



# Pro Tools® ISIS® Guide

Version 10.1

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# Chapter 1: Introduction

This guide explains how to connect and configure a Mac- or Windows-based system with Pro Tools® HD software as an ISIS® client within an Avid ISIS 7000 or 5000 system.



*Systems running non-HD Pro Tools software can also act as ISIS clients, but media streaming is not supported in this configuration.*

This guide also covers how to exchange audio and video media sequences between Pro Tools and Avid video application clients (such as Media Composer and Symphony) attached to an ISIS system.

This guide is written for ISIS administrators, Pro Tools users, and Avid users.

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## Avid ISIS Capabilities

Avid ISIS 7000 and 5000 are Ethernet-based shared storage systems that lets users of Pro Tools and Avid video editing applications share the same media as follows:

- Stream audio and video media in real time.
- Configure multiple streaming users on the same ISIS system.
- Share AAF and OMF sequences, and OMF and MXF audio and video media.
- Share AAF sequences and MXF media, using the Avid Interplay asset management system (Avid Interplay system required).

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## Avid Interplay

Avid Interplay with the Pro Tools Avid Interplay option lets users of Pro Tools and Avid video applications work within the same asset management system.



*For more information, refer to the Pro Tools Avid Interplay Guide.*

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## Overview of an ISIS System

This guide describes how to configure and work with a Pro Tools client within an Avid ISIS system. The ISIS installations addressed in this guide typically comprise the following components:

**ISIS System** Entire set of components within an individual ISIS installation.

**ISS/Ethernet Switch** Each ISIS crate has two built-in Ethernet connections known as ISS switches. You can also add external switches that connect to the built-in switches.

**System Director** One or more servers (including a backup server) that functions as the heart of the ISIS file system, by maintaining location information for media stored on drives.

**ISIS Crate** Chassis that contains the drives that store the actual data.

**Avid Interplay Transcode and/or Avid DMS ProEncode (Optional)** Engine that distributes processor-intensive tasks to network servers in order to allow ISIS clients to proceed without interruption.

**Avid Interplay Access/Assist (Optional)** Media asset management client application that enables facility-wide searching, sorting, cataloging, management, and retrieval of media.

**Avid Interplay Engine (Optional)** Server that manages the metadata stored on the System Director server.

**Clients** One or more Avid or Pro Tools workstations configured to be able to exchange data with other clients attached to the ISIS system.



*For more information on the architecture and administration of ISIS systems, see the applicable Avid ISIS guides.*

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## AAF, OMF, and MXF Basics

AAF and OMF files are mechanisms for storing and retrieving media data and metadata so that projects can be freely exchanged between different applications and platforms (such as between Pro Tools and Avid video editing applications).

Media data and metadata enable an application that receives AAF and OMF sequence files to automatically and quickly reassemble the composition. A simple metaphor for this approach is that media data files are the pieces of a puzzle and metadata is the set of instructions for assembling the puzzle.

In the simplest case, only an AAF or OMF sequence is exchanged. If this sequence points to existing media files, the size of the sequence file is relatively small and the export/import process is relatively fast.

AAF and OMF sequences can also have media data embedded in them. This creates a single, larger file that is slower to export and import, but which may be easier to manage than thousands of files stored on different volumes.

Pro Tools supports AAF and OMF sequences that contain embedded audio media.

Pro Tools does not support AAF or OMF sequences containing embedded video media, except if you are importing such sequences into a video satellite track. In such cases, video metadata is imported into the track.



*For the purposes of this user guide, AAF sequences are emphasized and referenced over the older OMF sequence standard.*

## MXF

MXF is a media file format. There are MXF video files and MXF audio files, but there are no “MXF sequences.” An AAF sequence may refer to or include MXF media files, but OMF sequences cannot refer to or include MXF files.

### Avid Video Editing Application Support for MXF Media

Media Composer® supports MXF media as follows:

- Create MXF media when capturing, transcoding, rendering, or using other methods to create media.
- Import of MXF media files created in other Avid video editing applications
- Export of MXF audio and video files

### Pro Tools Support for MXF Media

Pro Tools supports MXF media as follows:

- Import of MXF video and audio media
- Export of MXF audio media

Pro Tools cannot export Avid video files of any type.

Video files digitized in Pro Tools are technically of the MXF format, but are intended only for use in Pro Tools and are not tested for compatibility with other applications.

## AAF

AAF sequences are Avid video editing applications’ best way to exchange projects and maintain valuable metadata. An AAF sequence can refer to OMF and/or MXF media files, or have OMF and MXF media files embedded within them. There is no such thing as an AAF audio or video media file.

### Avid Video Editing Application Support for AAF Sequences

Media Composer supports AAF sequences as follows:

- Import and export of AAF sequences with embedded video files (MXF or OMF) and/or audio files (MXF, WAV, or AIFF)
- Import and export of AAF sequences that refer to external (linked) video files (MXF or OMF) and/or audio files (MXF, WAV, or AIFF)

### Pro Tools Support for AAF Sequences

Pro Tools supports AAF sequences as follows:

- Import and export of AAF sequences that contain embedded or refer to external (linked) MXF, WAV, or AIFF audio files
- Import of AAF sequences that refer to external (linked) MXF or OMF video files
- Video satellite systems only: Import of AAF sequences containing embedded video to a satellite track, in which case Pro Tools imports only the metadata (cuts and external clip names) and not the video

Pro Tools does not export video files, tracks or metadata as part of AAF sequences.

## OMF

OMF is both a media file and sequence format. OMF media files can be audio or video.

### Avid Video Editing Application Support for OMF Media and Sequences

Media Composer supports OMF media and sequences as follows:

- Import and export of OMF sequences with embedded OMF video files and WAV or AIFF audio files
- Import and export of OMF sequences that refer to external (linked) OMF video files and WAV or AIFF audio files


### Pro Tools Support for OMF Media and Sequences

Pro Tools supports OMF media and sequences as follows:

- Import of OMF video files created by Media Composer or other Avid video editing applications
- Export of OMF audio files
- Import and playback of OMF sequences that refer to external (linked) audio files or contain embedded audio files
- Import and playback of OMF sequences that refer to external (linked) OMF video files
- Export of OMF sequences that refer to external (linked) audio files or contain embedded audio files
- Pro Tools does not export video files, tracks or metadata as part of OMF sequences

## Embedded Media

Exporting to OMF or AAF with embedded media results in one large OMF or AAF file containing both the metadata and all associated media files. However, it is important to note that file size is limited to 2 GB when exporting to OMF.

 *Pro Tools can output AAFs larger than 2 GB. In Media Composer, the AAF Edit Protocol setting must be checked during export to allow AAF files larger than 2 GB.*



## Media Data (Media Files)

Media data represents raw audio or video material and is stored in individual media files. Every time you record a piece of video or audio material into an application, you are creating a media file containing media data. Audio media data is stored as samples (such as 44,100 or 48,000 samples per second of recording) while video media is typically stored as frames (24, 25, or 30 frames per second of recording).

The size of each media file depends on how much audio or video material it contains. For example, if you record ten minutes of continuous video material at a high resolution, you might end up with a video media file that is 1.8 GB in size, whereas a one minute recording at the same resolution might result in a 180 MB file. Media files tend to be large, since high quality audio and video signals are data intensive. Video data generally requires considerably more storage than audio data.

**MXF Media Data Locations** On the volumes you have designated for media storage, Media Composer stores all MXF media:

- When stored locally, MXF media is placed in the *Avid MediaFiles/MXF/1* folder. Media Composer can also read MXF media located at *Avid MediaFiles/MXF/2*, *Avid MediaFiles/MXF/3*, and so on.
- When stored in a shared environment, MXF media is placed in a folder called *Avid MediaFiles/MXF/client.1* (where *client* represents the name of the client computer).

This guide refers to the root folder name (*Avid MediaFiles*) whenever referencing this folder.

**OMF Media Data Locations** On the volumes you have designated, Media Composer stores all OMF media in the *OMFI MediaFiles* folder.

## Metadata

Metadata is used to describe:

- Information about each media file. This may include sample rate, bit depth, external names, the name of the videotape from which the media file was captured, and even timecode values that specify where a file was used in a Pro Tools session.
- Information about Pro Tools sessions or other sequences, including what files are used, where they appear in a Timeline, and automation.
- For AAF or OMF sequences, metadata also includes information about unrendered AudioSuite effects (such as real-time EQ) on Avid workstations. Pro Tools skips unrendered effects on import. Rendered effects are media files, that can be imported or skipped on import into Pro Tools.
- For AAF or OMF sequences, information about automation (clip-based gain or volume automation data).

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## Embedded Media and Linked Media

There are two ways to handle media files when exporting AAF or OMF files:

- Embedded media (in which the media files are embedded in an AAF or OMF sequence)
- Linked media (in which media files are referenced by an AAF or OMF sequence)

Pro Tools lets you import AAF or OMF sequences containing embedded audio files. You can also import AAF or OMF sequences containing embedded video files, but only if you are importing them to a video satellite track. In such a case, only the video metadata is imported.

