



CoreAudio Drivers Guide

Version 7.2



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chapter 1

Digidesign CoreAudio Driver

The Digidesign® CoreAudio Driver lets you use your Digidesign Pro Tools|HD audio interfaces with third-party applications that support the CoreAudio Driver standard.

Your Pro Tools system's CoreAudio Driver is automatically installed when you install Pro Tools.


 *For complete instructions on installing Pro Tools, see the Getting Started Guide for your Pro Tools system.*


Digidesign CoreAudio Capabilities

The Digidesign CoreAudio Driver is a multi-client, multichannel sound driver that allows CoreAudio-compatible applications to record and play back through Pro Tools|HD audio interfaces.

Full-duplex recording and playback of 24-bit audio is supported at sample rates up to 96 kHz, depending on your Digidesign hardware and CoreAudio client application.

The Digidesign CoreAudio Driver will provide up to eight channels of input and output on Pro Tools|HD systems.

 *For Pro Tools|HD systems with more than one card and multiple I/Os, only the primary I/O connected to the first (core) card can be used with CoreAudio.*

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


Limitations of the Digidesign CoreAudio Driver

The Digidesign CoreAudio Driver has the following limitations:

- ◆ Pro Tools is not a CoreAudio application and therefore requires exclusive access to Digidesign hardware. You cannot use CoreAudio applications and Pro Tools at the same time. To use Pro Tools, make sure you quit any CoreAudio applications before starting Pro Tools. To use a CoreAudio application, make sure you quit Pro Tools before starting any CoreAudio application.
- ◆ The Digidesign CoreAudio Driver cannot be used to preview sound files from the Mac Finder. When a sound file is located in the Mac OS X navigation window, a QuickTime transport bar is displayed next to it. The QuickTime transport bar lets you audition the sound file. The sound will always play back through the Mac's built-in audio controller (through the Mac speaker or headphone jack). However, if you double-click a sound file, the QuickTime application will launch, and can use the Digidesign CoreAudio Driver for playback.
- ◆ The Digidesign CoreAudio Driver cannot be used for playback of Mac System Sounds.

System Requirements

This version of the Digidesign CoreAudio Driver can be used on Digidesign-qualified Pro Tools|HD systems running on Mac.

 *For complete system requirements, visit the Digidesign Web site (www.digidesign.com).*

Compatibility Information

Digidesign can only assure compatibility and provide support for hardware and software it has tested and approved.

For a list of Digidesign hardware systems, Digidesign-qualified computers, operating systems, and devices, and Digidesign-qualified third-party CoreAudio-compatible applications, see the Digidesign Web site (www.digidesign.com).

Digidesign CoreAudio Manager

You can configure the Digidesign CoreAudio Driver using Digidesign CoreAudio Manager, or from within most third-party CoreAudio-compatible client applications (such as BIAS Peak or Logic Audio). Refer to 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.

Accessing the Digidesign CoreAudio Manager

The Digidesign CoreAudio Manager application launches automatically when the first client application accesses the CoreAudio driver.



Digidesign CoreAudio Manager

Digidesign CoreAudio Manager cannot be accessed under the following circumstances:

- When Pro Tools is running
- When another application is using Direct IO (such as the Ableton Live Digi Edition)

Preventing an Application from Accessing CoreAudio Driver

You can prevent an application from accessing the CoreAudio driver by holding down the Shift key just before the application would access the CoreAudio driver, typically during launch of the application. Certain applications (such as Apple Mail and iChat), do not access the CoreAudio application until they first play a sound, so you will need to hold down the Shift key just prior to sound playback in order to prevent the use of Digidesign hardware for playback.

Using the Digidesign CoreAudio Manager

Use Digidesign CoreAudio Manager to change the CoreAudio Buffer Size setting, access the Hardware Setup dialog for your Digidesign hardware and control volume and mute for the CoreAudio driver. Digidesign CoreAudio Manager also identifies your Digidesign hardware, the supported number of Input and Output Channels and the number of attached clients (applications).

