
- 512 samples
- 1024 samples
- 2048 samples

Small buffers have the advantage of low latency in the record monitor path. Larger buffers have the advantage of making the ASIO Driver more immune to audio dropouts during playback and recording.

In some third-party audio programs, performing various tasks such as maximizing or minimizing windows will interrupt the ASIO Driver and create glitches in the audio. Choosing medium or large buffers (such as 256–1024) can help alleviate this problem.

Changing the Buffer Size for the ASIO Driver does not affect the H/W Buffer Size settings in the Pro Tools Playback Engine dialog.

Device

The Device Type will always be set to your installed Pro Tools hardware.

Advanced Button

The Advanced button opens the Hardware Setup dialog for your Digidesign system.

appendix c

Configuring AMS

Pro Tools 6.2 recognizes the ports on your MIDI interface as generic ports. With Mac OS X, you use Apple's Audio MIDI Setup (AMS) utility to identify external MIDI devices connected to your MIDI interface and configure your MIDI studio for use with Pro Tools.

To configure your MIDI studio in AMS:

1 Launch Audio MIDI Setup (located in Applications/Utilities).

– or –

In Pro Tools, choose Setups > Edit MIDI Studio Setup.

2 Click the MIDI Devices tab. AMS scans your system for connected MIDI interfaces. If your MIDI interface is properly connected, it appears in the window with each of its ports numbered.


Audio MIDI Setup (MIDI Devices tab)

3 For any MIDI devices connected to the MIDI interface, click Add Device. A new external device icon with the default MIDI keyboard image will appear.

4 Drag the new device icon to a convenient location within the window.

5 Connect the MIDI device to the MIDI interface by clicking the arrow for the appropriate output port of the device and dragging a connection or "cable" to the input arrow of the corresponding port of the MIDI interface.
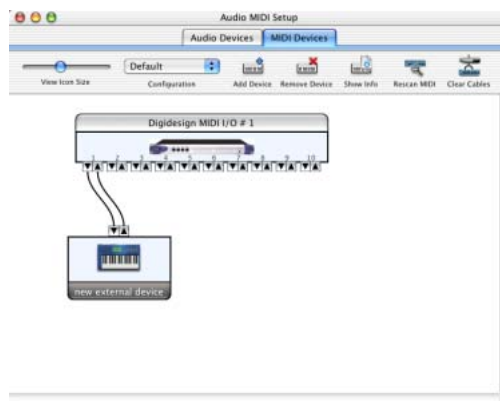
Making MIDI input and output connections

6 Click the arrow for the appropriate input port of the device and drag a cable to the output arrow of the corresponding port of the MIDI interface.

💡 *To remove a connection, select the cable and press Delete. To delete all connections, click Clear Cables.*

7 Repeat steps 3–6 for each MIDI device in your MIDI setup.

To configure an external MIDI device:

1 Select the external device icon and click Show Info (or double-click the new device icon).


External Device Icon

2 Select a manufacturer and model for the new device from the corresponding pop-up menus. (If the Manufacturer and Model pop-up menus do not provide a name for your particular device, you can type a name.)

Naming a new MIDI device

💡 *AMS refers to one or more files with the suffix ".middev" in the directory Root/Library/Audio/MIDI Devices for Manufacturer and Model names. Pro Tools installs two such files that contain information for many commercially available MIDI devices, "Legacy Devices.middev" and "Digidesign Devices.middev." If the Manufacturer or Model names for any of your external MIDI devices are not available in the AMS Manufacturer and Model pop-up menus, you can add them by editing any of the current .middev files in any text editor (such as TextEdit).*

3 Click the More Properties arrow to expand the dialog, then enable the appropriate MIDI channels (1–16) for the Transmits and Receives options. (These determine which channels the device will use to send and receive MIDI.)
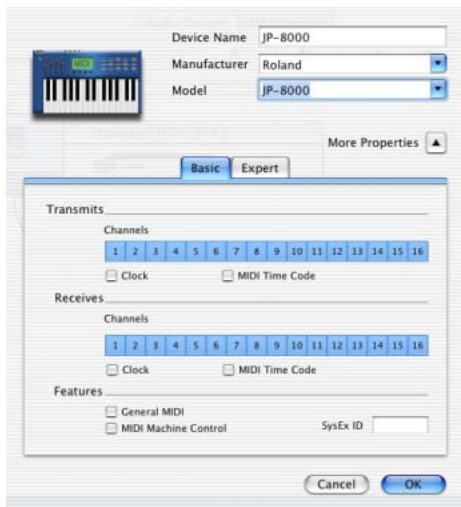
Enabling MIDI channels

4 Click the device image. The window expands to show images for various MIDI devices (such as keyboards, modules, interfaces, and mixers). Select an icon for your device.

Selecting a device icon

☼ *To use your own custom icons, you can place TIFF image files in /Library/ Audio/MIDI Devices/Generic/Images, and they will appear as choices in the AMS device window.*

5 Click OK.

The device names you enter appear as MIDI input and output choices in Pro Tools.