Upgrading to Pro Tools 6.4

Version 6.4 for HD or LE Systems on Windows or Macintosh

digidesign

contents

chapter 1

Introduction

This guide documents how to upgrade to Pro Tools 6.4 for Pro Tools LE and Pro Tools|HD systems on a Digidesign-qualified Windows or Macintosh computer.

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

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 6.4 on Windows

This chapter explains how to install and configure Pro Tools 6.4 for Pro Tools LE and Pro Tools|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 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).

Installing Pro Tools LE

Digi 002, Digi 002 Rack, and Mbox

To install Pro Tools LE on Windows:

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

2 Start up Windows, logging in with Administrator privileges. If you do not have Administrator privileges or do not know how to set them up, see your Windows User's Guide.

3 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.

4 When the installer opens, click Next to proceed.

5 Select available install options as needed:

6 Click Next to install the selected option. Files are installed to the Digidesign folder inside the Program Files folder.

⚠ *If you get a warning dialog about the driver not passing Windows Logo testing, click Continue Anyway.*

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

8 Click Quit when prompted to install QuickTime. If required, you can install QuickTime later (see "Installing QuickTime" on page 6).

9 Restart your computer.

Installing QuickTime

(Optional)

QuickTime 6.5 or later is required for Pro Tools LE if you plan to include movie files in your sessions. QuickTime is available as a free download from the Apple Web site (www.apple.com).

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 8 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 Click Quit when prompted to install QuickTime. If required, you can install QuickTime later (see "Installing QuickTime" on page 7).

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

Installing QuickTime

(Optional)

QuickTime 6.5 or later is required for Pro Tools LE if you plan to include movie files in your sessions. QuickTime is available as a free download from the Apple Web site (www.apple.com).

Optional Software

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

Digidesign ASIO Driver 6.4

Digidesign ASIO Driver 6.4 is a single-client, multichannel sound driver that allows ASIO-compatible programs to record and play back through Digidesign hardware.

ASIO Driver 6.4 is automatically installed when you install Pro Tools 6.4.

Stand-Alone ASIO Driver Installer

Digidesign ASIO Driver 6.4 can be installed on Digidesign-qualified Windows XP systems with Pro Tools 6.4 (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 Appendix B, "Digidesign ASIO Driver (Windows Only)."

Digidesign WaveDriver 6.4

Digidesign WaveDriver 6.4 is a single-client, multichannel sound driver that allows WaveDriver compatible programs to play back through Digidesign hardware.

WaveDriver 6.4 is automatically installed when you install Pro Tools 6.4.

Stand-Alone WaveDriver Installer

Digidesign WaveDriver 6.4 can be installed on Digidesign-qualified Windows XP systems with Pro Tools 6.4 (for example, if the WaveDriver 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 WaveDriver, see Appendix C, "Digidesign WaveDriver (Windows Only)."

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

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

☼ *The MacDrive utility can be used instead of MacOpener. Refer to the MacDrive Web site (www.macdrive.com).*

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 Mac-Opener on NTFS or FAT32 drives instead. To move material from HFS-formatted drives to NTFS or FAT32 drives, use the Save Session Copy In command in Pro Tools.*

☼ *While SDII files can be exported or con-verted 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 in-staller file in the MacOpener Demo folder lo-cated 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 Pref-erences.

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 Pro Tools System

(Pro Tools|HD Only)

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

▤ *Refer to the Getting Started Guide with HD Guide for details on starting up your system and running 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.

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

Pro Tools TDM 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 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 LE, or Digidesign Pro Tools TDM, as appropriate.

4 Click the Change/Remove button.

5 Follow the onscreen instructions to remove Pro Tools.

Installing Pro Tools 6.4 on Macintosh

This chapter explains how to install and configure Pro Tools 6.4 for Pro Tools LE and Pro Tools|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 LE Software

Digi 002, Digi 002 Rack, and Mbox

To install Pro Tools LE 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 LE 6.4 Installer CD-ROM in your CD-ROM drive. Double-click "Install Pro Tools LE."

   – or –

• If you downloaded the Pro Tools 6.4 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 In the installer window, select the version of Pro Tools LE for your system.

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

6 Click Install.

7 When installation is complete, click Restart.

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 E, "Configuring AMS (Mac OS X Only)" for details.