Buffer Size

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, but also are more taxing on your computer's CPU and could contribute to dropouts in your audio during record or playback. (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, but can cause a noticeable delay when monitoring your inputs in the recording process. 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 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 Double-click the Digi CoreAudio Manager file (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. You can also change the buffer size from within the client application if it is the only client attached to the CoreAudio driver. Once two or more clients are active, you will not be able to change the sample rate or the buffer size.

HW Setup Button

The HW Setup button opens the Hardware Setup dialog for your Digidesign hardware. The HW Setup button will only be available when no clients are using the CoreAudio driver.


To configure Digidesign CoreAudio HW Setup:

- 1 Quit any CoreAudio client applications.
- 2 Double-click the Digi CoreAudio Manager file (located in /Applications/Digidesign).
- 3 Click the HW Setup button to open the Hardware Setup dialog.



Hardware Setup dialog, 96 I/O

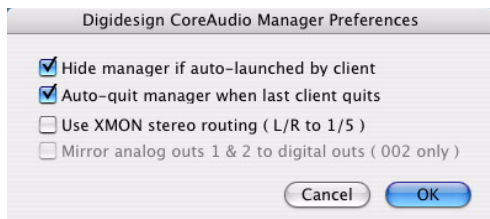
- 4 Configure the Hardware Setup dialog for your Digidesign hardware. If you have more than one audio interface connected to your Pro Tools|HD system, be sure to select and configure only the primary audio interface connected to the HD Core card.

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

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

Prefs Button

The Prefs button opens the Digidesign CoreAudio Manager Preferences dialog for the Manager application. There are several options available for control and configuration of the Manager application. When finished setting these options, click OK to close the Digidesign CoreAudio Manager Preferences windows.



Digidesign CoreAudio Manager Preferences

Hide Manager if Auto-Launched by Client Enable this option to hide the Manager panel after the first client application accesses the CoreAudio driver. To open the Manager panel, click on the Digidesign CoreAudio Manager application icon in the Dock.

Auto-Quit Manager when Last Client Quits Enable this option to make the Manager application quit when there are no longer any clients using the CoreAudio driver.

Use XMON Stereo Routing (L/R to 1/5) When using D-Control or D-Command, enable this option to configure the CoreAudio driver to output through the D-Control or D-Command standard stereo routing (outputs 1 and 5).

Mirror Analog Outs 1 & 2 to Digital Outs (002 Only) When using Digi 002 or Digi 002 Rack, enable this option to mirror the main outputs through the digital outputs that are selected in the Hardware Setup dialog.

Connect Button

The Connect button is available when the Digidesign CoreAudio Manager is launched and cannot connect with the Digidesign hardware (such as when Pro Tools is launched and the hardware is disconnected or disabled). Before trying to connect, make sure to quit Pro Tools and make sure that your hardware is connected and turned on. You can then click on the Connect button to acquire the hardware.

⚠ *If any application is launched prior to pressing the Connect button and you want that application to use the CoreAudio driver for playback, you will need to quit and re-launch the application for it to connect properly to the Digidesign CoreAudio Manager.*

Quit Button

Use the Quit button to quit the Digidesign CoreAudio Manager. Be sure to quit any client applications before using the Quit button in the Manager. If any applications are currently attached to the Manager application when quitting, you may get an error message indicating that the Digidesign hardware is no longer available. You may have to change the application's preferences to use different hardware for playback or possibly quit and relaunch the application for proper playback to be resumed.


Configuring a Pro Tools|HD Audio Interface for Third-Party Applications

When using a Pro Tools|HD interface with an application other than Pro Tools HD (such as Apple GarageBand), you can configure hardware settings through the audio preference settings available in that application.

To configure hardware settings through a client application (such as Apple GarageBand):

- 1 Choose Digidesign CoreAudio for Audio Output and Audio Input.
- 2 Select a buffer size for your system by choosing an Optimize For option (Maximum/Large buffer size, or Minimum/Small buffer size).
 - ◆ Small buffers have the advantage of low latency in the record monitor path, but also are more taxing on your computer's CPU and could contribute to dropouts in your audio during record or playback. (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, but can cause a noticeable delay when monitoring your inputs in the recording process. 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 a large buffer can help alleviate this problem.