# Frame-Rate Accurate Video Editing and Sample-Rate Accurate Audio Editing

Avid video editing applications edit with frame accuracy. This means that in a 30-fps project, you can edit at 30 different locations for every one second of video. Pro Tools edits with sample rate accuracy. In a 48-kHz session, there are potentially 48,000 locations to edit for every second of audio.

When Pro Tools exports an AAF composition destined for an Avid video editing application, it must ensure that the audio files line up on frame boundaries. To do this, it might have to split an existing audio clip into three separate clips. For

example, the following illustration shows a 5-frame video clip and a corresponding audio clip. In Pro Tools, the audio clips might not line up on video frame boundaries.

In order to export frame accurate audio clips, Pro Tools splits the audio media on frame boundaries and fills any gaps with silence. The following illustration shows the resulting audio clips that are exported to Avid.

When you use Export Selected Tracks as OMF/AFF to export tracks from Pro Tools with Enforce Avid Compatibility enabled, a number of additional media files labeled Sample Accurate Edit appear in the Avid bins. These are the additional media files that Pro Tools creates to ensure that the Avid editing application receives frame-accurate audio. You also see the sample-accurate edit media files if you zoom in on the imported audio in the Timeline.

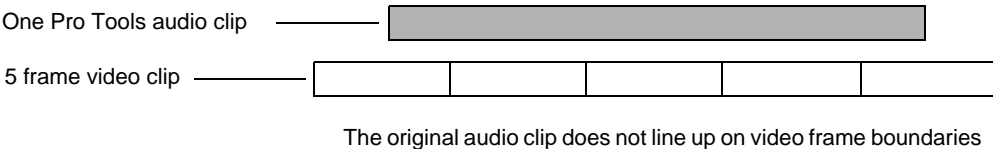


Figure 1. Original audio clip

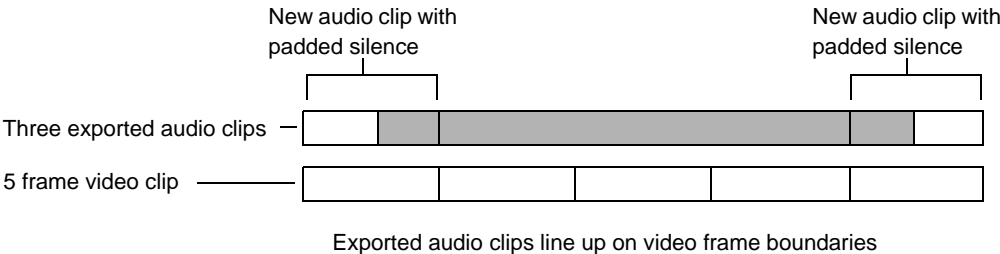


Figure 2. Exported audio clip

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## System Requirements

Using Pro Tools within an ISIS system requires the following:

### ISIS 7000

- Windows 7
- Mac OS X
- Pro Tools HD software
- An available expansion slot for a Gigabit Ethernet (Gig-E) based host bus adapter (HBA), and Gig-E Ethernet-based connectivity to the Avid ISIS server



*Some configurations can use a computer's built-in Ethernet port. For more information, see "Avid ISIS 7000 Requirements with Pro Tools" in the Pro Tools Knowledge Base. You can reach the Knowledge Base by clicking Help > Pro Tools Knowledge Base in Pro Tools, or at [www.avid.com/support](http://www.avid.com/support).*

- ISIS client installation software

### ISIS 5000

- Windows 7
- Mac OS X
- Pro Tools HD software
- An available expansion slot for a Gigabit Ethernet (Gig-E) based host bus adapter (HBA), and Gig-E Ethernet-based connectivity to the Avid ISIS server



*Some configurations can use a computer's built-in Ethernet port. For more information, see "Avid ISIS 5000 Requirements with Pro Tools" in the Pro Tools Knowledge Base. You can reach the Knowledge Base by clicking Help > Pro Tools Knowledge Base in Pro Tools, or at [www.avid.com/support](http://www.avid.com/support).*

- ISIS client installation software

## Compatibility Information

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

For complete system requirements, configuration details, and a list of qualified computers, operating systems, hard drives, and third-party devices, visit:

[www.avid.com/compatibility](http://www.avid.com/compatibility)

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## About Avid ISIS Guides

PDF versions of Avid Read Mes are installed automatically with Avid ISIS software. Also, searchable online help files containing the same information are accessible from the Help menus in the Interplay Access and Interplay Administrator applications.

You can use any of the following guides as supplementary information for this guide:

- The *Avid ISIS 7000 System Setup Guide* and *Avid ISIS 5000 System Setup Guide* describe how to connect cables between components that create a basic system and then how to connect more than one basic system together to create a larger, redundant system.
- The *Avid ISIS 7000 Client Manager User's Guide* and *Avid ISIS 5000 Client Manager User's Guide* provide information for the setup and installation of the ISIS Client Manager software and related hardware components.
- The *Avid Site Preparation Guide* contains information that helps you prepare your site for installing ISIS system hardware.

- The *Avid ISIS 7000 Administration Guide* and *Avid ISIS 5000 Administration Guide* are intended for system administrators responsible for the setup and day-to-day management of an Avid ISIS media network, as well as for users who need to access workspaces on the network.

These guides and other ISIS guides are available on the Avid ISIS Online Library DVD and on the Avid Knowledge Base. You can reach the Knowledge Base by clicking Help > Pro Tools Knowledge Base in Pro Tools, or at [www.avid.com/support](http://www.avid.com/support). To view or print PDF guides, you can use Adobe Reader.

## About the Pro Tools Avid Interplay Guide

The *Pro Tools Avid Interplay Guide* describes how to set up Pro Tools as a client within an Avid Interplay system, as well as use Pro Tools and Interplay to exchange sequences between Avid and Pro Tools users.

## Support for Avid ISIS

For support on Avid ISIS, visit Avid's Knowledge Base. You can reach the Knowledge Base by clicking Help > Pro Tools Knowledge Base in Pro Tools, or at [www.avid.com/support](http://www.avid.com/support). Online services are available 24 hours per day, 7 days per week.

Search this online Knowledge Base to find answers, to view error messages, to access troubleshooting tips, to download updates, and to read or join online message-board discussions.

For support on Pro Tools HD, see "About [www.avid.com](http://www.avid.com)" on page 9.

## Conventions Used in This Guide

Pro Tools guides use the following conventions to indicate menu choices and key commands:

Convention	Action
File > Save	Choose Save from the File menu
Control+N	Hold down the Control key and press the N key
Control-click	Hold down the Control key and click the mouse button
Right-click	Click with the right mouse button

The names of Commands, Options, and Settings that appear on-screen are in a different font.

The following symbols are used to highlight important information:



*User Tips are helpful hints for getting the most from your system.*



*Important Notices include information that could affect your data or the performance of your system.*



*Shortcuts show you useful keyboard or mouse shortcuts.*



*Cross References point to related sections in this guide and other Avid guides.*

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## About [www.avid.com](http://www.avid.com)

The Avid website ([www.avid.com](http://www.avid.com)) is your best online source for information to help you get the most out of your Pro Tools system. The following are just a few of the services and features available.

**Product Registration** Register your purchase online.

**Support and Downloads** Contact Avid Customer Success (technical support); download software updates and the latest online manuals; browse the Compatibility documents for system requirements; search the online Knowledge Base or join the worldwide Pro Tools community on the User Conference.

**Training and Education** Study on your own using courses available online or find out how you can learn in a classroom setting at a certified Pro Tools training center.

**Products and Developers** Learn about Avid products; download demo software or learn about our Development Partners and their plug-ins, applications, and hardware.

**News and Events** Get the latest news from Avid or sign up for a product demo.



# Chapter 2: Configuring a Workstation as an ISIS Client

This chapter describes how to install and configure an individual Pro Tools workstation as a client of an Avid ISIS system.

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## Installation Overview

Installing the hardware and software involves the following process:

- 1 Make sure the Pro Tools software is installed on the workstation.
- 2 If your computer requires an added Ethernet card, install the ISIS client hardware.
- 3 Do one of the following:
  - If using ISIS 7000, install the ISIS client software for Zone 1 or Zone 2 clients.
  - or –
  - If using ISIS 5000, install the ISIS client software for Zone 1, Zone 2, Zone 3, or Zone 4 clients.

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## Workstation Configuration Requirements

Before configuring a workstation as a client of an ISIS system, obtain from your ISIS administrator (and make a note of) the following information for the ISIS system to which you are connecting your clients:

- IP address
- Subnet Mask
- Default Gateway

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## Installing Pro Tools

If you are configuring a Pro Tools workstation as an ISIS client, ensure that Pro Tools hardware and software are properly installed. For detailed information, see the *Pro Tools Installation Guide*.