Installing Pro Tools TDM 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 6.4 Installer CD-ROM in your CD-ROM drive. Double-click "Install Pro Tools."

   – or –

If you downloaded the Pro Tools 6.4 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 E, "Configuring AMS (Mac OS X Only)" for details.

Optional Software

Digidesign CoreAudio Driver 6.4

Digidesign CoreAudio Driver 6.4 is a single-client, multichannel sound driver that allows CoreAudio-compatible programs to record and play back through Digidesign hardware.

CoreAudio Driver 6.4 is automatically installed when you install Pro Tools 6.4.

Stand-Alone CoreAudio Driver Installer

Digidesign CoreAudio Driver 6.4 can be installed on Digidesign-qualified Mac OS X systems with Pro Tools 6.4 (for example, if the CoreAudio 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 CoreAudio Driver, see Appendix D, "Digidesign CoreAudio Driver (Macintosh Only)."

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.

Checking Your Pro Tools System

(Pro Tools|HD Only)

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.

Refer to the Getting Started Guide with HD Guide for details on starting up your system and running DigiTest.

Launching Pro Tools

When launching Pro Tools 6.4 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.

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

Pro Tools TDM 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 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 6.4 Installer CD-ROM in your CD-ROM drive. Double-click "Install Pro Tools LE" or "Install Pro Tools TDM," as appropriate.

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 6.4 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, do the following:

- Use Add/Remove Programs to uninstall Pro Tools.
- Use Add/Remove Programs to uninstall QuickTime.
- Repeat the installation instructions in Chapter 2, "Installing Pro Tools 6.4 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.

⚠ *The ASIO Driver is not multi-client. Only one application at a time can use the ASIO Driver. Be sure to disable the Windows system sounds. It is also recommended that you use a separate sound card for games or other general work.*

💡 *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 playback of 24- and 16-bit audio are supported at sample rates up to 96 kHz, depending on the Digidesign hardware and ASIO Driver program used.

The Digidesign ASIO Driver will provide up to 18 channels of input and output, depending on your Pro Tools hardware:

- Up to 8 channels of input and output with Pro Tools|HD systems
- Up to 18 channels of input and output with Digi 002 and Digi 002 Rack (or 16 out with S/PDIF Mirroring enabled)
- Up to 2 channels of input and output with Mbox

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.
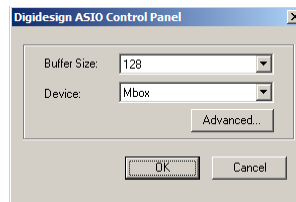
Changing ASIO Driver Settings

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).
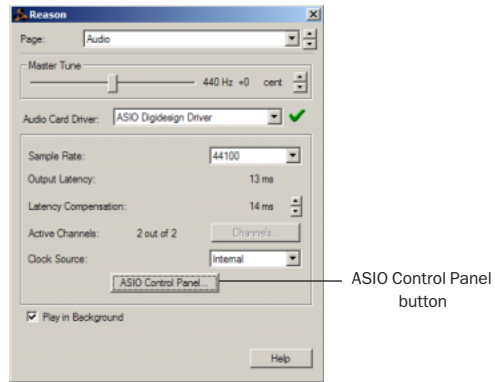
Setup Example, using Propellerhead Reason

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

Digidesign WaveDriver (Windows Only)

Introduction

The Digidesign WaveDriver is a multichannel, multimedia sound driver that allows third-party audio programs that support the WaveDriver standard to 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.

⚠ *The WaveDriver is not multi-client. Only one application at a time can use the WaveDriver. Be sure to disable the Windows system sounds. It is also recommended that you use a separate sound card for games or other general work. For third-party soft-synthesizer and samplers, use the Digidesign ASIO Driver (refer to the ASIO Driver Usage Guide).*

Playback of 24- and 16-bit audio is supported at sample rates supported by the hardware and WaveDriver program used.

The Digidesign WaveDriver will provide up to 18 channels of output, depending on your Pro Tools hardware:

- Up to 8 channels of output with Pro Tools|HD systems
- Up to 18 channels of output with Digi 002 and Digi 002 Rack (or 16 out with S/PDIF Mirroring enabled)
- Up to 2 channels of output with Mbox

Compatible Software

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

Installing the WaveDriver

The WaveDriver is installed by default when you install Pro Tools.