Refer to the documentation for your third-party application to learn more about how these options affect that application.

 *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.*

Configuring the Apple Sound Preferences or Apple Audio MIDI Setup

(Required for Using Pro Tools|HD interface with Apple iTunes or QuickTime Player)

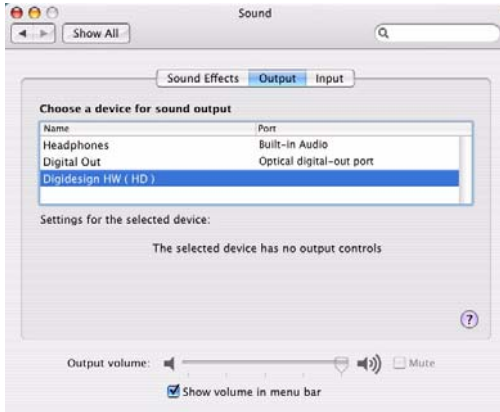
To use your Digidesign hardware with certain CoreAudio-compatible playback applications (such as Apple iTunes or QuickTime Player), you will need to configure either Sound Preferences or Audio MIDI Setup in addition to Digidesign CoreAudio Manager. However, for most CoreAudio-compatible client applications (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 client application.

Apple Sound Preferences

To configure the Apple Sound Preferences:

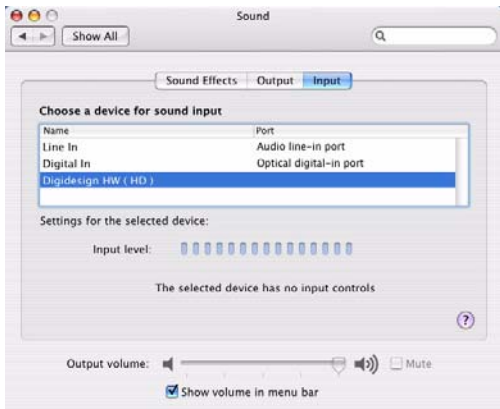
- 1 Launch System Preferences (Apple menu > System Preferences).
- 2 Click Sound.

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



Sound Preferences, Output settings

- Click Input and select Digidesign HW as the device for sound input.



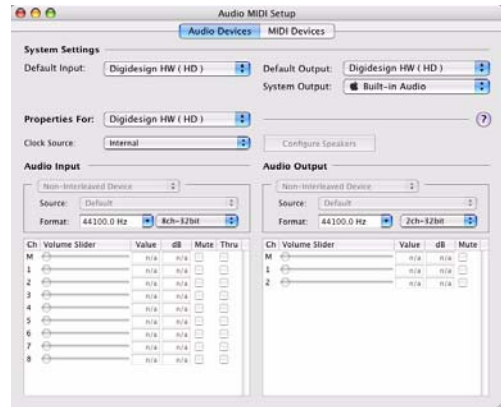
Sound Preferences, Input settings

- Quit System Preferences.

Apple Audio MIDI Setup

To configure the Apple Audio MIDI Setup:

- Launch Audio MIDI Setup (located in Home/Applications/Utilities).
- Click Audio Devices.



Apple Audio MIDI Setup application, Audio Devices settings

- From the System Settings Default Input pop-up menu, choose Digidesign HW.
- From the System Settings Default Output pop-up menu, choose Digidesign HW.

⚠ Leave System Output set to Built-in Audio. The Digidesign CoreAudio Driver cannot be used for system sounds.

5 In the Audio Input or Audio Output section, select the Format (sample rate). Note that the input sample rate and output rate are linked.



When Properties For Digidesign HW is selected, you can click the Configure Device button to open System Preferences, where the CoreAudio Manager can be accessed.



For information on configuring MIDI devices in AMS, see the Getting Started Guide for your Pro Tools system.

6 Choose Audio MIDI Setup > Quit Audio MIDI Setup.



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