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## Avid ISIS Client and Zone Descriptions

All clients in the system are classified by zones, depending on how they connect to the network. The following list defines the clients in each network layer by its zone classification:

**Zone 1 Client** Connected to ISIS VLANs via an ISS 1 Gb port (direct connection)

**Zone 2 Client** Connected to ISIS VLANs via a 1 Gb port on an Avid qualified layer-3 switch (non-routed)

**Zone 3 Client (ISIS 5000 only)** Connected to an Avid qualified Layer-3 Switch (Router) with known QoS (normally 1Gbps)

**Zone 4 Client (ISIS 5000 only)** Connected to a non-Avid qualified switch with unknown QoS



*Clients can run in any lower-numbered zone. For example, a Zone 2 client can also run as a Zone 1 client.*

---

## Mac ISIS Connection

Avid ISIS supports Mac clients on the media network with Zone 1 through Zone 4 connections. You can use any of the onboard Ethernet ports on the Mac system to connect to the media network.

Some firewall settings on Mac clients prevent you from connecting to the Avid ISIS environment when enabled. You might receive an error message informing you that no System Directors were found and that the problem might be the firewall settings. If you encounter problems, contact your network admin.

---

## Installing the ISIS Client Hardware on a Windows CPU

On some Windows CPUs, an Ethernet card is required for connection to Avid ISIS. For more information, see *Avid ISIS 7000 Requirements with Pro Tools* or *Avid ISIS 5000 Requirements with Pro Tools* at the Avid Knowledge Base. You can reach the Knowledge Base by clicking Help > Pro Tools Knowledge Base in Pro Tools, or at [www.avid.com/support](http://www.avid.com/support).

### To install the Intel PRO/1000 MT or Intel PRO/1000 PT card:

- 1 Insert the Intel PRO/1000 MT or PRO/1000 PT card into your workstation and connect it to an ISS switch.
- 2 Install the Intel PRO/1000 MT or PRO/1000 PT driver.

## Inserting the Intel PRO/1000 MT or PRO/1000 PT Ethernet Card into a Workstation

The Avid ISIS client hardware consists of one Ethernet cable (rated CAT 5e or higher) and a single qualified Ethernet HBA (Host Bus Adapter), such as the Gig-E Intel PRO/1000 MT or PRO/1000 PT. You must purchase Ethernet cables separately.



*For a complete list of qualified host bus adapters, consult Avid support.*

### To insert the HBA Ethernet card into a Pro Tools workstation:

- 1 Shut down and power off your computer and expansion chassis (if one is present).
- 2 Open your computer according to the instructions included with it.



- 3 Release any static electricity by touching the power supply, or another grounded item.
- 4 Remove the Ethernet card from the antistatic bag, being careful to handle it only by the edges.

Determine the correct card slot order: See *Avid ISIS 7000 Requirements with Pro Tools* or *Avid ISIS 5000 Requirements with Pro Tools* at the Avid Knowledge Base. You can reach the Knowledge Base by clicking Help > Pro Tools Knowledge Base in Pro Tools, or at [www.avid.com/support](http://www.avid.com/support).

- 5 Line up the Ethernet card with the installation slot, and slide the card into place gently so the PCIe connector is aligned with the correct PCIe slot.
- 6 Press down firmly on the card with even pressure. The connector should click into place in the PCIe slot.
- 7 To attach the card bracket to the computer mounting bracket, fasten the card in place using a screw or latch down the securing bracket if one is built in.

**To connect an installed Intel PRO/1000 PT or PRO/1000 PF card to the ISS (ISIS switch):**

- 1 Plug one end of an Ethernet cable into the Intel PRO/1000 PT or PRO/1000 PF card's Ethernet port.
- 2 Connect the other end of the Ethernet cable to the ISS (ISIS Switch).



*For more information, see the Avid ISIS Client Setup and Installation Guide.*

## Installing the Intel PRO/1000 MT or PRO/1000 PT Driver

Once the Intel Ethernet card is physically installed in your computer, you must install the appropriate driver.

If your system has a DVD drive, you can install it directly from the Avid ISIS DVD. If you do not have a DVD drive, you need to use another means (such as a network connection) to transfer the necessary driver from the Avid ISIS DVD to your system.

**To install the Intel Ethernet card driver:**

- 1 If you did not restart the system after installing Intel PRO/1000 MT or PRO/1000 PT Ethernet card, do so now.

After you restart your system, the following message appears: "Looking for the Intel PRO/1000 MT (or PT) driver."

- 2 Cancel the message.
- 3 Insert the DVD into the DVD drive.
- 4 On the DVD, navigate to the following folder: Tools\_and\_Thirdparty\_Software/Drivers\_and\_Firmware.
- 5 In the Drivers\_and\_Firmware folder, copy the Intel\_MT\_Server\_NIC or Intel\_PT\_Server\_NIC folder to the desktop of your system.
- 6 Navigate to the Intel\_MT\_Server\_NIC or Intel\_PT\_Server\_NIC folder on your desktop, and go to Driver/Intel NIC 10.0 Avid.
- 7 Double click the Auto-run.exe file.

An Installer window opens.

- 8 Click Install Drivers.
- 9 A message window appears stating that the drivers and other files that are needed are being installed. This may take some time to complete. When the message window closes, the installation is complete.
- 10 Set the IP address of the board to allow you to communicate with the Avid ISIS system.

## Connecting an Intel PRO/1000 MP or PT Ethernet Card to an Avid ISIS System

The Intel PRO/1000 MT or PT Ethernet card is a dual port card that allows you to use dual-attached redundancy for the client. (You can also configure your network as a single-connect sys-

tem.) Figure 3 shows a sample system connected in Zone 1 and Zone 2 configurations and the on-board Ethernet connection that is physically connected to the corporate network.

**A** *Pro Tools clients connected to an ISIS 7000 network are not supported in a Zone 3 environment.*

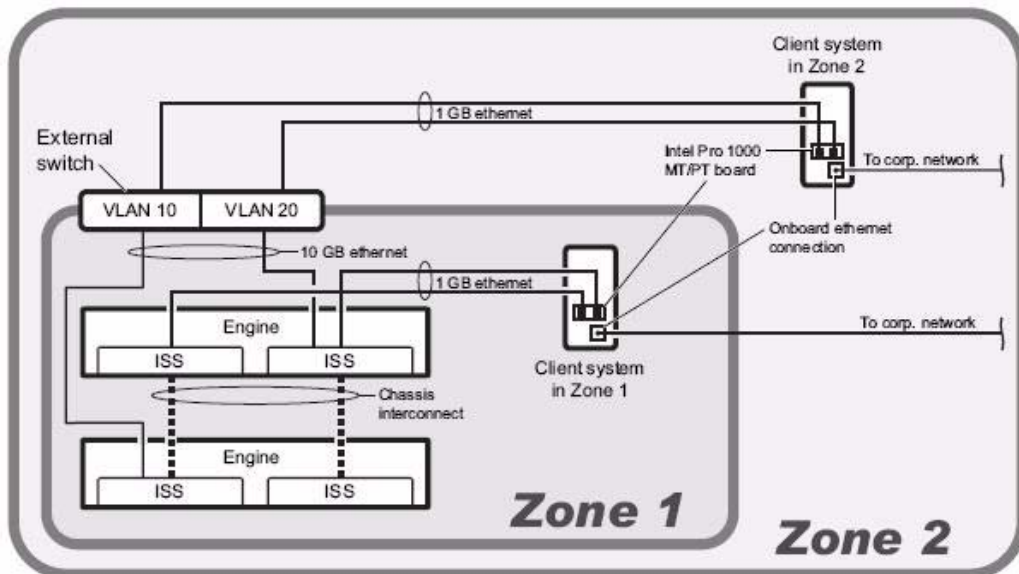



Figure 3. Connecting an Intel PRO/1000 Ethernet card to an Avid ISIS system

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## Configuring Windows 7 Network Profiles

### (Windows 7 Only)

Network profiles are used by Windows 7 to distinguish between Public, Private, and Domain network connections. Because each network profile uses its own security settings, you must configure the Client Manager settings so that the appropriate ports are opened for each applicable network profile on your system.

 *You only need to configure Client Manager settings for the network profiles that are connected to your ISIS system. If you are unsure which network connections are used with your ISIS system, see your network administrator.*

#### To configure the Client Manager settings for Windows 7 network profiles:

1 Verify which network connection profile(s) are used to connect to your ISIS system by doing the following:

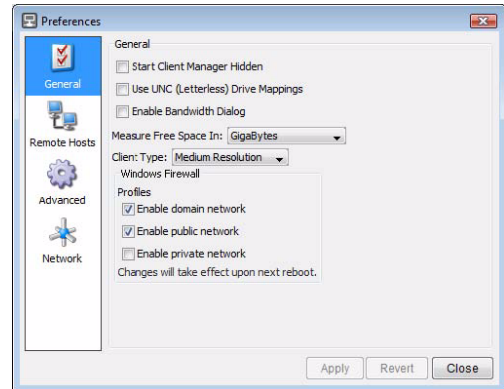
- Click Start > Network. The Network window opens.
- or –
- Click Network and Sharing Center. The Network and Sharing Center window opens.