Removing the WaveDriver

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

To remove the WaveDriver:

1 Choose Start > Control Panel.

2 Double-click the Add or Remove Programs icon.

3 From the Currently installed programs list, select Digidesign WaveDriver.

4 Click the Change/Remove button.

5 Click OK to remove the WaveDriver.

Configuring WaveDriver for Windows Media Player and Other Third-Party WaveDriver Programs

WaveDriver is configured in the Sounds and Audio Devices Control Panel (for programs that use the Windows Sound Playback Default Device, such as Windows Media Player), or as a preference for third-party WaveDriver programs (such as Sound Forge).

To configure WaveDriver as the Windows Sound Playback Default Device (for example, for Windows Media Player):

1 Open the Sounds and Audio Devices Control Panel.

2 Click the Audio tab.

3 Select the Digidesign audio interface in the Sound Playback default device lists.

4 Close the Control Panel. When you run Windows Media Player, it automatically output to your Digidesign hardware.

To configure WaveDriver for a third party WaveDriver application:

■ In the third-party program, select the Digidesign audio interface as the preference for your playback hardware. Refer to your program's documentation.

appendix d

Digidesign CoreAudio Driver (Macintosh Only)

Introduction

The Digidesign CoreAudio Driver is a multi-channel, multimedia sound driver that allows third-party audio programs that support the CoreAudio 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 playback of 24- and 16-bit audio are supported at sample rates up to 96 kHz, depending on the Digidesign hardware and CoreAudio Driver program used.

The Digidesign CoreAudio Driver will provide up to 18 channels of input and output, depending on your Pro Tools hardware:

- Up to 8 channels of input and output with Pro Tools|HD systems
- Up to 18 channels of input and output with Digi 002 and Digi 002 Rack (or 16 out with S/PDIF Mirroring enabled)
- Up to 2 channels of input and output with Mbox

Compatible Software

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

Installing the CoreAudio Driver

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

Removing the CoreAudio Driver

To uninstall the Digidesign CoreAudio Driver:

1 Power on your system.

2 On the Pro Tools Installer CD, locate and double-click the Install CoreAudio file.

– or –

From the Digidesign Web site, download and double-click the Install CoreAudio file.

3 In the Install CoreAudio window, select Uninstall from the Custom Install pop-up menu.

4 When the uninstall is complete, quit the CoreAudio Installer.

Configuring the Digidesign CoreAudio Driver

You can configure the Digidesign CoreAudio Driver using Digidesign CoreAudio Setup, or from within most third-party CoreAudio-compatible client applications (such as BIAS Peak or Logic Audio). Consult the manufacturer's documentation for more information.

Some applications, such as Apple's iTunes or QuickTime Player, also require that you configure either the Apple Sound Preferences or Apple Audio MIDI Setup to use the Digidesign CoreAudio Driver.

Digidesign CoreAudio Setup

Use Digidesign CoreAudio Setup to specify which third-party CoreAudio applications can use the CoreAudio Driver, change the CoreAudio Buffer Size setting, and access the Hardware Setup dialog for your Digidesign hardware. Digidesign CoreAudio Setup also identifies your Digidesign hardware and the supported number of Input and Output Channels.
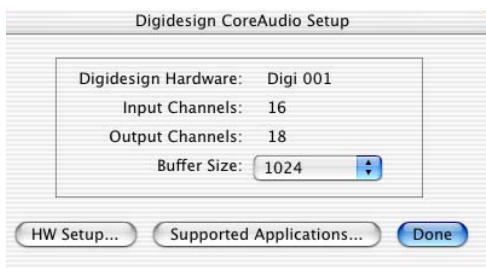

Figure 1. Digidesign CoreAudio Setup

Digidesign CoreAudio Setup cannot be accessed under the following circumstances:

- When Pro Tools is running.
- When another CoreAudio-client application is using the Digidesign CoreAudio Driver.

Supported Applications

The Digidesign CoreAudio Driver provides the Supported Applications feature for CoreAudio-compatible applications. This lets you specify which CoreAudio-compatible applications can be used with the Digidesign CoreAudio Driver.