The Network and Sharing Center window lists the network connections present on your system and which network profile has been applied to them.

Once you have determined which network profile has been applied to the connection(s) to your ISIS system, you can go to the next step.


2 Start Client Manager software and open the Preferences window.

3 The preferences window opens, and the General section is displayed by default.



Client Manager Preferences window

4 In the Profiles section, click the checkbox next to each applicable network profile type to enable firewall configuration.

 *You only need to enable firewall configuration for the network profiles that are connected to your ISIS system.*

5 Click Apply.

6 Click Close.

7 Restart your Windows 7 system for the firewall configuration to take effect.

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## Client Software Installation

When working with an Avid ISIS system, it's necessary to have the correct ISIS client software installed on your Pro Tools system. For information on installing, uninstalling, and upgrading ISIS client software, see the *Avid ISIS 7000 Client Guide* or the *Avid ISIS 5000 Client Guide*.

## Additional Installation Details

The following sections contain additional information about installing the client software on your system.

### Client Licensing

Any client that connects to an Avid ISIS 7000 or 5000 system must be included in the System Director dongle count for your media network. There is no need to order special licenses for each client. If you are not certain about your license status, see your Avid ISIS administrator.

### Saving User Client Manager Settings

The Avid ISIS installer DVD includes a utility that saves your Avid ISIS Preferences settings when upgrading from an earlier version or when reinstalling your client application. This utility is run on the Avid ISIS clients and saves the settings file on the client's C:\ drive in the location used by Client Manager software. Depending on the version of your Avid ISIS application, you might have to run this utility to save your client preferences when upgrading software. See the *Avid ISIS 7000 ReadMe* or *Avid ISIS 5000 ReadMe* for information on which software versions require you to run the utility.

If you have preferences set (such as Client Type set to High Resolution or a Remote Host setting) and you want them to be automatically preserved in the upgrade, then you must run this utility prior to upgrading to the latest version. If you do not run the utility, you must manually reenter any preference settings after the update completes.

#### To run the utility:

**1** Insert the Avid ISIS installer DVD in the Avid ISIS client's DVD drive and double-click SaveISISPreferences.exe located in the following location.

DVD drive:\AvidISISClient

You can also copy this utility to the client and run it from there (for example from the desktop). If your client's computer uses a 64-bit operating system, use the utility in the following location:

DVD drive:\AvidISISClient64 folder.

**2** After the utility is finished, close all open applications.

**3** Uninstall the previous version of the Avid ISIS software.

**4** Install the new Avid ISIS software as described the *Avid ISIS 7000 Setup Guide* or *Avid ISIS 5000 Setup Guide*.

Your new Preferences settings are set as they were in the previous version.

# Chapter 3: Using a Client in an ISIS System

This chapter includes setup instructions and configuration parameters for each workstation you add as an ISIS client.

---

## About Avid ISIS Client Manager

Avid ISIS Client Manager allows your client to connect to the Avid ISIS system. Once installed, the Client Manager runs in the background so you can mount and access your workspaces at any time, as well as manage your workspaces and bandwidth reservations.

Client Manager displays an icon in the Windows Taskbar. When logged in, the Client Manager displays all available System Directors and all available workspaces.

The Client Manager allows users with the necessary account privileges to resize workspaces, to protect and unprotect workspaces, and to specify client bandwidth reservations, if any.

---

## Connecting to the Avid ISIS System

The Client Manager automatically checks for all System Directors available in the Avid ISIS system. You can use the Client Manager to connect to the network and optionally reconnect automatically when you reboot your system.

## Opening the Client Manager

**To connect to the Avid ISIS network via the Client Manager:**

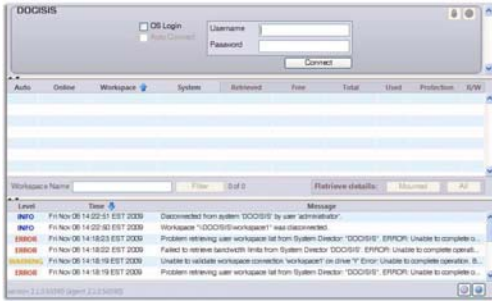
**1** On Windows, do one of the following:

- If the Client Manager icon is not available in the Windows taskbar, select Start > All Programs > AvidISIS > ClientManager.
- Click the Client Manager icon in the Windows taskbar.
- Right-click the Client Manager icon and select ISIS Client Manager.

**2** On Mac, do one of the following:

- Double-click the Client Manager alias icon on the desktop, or double-click the Client Manager alias icon in the dock.
- or –
- If the Client Manager alias icon is not available, select Go > Applications, and then double-click the AvidISIS folder. In this folder, double-click the ClientManager file.

3 In the Avid ISIS Client Manager, click Connections.



Client Manager window

The Connections list displays all available System Directors.

4 Select the System Director you want to connect to from the Connections list.

5 On Windows, do one on the following:


- Type your account name in the Username text box, and type your password in the Password text box.
- or –
- If your ISIS system is configured to use the Windows user name and password for your local system, select OS Login. By default, the Username and Password text boxes are inactive when you select this option.

6 On Mac, type your Avid ISIS account name in the Username text box, and type your password in the Password text box.

4. Click the Connect button. When the connection is successful, the following occurs:


- The Connect button changes to Disconnect when the connection is complete.
- The Change Password and Launch Management Console buttons become active.

7 (Option — Windows only) If you used the OS Login option, and you want to connect to the network automatically every time you start your system, select the Auto-Connect option.

 For more information on connecting to the media network, see your ISIS Client Guide.

## Changing Your Password

You can use the Client Manager to change the password you use to log on to your Avid ISIS user account.

 *If your username and password are different for your client system and your Avid ISIS account, your system cannot automatically reconnect to the ISIS system when you restart your system.*

**To change your Avid ISIS account password:**

1 Open the Client Manager (see “Connecting to the Avid ISIS System” on page 17).

2 Log into the ISIS system for which you want to change your password, if you are not already.

3 Click the Change Password icon. The Changing Password dialog opens.

4 In the Changing Password dialog, do the following:

- Type your existing password in the Old Password field.
- Type your new password in the New Password field.
- Type the new password a second time in the Confirm New Password field.

5 Click OK.

## Accessing Client Manager Help

The Client Manager Help provides background information for tasks, windows, and dialogs. The Help system is HTML-based and operates in your default Web browser.

### To open the Client Manager help:

- In the Menu panel, click Help.

---

## Mounting and Unmounting Workspaces

Your Avid ISIS user account must have access to at least one workspace. For information on workspace access, see your *Avid ISIS Administration Guide*.

When you have one or more workspaces mounted and the connection to the System Director is subsequently lost, a message in the taskbar (for Windows systems) or the dock (for Mac systems) indicates the workspace is unavailable.

The Client Manager then automatically attempts to reestablish the connection with the System Director. When the connection is successfully reestablished, a message in the taskbar or dock informs you of the connection state.

For information on opening the Client Manager, see “Connecting to the Avid ISIS System” on page 17.

### To mount an Avid ISIS workspace on your system:

**1** Open the Client Manager. The Workspaces list opens. The Online field displays a green ball for workspaces that are already mounted. You can filter the Workspaces list by Workspace name.

**2** Do one of the following:

- Click (mount) in the Online column for the selected workspace.
- Click to select a workspace, then Right-click, and select Mount.
- (Option) Right-click, and select “Mount to drive” from the menu.



*Selecting this option will override the current drive mapping option settings for the selected workspace. For more information on drive letter assignments, see “Configuring Workspace Drive Letter Assignments” on page 21.*

The Client Manager mounts the selected workspace on your client and the Online icon for the mounted workspace changes to green. The Workspaces list displays the drive the workspace is mounted to. If you use letterless drive mappings, the Workspaces list displays “UNC path” next to the Online icon.

**3** (Option) If you want the selected workspace remounted the next time you log in, do one of the following:

- Click (enable) in the Auto column for the mounted workspace.
- or –
- Right-click, and select Enable auto mount.

The next time you log in to your client system, the Client Manager automatically mounts the selected workspace.

**To mount multiple Avid ISIS workspaces on your system:**

**1** Open the Client Manager.

The Workspaces list opens. The Online field displays a green ball for workspaces that are already mounted. You can filter the Workspaces list by Workspace name.

**2** Do one of the following:

- Select multiple non-contiguous workspaces with Control+click.
- Select a range of contiguous workspaces by clicking on the first workspace row in the range, then Shift+clicking on the last.
- Select all workspaces by right-clicking in the Workspaces list and selecting **Select all**.
- Select all workspaces by pressing Control+A.

**3** Right-click, and select **Mount**.

The Client Manager mounts the selected workspaces on your client and the Online icons for the mounted workspaces change to green. The Workspaces list displays the drives the workspaces are mounted to. If you use letterless drive mappings, the Workspaces list displays “UNC path” next to the Online icons.