To add support for a CoreAudio-compatible application:

1 Launch Digidesign CoreAudio Setup (located in /Applications/Digidesign).

2 Click Supported Applications. The Digidesign CoreAudio Supported Applications window opens.
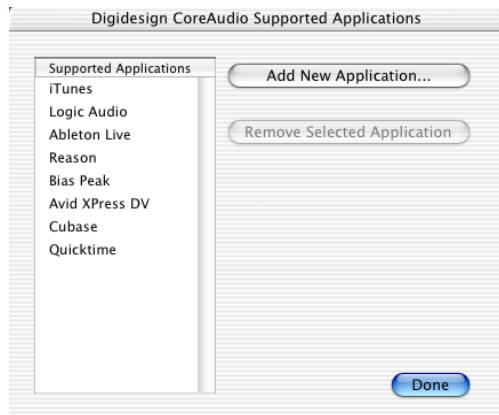
Digidesign CoreAudio Supported Applications window

3 In the Digidesign CoreAudio Supported Applications window, click Add New Application. The Open dialog appears.

4 In the Open dialog, navigate to and select the CoreAudio-compatible application you want to add.

5 Click Open. The selected application is added to the Supported Applications list and can be used with the Digidesign CoreAudio Driver.

6 When you are finished adding to the Supported Applications List, click Done.

7 In Digidesign CoreAudio Setup, click Done to apply your changes.

To remove support for a CoreAudio-compatible application:

1 Launch Digidesign CoreAudio Setup (located in /Applications/Digidesign).

2 Click Supported Applications. The Digidesign CoreAudio Supported Applications window opens.

3 In the Supported Applications list, select the application you want to remove.

4 Click Remove Selected Application. The selected application is removed from the Supported Applications list and cannot be used with the Digidesign CoreAudio Driver.

5 When you are finished removing applications from the Supported Applications List, click Done.

6 In Digidesign CoreAudio Setup, click Done to apply your changes.

Buffer Size

When you play a file from a client audio application, the client application divides the file into small packets (buffers) and sends each of these to the Digidesign CoreAudio Driver. The Digidesign CoreAudio Driver copies the client application's input and output buffers to your Digidesign hardware's buffers in a double-buff-

ering scheme. The Buffer Size control in this dialog lets you set the size of each of the two buffers the Digidesign CoreAudio Driver uses on Digidesign hardware. You may select from the following buffer sizes (depending on your Digidesign hardware):

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

Small buffers have the advantage of low latency in the record monitor path. (Latency is the time delay between a signal entering the audio inputs and leaving the outputs during recording.)

Larger buffers have the advantage of making the Digidesign CoreAudio Driver more immune to audio dropouts during playback and recording.

In some CoreAudio-client applications, performing various tasks will interrupt the CoreAudio Driver and may result in clicks and pops in audio playback or recording. Choosing medium or large buffers (such as 256, 512, or 1024) can help alleviate this problem.

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

To configure Digidesign CoreAudio Hardware Buffer Size:

1 Launch Digidesign CoreAudio Setup (located in /Applications/Digidesign).

2 From the Buffer Size pop-up menu, select the desired CoreAudio buffer size (in samples). Generally, smaller buffer sizes are preferable. However, if you experience any problems with performance (such as clicks and pops during recording or playback), try increasing the CoreAudio Buffer Size setting.

☼ *Most audio applications that support CoreAudio will let you adjust the CoreAudio Buffer Size setting from within the application.*

3 In Digidesign CoreAudio Setup, click Done to apply your changes.

HW Setup Button

The HW Setup button opens the Hardware Setup dialog for your Digidesign hardware. For more information, refer to the *Getting Started Guide* for your Pro Tools system or the *Pro Tools Reference Guide*.

To configure Digidesign CoreAudio HW Setup:

1 Launch Digidesign CoreAudio Setup (located in /Applications/Digidesign).

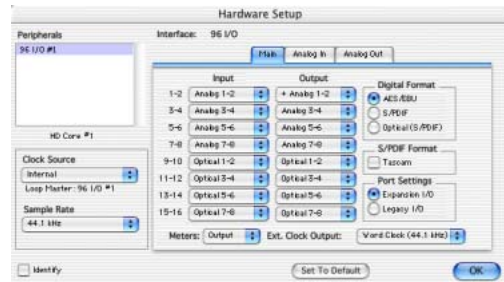**2** Click the HW Setup button to open the Hardware Setup dialog.