**4** (Option) If you want the selected workspace remounted the next time you log in, right-click, and select **Enable auto mount**.

The next time you log in to your client system, the Client Manager automatically mounts the selected workspace.

**To unmount an Avid ISIS workspace on your system:**

**1** Make sure your Avid video editing application is not running.

**2** Open the Client Manager.

The Workspaces list opens. The Online field displays a green ball for workspaces that are already mounted. You can filter the Workspaces list by Workspace name.

**3** Do one of the following:

- Click the green icon in the Workspaces list to unmount the selected workspace.
- or –
- Click to select a workspace, then right-click, and select **Unmount**.

The Client Manager unmounts the workspace from your client, and the green icon is removed from the Online field for this workspace.



**To unmount multiple Avid ISIS workspaces on your system:**

1 Make sure your Avid video editing application is not running.

2 Open the Client Manager.

The Workspaces list opens. The Online field displays a green ball for workspaces that are already mounted. You can filter the Workspaces list by Workspace name.

3 Do one of the following:

- Select multiple non-contiguous workspaces with Control+click.
- Select a range of contiguous workspaces by clicking on the first workspace row in the range, then Shift+clicking on the last.
- Select all workspaces by right-clicking in the Workspaces list and selecting **Select all**.
- Select all workspaces by pressing Control+A.

4. Right-click, and select **Unmount**.

The Client Manager unmounts the workspaces from your client, and the green icons are removed from the Online field for those workspaces.

For more information on mounting workspaces, see your *ISIS Client User Guide*:

## Configuring Workspace Drive Letter Assignments

The Client Manager allows you to configure the drive letter used when mounting Avid ISIS workspaces. This allows you to prevent workspaces from being assigned drive letters you want reserved for other uses.



*The Client Manager skips fixed drives and drive letters that are already in use.*

If your system requires using Universal Naming Convention (UNC) paths for all mounted workspaces rather than drive letters, you can use Client Manager to set this as the default mapping for workspaces.

**To configure the drive letter for mounting workspaces:**

1 Open the Client Manager.

2 Select a workspace from the Workspace list.

3 Right-click the selected workspace, and select **Mount to drive** from the menu. The **Mount To** dialog opens.

4 Click the **Choose drive letter** menu, and select the drive letter you want to use for mounting workspaces.

**UNC (Letterless)** Uses a Universal Naming Convention (UNC) path for the mounted workspace instead of a drive letter.

**Any drive** Mounts the workspace to the next available drive letter, working backward from drive Z:

**Specific drive** Mounts the workspace to the selected available drive letter.

5. Click **OK**.

## Using the Workspace Display

The Workspaces list provides basic information about each mounted workspace, including the following:

- All available workspaces
- System Director name
- Workspace name
- Drive letter for the mounted workspace
- Connection status (connected, unconnected, or automounted)
- Used space (as a percentage of available capacity)
- User privileges for the workspace (read, read/write)
- Free space (in gigabytes)
- Protection status
- Workspace capacity (in gigabytes)
- System capacity (in terabytes)

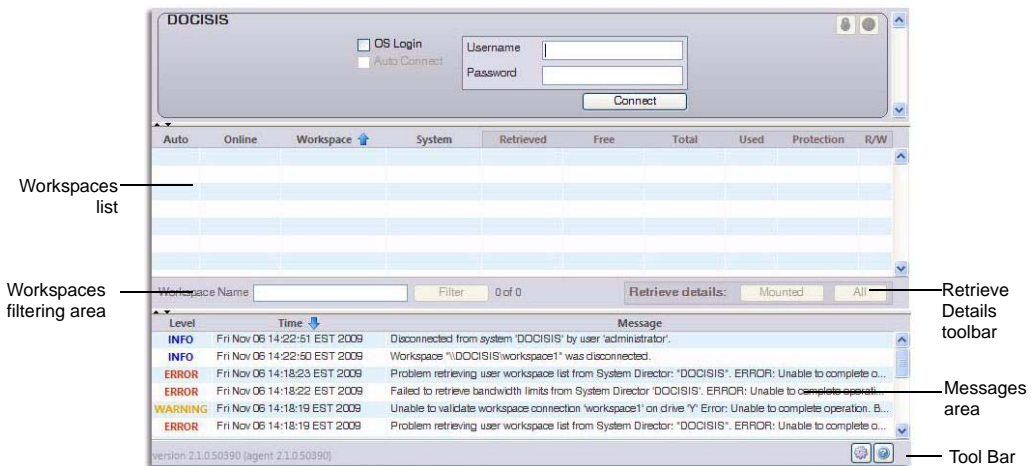


Figure 4. Client Manager (Workspace display)

## Retrieving Workspace Details

When you connect to an ISIS system, only the workspace names are displayed; you need to retrieve additional workspace details manually. You do not have to mount a workspace to retrieve its details.

### **To retrieve details for one or more selected workspaces:**

- 1 Do one of the following:
  - Select a single workspace by clicking on a workspace row.
  - Select multiple non-contiguous workspaces with Control+click.
  - Select a range of contiguous workspaces by clicking on the first workspace row in the range, then Shift+clicking on the last.
- 2 Right-click in the Workspace list, and select Retrieve details. Additional details are retrieved for the selected workspaces.

### **To retrieve details for all mounted workspaces, do one of the following:**

- In the Retrieve Details area, click Mounted.
  - or –
- Right-click in the Workspace list, and select Retrieve mounted details.

Additional details are retrieved for all mounted workspaces.

### **To retrieve details for all workspaces, do one of the following:**

- In the Retrieve Details area, click All.
  - or –
- Right-click in the Workspace list, and select Retrieve all details.

Additional details are retrieved for all workspaces.

## Sorting the Display

If the Workspaces list contains a large number of workspaces, you might want to sort the items in the list.

### **To sort the Workspaces list:**

- 1 Click on a field heading that you want to sort. A blue arrow appears next to the field heading.
- 2 Click the field heading again to reverse the sort order.

## Filtering the Display

If the Workspaces list contains a large number of workspaces, you might want to filter the items in the list.

### **To filter the Workspaces list:**

- 1 Type part or all of a workspace name in the Workspace Name field.
- 2 Click the Filter button.

The Workspaces list updates to display the workspace names that match the text entered.

### **To display all Workspaces:**

- Delete the text in the Workspace Name field.

The Workspaces list updates to display all available Workspaces.



*After you clear the Workspace name filter, you have to manually retrieve details from the selected workspaces.*

## Configuring Workspace Drive Letter Assignments

The Client Manager allows you to configure the drive letter used when mounting Avid ISIS workspaces. This allows you to prevent workspaces from being assigned drive letters you want reserved for other uses.

**⚠** *The Client Manager skips fixed drives and drive letters that are already in use.*

If your system requires using Universal Naming Convention (UNC) paths for all mounted workspaces rather than drive letters, you can use Client Manager to set this as the default mapping for workspaces.

### To configure the drive letter for mounting workspaces:

- 1 Open the Client Manager (see “Connecting to the Avid ISIS System” on page 17).
- 2 In the Menu panel, click Workspaces.
- 3 Click the Fast menu, and select Mount To.
- 4 In the Mount To dialog, click the Choose drive letter menu, and select the drive letter you want to use for mounting workspaces.
- 5 Click OK.


## Testing Your Avid ISIS Connection

### (Windows Systems Only)

Before you begin using the Avid ISIS system, you should test the connection to your workspace to make sure communication between your client system and the ISIS system is sufficient for the functionality needed by your system. You can use the Avid PathDiag tool, which installs with your client software, to test the read/write throughput (the rate that read and write operations are conducted between your client system and a mounted workspace).

### Starting the Avid PathDiag Tool

The Avid PathDiag tool is a diagnostic utility that allows you to validate your Avid ISIS connection by quantifying the throughput of Windows editing applications accessing Avid ISIS workspaces.

 *For detailed information on the PathDiag tool, see the Avid ISIS Client Manager User's Guide.*

### To start Avid PathDiag tool:

- Choose Start > All Programs > Avid ISIS > PathDiag.



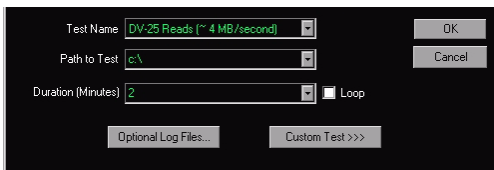
PathDiag tool

## Setting Up a Test

To test the general status of your connection to the ISIS system, you need to configure a custom test.

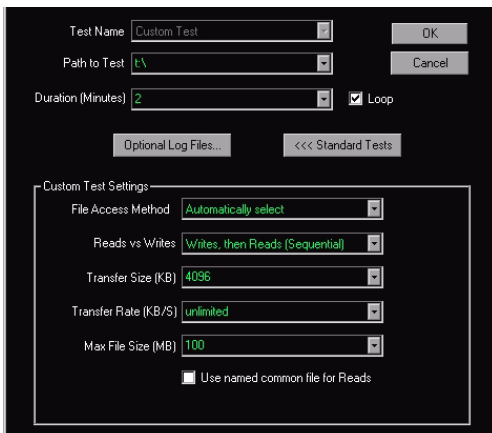
**To access the custom test settings options:**

- 1 Start the PathDiag tool (see “Starting the Avid PathDiag Tool” on page 24).
- 2 Click the Setup button.
- 3 In the PathDiag tool Settings dialog, click Custom Test.



*PathDiag tool Settings dialog*

The dialog expands to display the Custom Test Settings area.



*PathDiag tool Settings dialog (Custom Area)*

- 4 In the Custom Test Settings area, adjust the custom test parameters as follows:

**Path to Test** Select a drive with a mapped Avid ISIS workspace

**Duration (Minutes)** Select 2.

**Loop** Select this option if you want the test to repeat the test indefinitely after its duration is complete.

**File Access Method** Select Automatically select.

**Reads vs. Writes** Select Writes, then Reads (Sequential).

**Transfer Size (KB)** Select 4096 for an Avid editing application (such as Avid Media Composer or Media Composer) or Pro Tools using video. Select 1024 for other Avid applications or Pro Tools using audio only.

**Transfer Rate (KB/S)** Select Unlimited.

**Max File Size (MB)** Select 100.

- 5 Click OK.

## Running the Test

You can start and stop the currently configured test using the Start and Stop buttons.

### To start the currently configured test:

- Click Start in the PathDiag tool main window.

The test runs for the specified duration and then stops automatically. The elapsed time a test has been running and the remaining time are displayed in the Control area.

The following list indicate the results that reflect an optimal connection for a Pro Tools ISIS system:

- Average Read: 60–70 MB/seconds
- Average Write: 70–80 MB/seconds
- Peak Read: less than 5 MS/100
- Peak Write: less than 5 MS/100

In addition, results should plot along a smooth, stable line in the Test Results graph, and they should not have peaks or spikes that indicate variable performance within the ISIS system.

In Figure 5, which shows a healthy read/write test, the test loops so that the Read results and Write results fall to zero as the test alternates between Reads and Writes. However, Reads and Writes plot consistently in the Test Results graph and appear level over the course of the test.



Figure 5. PathDiag tool Settings dialog (Healthy read/write test)

In Figure 6, which shows problems in the connection to the workspace, the average Read level and Recent Read level display fluctuations. The Peak Read should be lower and plot along a flat line in the graph. Also, the average Read level is higher than the average Write level, which might indicate that the workspace is unmirrored (that is, it is not a protected workspace).



Figure 6. PathDiag tool Settings dialog (Healthy read/write test)

These results represent guidelines for Avid-qualified systems; performance on your system might vary. If your Read/Write results differ from those listed here by more than 5–10 MB/s, see your Avid ISIS administrator.

---

## Setting Bandwidth Reservations

You can use the Client Manager to obtain a default bandwidth reservation; however, the reservation cannot exceed your system's device limit or your client bandwidth limit, whichever is lower. The Avid ISIS system enforces an effective bandwidth limit based on either the client type specified by the Client Manager or the reserved bandwidth value set in the Administration tool. Your Avid ISIS administrator sets the bandwidth limits, and the bandwidth limit is listed in the Workspaces list.

**⚠** *Setting a bandwidth limit on editing clients can adversely affect playback performance. Avid recommends that you do not set bandwidth limits for Media Composer users (other than Avid AirSpeed® clients). However, your administrator might need to set a bandwidth limit for other devices, such as an Avid TransferManager, in the event the device is consuming more bandwidth than expected.*

The Bandwidth tab must be enabled in order to manage bandwidth reservations.

### To enable the Bandwidth dialog:

- 1 Open the Client Manager (see “Connecting to the Avid ISIS System” on page 17).
- 2 Click the Preferences button. The Preferences window opens.
- 3 In the General section, select Enable Bandwidth Dialog.
- 4 Click Apply.
- 5 Click Close.

### To create or modify a bandwidth reservation:

- 1 Open the Client Manager.
- 2 Click the Bandwidth icon. The Bandwidth dialog opens.

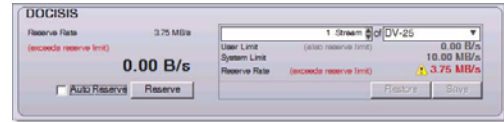


Figure 7. Bandwidth dialog

- 3 Use the up/down buttons to select the number of streams you will need.
- 4 Select the type of stream from the list. There are several presets for various formats, as well as numeric bandwidth values.

**💡** *If the selected bandwidth value exceeds the limits imposed either by the client type specified by the Client Manager or the reserved bandwidth value set in the Management Console, a warning symbol will appear next to the Total Rate value. You will be able to save these values, but not to create or modify an existing reservation.*

- 5 Optionally, do one of the following:
  - If you want to restore previously saved values, click Restore.
  - or –
  - If you want to save the selected values without creating a reservation, click Save.
- 6 Click the Reserve button. The reservation is created on the ISIS server.
- 7 If you want to reserve bandwidth automatically each time you log on to the ISIS system, click Auto Reserve On.

---

## Performing Administrative Tasks

You can use the Preferences dialog and the Messages dialog to manage the following administrative tasks:

- Set display properties
- Clear cached information
- View, save, and clear logged error messages

### Setting Display Properties in the Client Manager

Display properties in the Client Manager control how the application displays information on your local system.

#### To set Client Manager display properties:

- 1 Open the Client Manager (see “Connecting to the Avid ISIS System” on page 17).
- 2 Click Preferences.
- 3 In the Preferences dialog, click General.
- 4 In the General area, select the appropriate options:

**Start Client Manager Hidden** Select this option to allow the Client Manager to run hidden and accessible from the Client Manager icon in the Taskbar. Deselect this option to open the Client Manager each time you start your system.

**Use UNC (Letterless) Drive Mappings** Select this option to use UNC paths to map workspaces instead of drive letters.



*Pro Tools does not support UNC paths for access to media files.*

**Enable Bandwidth Dialog** Select this option to enable the “Display Bandwidth in Bits Per Second” option as well as the bandwidth displays in Client Manager tool.

**Display Bandwidth in Bits Per Second** Select this option to display bandwidth in bits per second. Deselect this option to display bandwidth in bytes per second.

**Measure Free Space In** You can choose to display the amount of available space in your workspace either in gigabytes (GB) or in the total length of stored media (*hours:minutes:seconds*) at a selected resolution.

- 5 Click Apply and close the application.

### Clearing Cached Data

The Client Manager maintains information on site settings in cache files, and the tool appends data each time you open the Client Manager. You can clear the cached information—for example, to remove settings for users no longer working on a specific system—by deleting the cache files.

#### To clear cached data:

- 1 Open the Client Manager (see “Connecting to the Avid ISIS System” on page 17).
- 2 Click Preferences.
- 3 In the Preferences dialog, click Advanced.
- 4 Do one of the following:
  - Click the Clear button for each cache file you want to clear.
  - or –
  - Click the Clear All button to clear all cached data.

- 5 Click Apply and close the application.



## Using Logs and Messages

The Client Manager keeps an log of events, information, and error messages. You can view the current log in the Messages dialog. You can also save a copy of the log, and you can clear the log maintained for the current work session.



*The Client Manager clears all logs when you exit the application.*

### To view Client Manager event logs:

- Open the Client Manager (see “Connecting to the Avid ISIS System” on page 17).

The Messages area is the bottom section of the Client Manager window. You can sort the Messages list by clicking the Level, Time, or Message field heading and clicking on the blue arrow to sort in ascending or descending order.

### To save a copy of the event log:

- 1 Right-click in the list, and select Export. The Export dialog opens.
- 2 Navigate to the folder where you want to save your log.
- 3 Type a name for the log in the File Name text box.
- 4 Click Save.

The Client Manager saves the event messages as a log file (*filename.log*).

### To clear all event logs:

- Click the Fast menu, and select Clear.

---

## Configuring Pro Tools Session Settings for a New Session

The following describes the recommended session settings for creating a new Pro Tools session when working in an ISIS system.

### To create a new Pro Tools session for Avid ISIS:

- 1 In Pro Tools, choose File > New Session.
- 2 In the New Session dialog, select an Audio File Type for the session that is compatible across all workstations.
- 3 Select a Sample Rate for the session that is compatible across all workstations.
- 4 Select a Bit Depth for the session that is compatible across all workstations.
- 5 Click OK.
- 6 Name the session and save it to an Avid ISIS workspace.

### Audio File Type

Pro Tools supports AIFF and BWF (.WAV) audio files natively. The BWF sub-formats RF64 and WAVE Extended are also supported.




*Avid video editing applications do not support RF64 audio files. Standard.WAV format is recommended when working in a shared media environment with video.*



*All Sound Designer II files must be converted to a Windows-compatible format for use in an ISIS system.*

For the best media compatibility between Pro Tools workstations and Avid workstations, you should choose to work with Broadcast WAV media files. Make sure the Audio File Type pop-up menu in the New Session dialog is set to WAV when you are creating a new session.