Figure 2. Hardware Setup dialog, 96 I/O

3 Configure the Hardware Setup dialog for your Digidesign hardware. If you have more than one audio interface connected to your Pro Tools TDM system, be sure to select and configure only the primary audio interface connected to the Pro Tools|HD or Pro Tools|24 MIX Core card.

▤ *For more information on the Hardware Setup dialog, refer to your Getting Started Guide or the Pro Tools Reference Guide.*

4 When you are finished, click OK to close the Hardware Setup dialog.

5 In Digidesign CoreAudio Setup, click Done to apply your changes.

Configuring the Apple Sound Preferences or Apple Audio MIDI Setup

To use your Digidesign hardware with common CoreAudio-compatible playback applications (such as Apple iTunes or QuickTime Player), you will need to configure either Sound Preferences or Audio MIDI Setup in addition to Digidesign CoreAudio Setup. However, for most CoreAudio-compatible client applications (such as BIAS Peak or Cubase SX) this is unnecessary because you can configure the CoreAudio Buffer Size setting, and input and output channels from within the application.

Apple Sound Preferences

To configure the Apple Sound Preferences:

1 Launch System Preferences (Apple menu > System Preferences).

2 Click Sound.

3 Click the Output tab and select Digidesign HW as the device for sound output.

Sound Preferences, Output tab

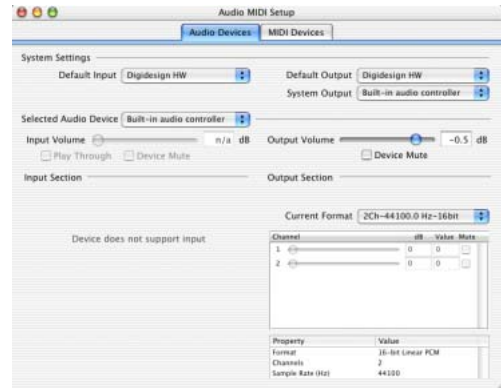**4** Click the Input tab and select Digidesign HW as the device for sound input.

Sound Preferences, Input tab

5 Quit System Preferences.

Apple Audio MIDI Setup

To configure the Apple Audio MIDI Setup:

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

2 Select the Audio Devices tab.

Apple Audio MIDI Setup application, Audio tab

3 From the System Settings Default Input pop-up menu, select Digidesign HW.

4 From the System Settings Default Output pop-up menu, select Digidesign HW.

⚠ *Leave System Output and Selected Audio Device set to Built-in audio controller. The Digidesign CoreAudio Driver cannot be used for system sounds.*

Configuring AMS (Mac OS X Only)

Pro Tools 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.
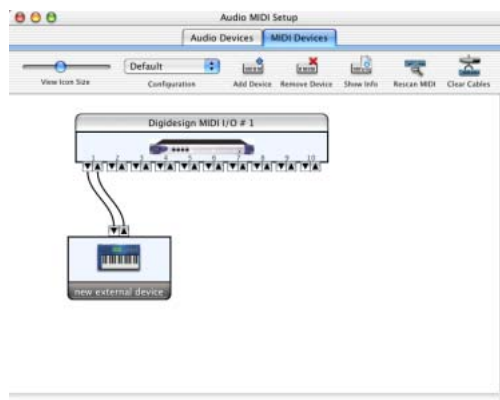
Making MIDI input and output connections

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.)
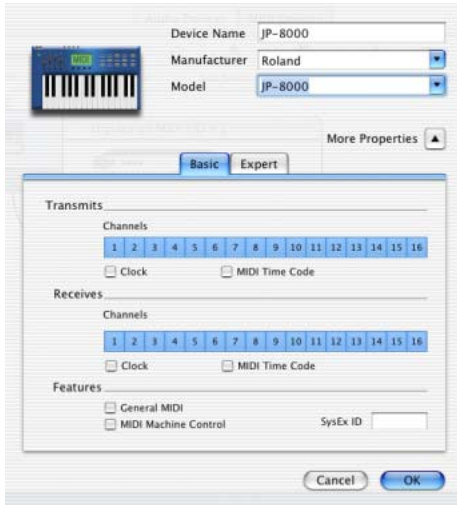
Enabling MIDI channels

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.