 *The WAV file format is required when working with audio files containing field recorder metadata.*


## Sample Rate

Pro Tools HD supports sample rates up to 192 kHz, but other Pro Tools and Avid workstations only support lower sample rates. Therefore, when working on an Avid ISIS network, it is vital to use sample rates for shared media that are supported on all workstations.

It is preferable for all participants in the system to agree on a standard, universal sample rate for the sake of compatibility and to avoid media conversion. Many facilities choose 48 kHz, which is the industry standard for post production and broadcast applications.

## Bit Depth

It is preferable for all participants in the system to agree on a standard, universal bit depth for the sake of compatibility and to avoid media conversion. Many facilities standardize on 24-bit audio, which offers higher audio quality than 16-bit, and is more universally supported than 32-bit floating point audio.


 *For the most current compatibility information on supported Pro Tools systems and Avid ISIS, visit [www.avid.com](http://www.avid.com).*


# Performance Characteristics

You should experience no functional difference between working with Pro Tools attached to an ISIS system or working with Pro Tools attached to local storage. However, due to the architectural differences between ISIS and local storage, some subtle differences may be noticeable.

## Disk Cache Performance Enhancements

Pro Tools HD software version 10 provides a RAM-based Disk Cache system. With it, audio is loaded into RAM for instant playback, increasing performance significantly, especially with networked storage (such as an ISIS system).

 *The Disk Cache system also lets you use Elastic Audio on ISIS tracks.*

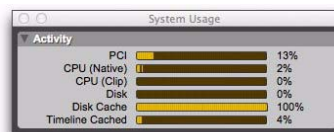
 *Disk Cache works with audio files only.*

Allocating a generous amount of RAM to Disk Cache allows for higher track counts over ISIS, closer to standard Pro Tools system maximums.

When playing back large or complex sessions (especially from networked storage), performance is significantly improved by caching all audio in the timeline to RAM, so it can be useful to know how much of the audio has been cached.

### To check Disk Cache status:

- 1 Open the System Usage dialog by clicking Windows > System Usage.



*Pro Tools System Usage window*

2 The Timeline Cached gauge displays the percentage of audio in the timeline that has been cached to RAM. If the Timeline Cached gauge is at 100%, all audio in the Pro Tools timeline has been cached to RAM.



*The amount of audio that can be cached to RAM is dependent on the amount of RAM allocated to Disk Cache in the Playback Engine dialog in Pro Tools. In cases where the total size of all audio on the timeline exceeds the amount of allocated RAM, the Timeline Cached gauge will not reach 100%.*

For more information on Disk Cache and how to configure it, see the *Pro Tools Reference Guide*.

## Opening Files

Pro Tools periodically opens and closes files (for example, to buffer them for playback). When using ISIS storage, the file open process is somewhat slower than with local storage. This is most noticeable when first opening an existing session. Pro Tools software version 10 and higher calculates fades in real time, rather than pre-rendering them. This speeds up the file open process significantly.

---

## Sharing Files

### Sharing Session Files

To avoid machine conflicts among multiple users and avoid general performance problems, no two Pro Tools clients should open the same session at the same time. Only one Pro Tools client should have a particular session open at any given time.

### Sharing Video Files

Pro Tools clients with Avid video peripherals (such as Avid Mojo, Avid Mojo SDI, and AVoption|V10) can share JFIF and MXF video files with other ISIS clients. Pro Tools cannot destructively modify video files.

### Sharing Audio Files

Pro Tools clients can share audio files in an allocation group with other ISIS clients. When working with shared audio files, it is recommended that you use the Duplicate command to make a copies before applying any destructive edits.

---

## Destructive Editing

The following Pro Tools features can destructively modify audio files:

- Pencil Tool
- AudioSuite in Overwrite Files mode



*Rendering an AudioSuite effect in Overwrite Files mode will destructively modify the affected clips, however, fades and metadata are preserved.*

- Destructive Record
- Compact Selected
- DestructivePunch Record
- DigiBase metadata entry/editing

When working with shared audio files, it is recommended that you use the Duplicate command to substitute copies before applying any destructive edits. This avoids the problem of modifying a file referenced by another session.

### To substitute a copy of a shared file:

- 1 In Pro Tools, select the clip you want to copy in the Edit window.
- 2 Choose Edit > Duplicate.

## MXF and OMF Files

Pro Tools treats all MXF and OMF media that are both created by Avid and stored on shared storage as read-only. Consequently, destructive editing tools cannot be used to modify MXF and OMF media files. However, you can delete or overwrite MXF and OMF files.

Because Pro Tools creates both MXF/OMF and non-MXF/OMF media files, these destructive editing tools can be used on non-MXF/OMF media created by Pro Tools. When you are working in an ISIS system, you should always create a copy of an audio file before applying a destructive change.



*Use the Duplicate or Consolidate commands in Pro Tools to make non-OMF or non-MXF copies of audio files for destructive editing.*

# Chapter 4: Avid ISIS Workflows for Pro Tools

This chapter covers workflows for using an Avid editing application (such as Media Composer) and Pro Tools to exchange AAF sequences using ISIS shared storage, as follows:

- Exporting audio and video from Media Composer and other Avid video editing applications
- Importing audio and video into Pro Tools
- Exporting audio from Pro Tools for Avid video editing applications
- Importing audio into an Avid video editing application from Pro Tools
- Synchronizing audio with an Avid sequence

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## Exporting Audio and Video from Media Composer

To export sequences from Avid video editing applications for import into Pro Tools, you can choose from the following methods:

- Using the Send To templates to export an AAF or OMF sequence
- Manually exporting an AAF or OMF sequence
- Checking a sequence into Avid Interplay for Pro Tools (Avid Interplay system required)



*For more information on exporting Avid sequences, see the documentation that came with your Avid editing application.*



*For information on working with Interplay, see the Pro Tools Avid Interplay Guide.*

## Using the Send To Templates to Export an AAF Sequence from Media Composer

The Send To Templates option lets you create one AAF sequence that references audio and video files used in the sequence, and save it to the volume selected in your Avid Preferences.

### To use the Send To Pro Tools templates:

- 1 Select a sequence in a bin.
- 2 Choose File > Send To > Pro Tools on Unity, then choose one of the following options:

**Link to Audio and Video** Creates an AAF sequence that links to existing audio and video wherever possible and only creates new media files for effects that have not been rendered. This is the fastest and most storage-efficient way to export a sequence.

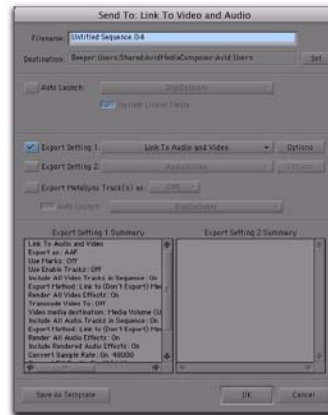
Choose this option for a scenario in which Pro Tools will link to the same media files as the current Avid sequence. Use this setting if the media files are currently stored on volumes that are suitable for Pro Tools media playback.

**QuickTime—Link to Audio** Creates an AAF sequence that links to existing audio, and creates a new QuickTime movie.

Choose this option when exporting a sequence for a Pro Tools system that does not have an Avid video peripheral attached.

**Video Mixdown—Link to Audio** Creates an AAF sequence that links to existing audio and includes editing metadata as well as a video mixdown in the video format defined by Media Creation settings. When imported into Pro Tools, the video mixdown and metadata are displayed in two separate video tracks on the Timeline.

Choose this option for any scenario in which Pro Tools will link to the same media files as the current Avid sequence.



*Send To dialog (Link to Audio and Video options shown)*

- 3 If you want to view or change export settings, click the Options button, and then make any changes. If you make any changes, you can use the Save As Template button to create a new template.

💡 *This workflow assumes that you use the default values. This means that you are exporting using the Project sample rate, audio file format, and sample bit depth.*

- 4 Click Set.
- 5 Navigate to the location where you want the AAF sequence to reside.
- 6 Click OK.

The Avid video editing application exports the files to the destination volume. If the application has to transcode video files to a new resolution, render effects or perform audio file conversions, a new sequence appears in the bin with the name *filename.Export.01*, and a new master clip appears in the bin with the name *filename.new.01*.

## Manually Exporting an AAF Sequence from Media Composer

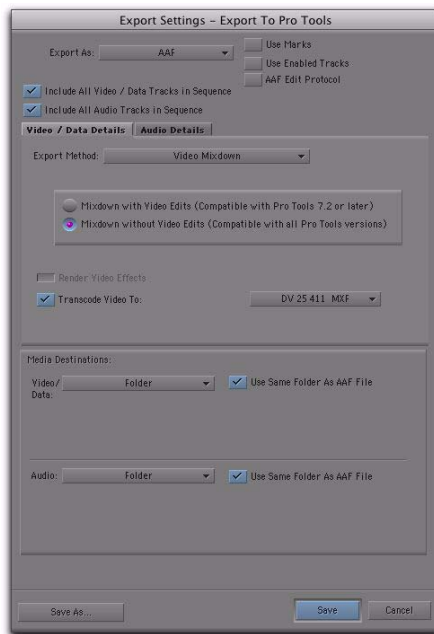
Manually exporting an AAF sequence from an Avid editing application involves more steps than using the Send To templates, but it provides more flexibility.

**⚠** *You will need to render all video effects before manually exporting the sequence.*

Once all effects have been rendered, export the sequence as an AAF sequence.

### To manually export an AAF sequence:

- 1 Select the sequence in the bin.
- 2 Select File > Export.
- 3 Type a name and select a location for the exported sequence.
- 4 Select Export to Pro Tools from the Export Settings menu at the bottom of the Export As dialog.
- 5 Click the Options button to open the Export to Pro Tools Settings dialog. Verify the settings:
  - For Export As, select AAF.
  - Select the Include All Video Tracks in Sequence option. When the sequence is imported into Pro Tools. All of the video tracks will be “flattened” so that the imported sequence shows only a single video stream.



*Export Settings – Export To Pro Tools dialog, Video/Data Details tab*

- 6 In the Video/Data Details tab, select one of the following from the Export Method pop-up menu:

**Link to (Don't Export) Media** The Pro Tools session will link to the same video files as the current Avid sequence. Use this setting if the video files are currently stored on a volume suitable for Pro Tools video playback.

**Copy All Media** New complete video files will be created on the designated volume.

**Consolidate Media** Similar to Copy All Media, but only the parts of the video clips which are actually used in the Timeline are copied. Use this setting to copy the video files to a volume suitable for Pro Tools video playback.

**Video Mixdown** The exported AAF sequence will reference a video mixdown. This setting lets you have a choice of whether to export the video mixdown alone or the video mixdown along with additional video track edits. The choice depends largely on the version of Pro Tools to which you are exporting. Pro Tools 7.2 and higher can show the video mixdown alongside video edits; in this case, you should select both the video mixdown and the video edits. For versions of Pro Tools prior to 7.2, you should export the video mixdown by itself.

The following settings may also appear under the Video Details tab, depending on the selected export method:

**Media Destinations** Choose where to store copied video files.

**Handle Length** Extends the beginning and end of the consolidated file by the specified number of frames. This lets you trim edits later, though the sequence would need to be re-edited in the Avid video editing application.

**Render Video Effects** Always select Render Video Effects. If you already manually rendered effects, selecting this option will not create new files. It is highly recommended that all effects be rendered manually before exporting the sequence.

**Transcode Video To** Use this only if you need to change the video resolution. Pro Tools supports most SD resolutions supported by Avid, and even supports mixed resolutions in the Pro Tools Timeline, so in most cases there is no

need to spend extra time transcoding the video. However, if you have video of a resolution which is not currently supported by Pro Tools, use this setting to transcode it to a supported resolution.



*If your Pro Tools system is running on a slower computer, you may be able to reduce some of the CPU load in Pro Tools by transcoding the video to 1:1 on export. 1:1 video is uncompressed, and consequently it does not need to be decompressed before playing back. However, 1:1 video requires significant amounts of storage space.*

While new video files are typically stored in the OMFI MediaFiles folder (for OMF media) or the Avid MediaFiles folder (for MXF media), some workflows let you choose a different target destination for video in the Media Destination section of the Video Details tab, as follows:

**Media Drive** This option exports media to the OMFI MediaFiles folder or Avid MediaFiles folder on a connected storage drive. Select the Use Media Creation Settings option to use the default settings, or deselect that option to choose a media drive from the pop-up menu.

**Folder** This option exports video media to a specific folder. Select the Use Same Folder as AAF File option to export the video media into the same folder you designated for exporting the AAF sequence, or deselect this option to select a specific folder location for the media.



**Embedded in AAF** This option embeds the video media in the AAF sequence that is exported from the Avid video editing application.

**!** *Pro Tools cannot play video that is embedded in an AAF sequence, but it can read the video editing metadata when imported into a satellite track. Do not use this option if you want to import the video itself into Pro Tools.*



*Media Destination section of the Video Details tab*

**7** Click the Audio Details tab, and select one of the following from the Export Method pop-up menu:

**Link to (Don't Export) Media** The Pro Tools session will link to the same audio files as the current Avid sequence. Use this setting if the audio files are currently stored on a volume suitable for Pro Tools audio playback.

**Copy Media** New complete audio files will be created on the designated volume.

**Consolidate Media** Similar to Copy All Media, but only the parts of the audio which are actually used in the Timeline are copied. Use this setting to copy the audio files to a volume suitable for Pro Tools audio playback.

The following settings may also appear under the Audio Details tab, depending on the selected export method:

**Render All Audio Effects** Select the Render All Audio Effects option so that all audio effects are rendered before export. If you already manually rendered effects, selecting this option will not create new files. It is highly recommended that all effects be rendered before exporting the sequence.

**Include Rendered Audio Effects** Select the Include Rendered Audio Effects option. Otherwise, the exported sequence will include the original audio files without any AudioSuite effects from the original sequence—even if those effects were previously rendered.


**Convert Audio Sample Rate/Bit Depth/File Format** Select Project for any of these, and the current Audio Project Setting will be used.

While new audio files are typically stored in the OMFI MediaFiles folder (for OMF media) or the Avid MediaFiles folder (for MXF media), some workflows let you choose a different target destination for audio in the Media Destination section of the Audio Details tab, as follows:

**Media Drive** This option exports audio media to the OMFI or Avid MediaFiles folder on connected storage. Select the Use Media Creation Settings option to use the default settings, or deselect that option to choose a media drive from the pop-up menu.

**Folder** This option exports audio media to a specific folder. Select the Use Same Folder as AAF File option to export the media into the same folder you designated for exporting the AAF sequence, or deselect this option to select a specific folder location for the media.

**Embedded in AAF** This option embeds the audio media in the AAF sequence that is exported from the Avid video editing application. Unlike embedded video, Pro Tools can import and play audio which is embedded in an AAF sequence. Embedding audio within the AAF sequence makes file management much simpler because there is only one file to move—the sequence.


 *Pro Tools cannot play video that is embedded in an AAF sequence, but it can read the video editing metadata when imported into a satellite track. Do not use this option if you want to import the video itself into Pro Tools.*

**8** Click **Save** or **Save As** in the Export Settings dialog:

- Click **Save** to use the specified settings whenever Export to Pro Tools is selected from the Export Settings menu. These settings will also be used when choosing any of the options located at File > Send To > Pro Tools to Unity.
- Click **Save As** to save these settings as a preset with a different name. These settings can then be recalled in the Export dialog. If you click **Save As** instead of **Save**, the Export to Pro Tools settings will not be changed.

**9** Click **Save** in the Export As dialog. (The Export Settings cannot be saved until you have selected a target drive for both audio and video.)

When the export is complete, you are ready to import the file into Pro Tools.

 *For more information on opening and importing AAF sequences in Pro Tools, see “Importing Audio and Video into Pro Tools” on page 38. For more information on the Import Session dialog, see the Pro Tools Reference Guide.*

## Checking In Sequences to Interplay for Pro Tools Clients

The Avid Interplay media management system can be used in tandem with an ISIS network to manage media sharing between Pro Tools and Avid video editing application clients. For more information on checking in sequences to Interplay for Pro Tools users, see the *Pro Tools Avid Interplay Guide*.

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## Importing Audio and Video into Pro Tools

To import sequences exported from Avid video editing applications into Pro Tools, you can choose from the following methods:

- Importing an AAF or OMF sequence as a Pro Tools session
- Importing an AAF or OMF sequence into an existing Pro Tools session
- Importing a video mixdown into Pro Tools
- Importing an AAF or OMF sequence into Pro Tools from Interplay (Pro Tools Avid Interplay Option and an Avid Interplay system required)

## Importing an AAF or OMF Sequence as a Pro Tools Session

The easiest way of using Pro Tools to edit a sequence exported from an Avid video editing application is to open it as a new session.

### To open an AAF sequence as a Pro Tools session:

- 1 Launch Pro Tools.
- 2 Choose File > Open Session.
- 3 In the Open Session dialog, navigate to the AAF sequence you want to import.
- 4 Click Open. The New Session From dialog appears.



*Pro Tools New Session From dialog*

- 5 Select the I/O Settings to use for the session. Several pre-configured I/O Settings are included with your system, or you can select a custom I/O Setting that you have created.
- 6 Click OK.
- 7 Name your session in the subsequent dialog.
- 8 Click Save. The Import Session Data dialog appears.



*Pro Tools lets you open and import AAF sequences that reference audio files with mixed sample rates and/or bit depths. Files with sample rates other than the sample rate set in the New Session dialog will be converted to the correct rate.*

9 From the Audio Media Options pop-up menu, choose how you want to import audio files into Pro Tools:

- If the audio files reside on a volume from which Pro Tools can play back audio, select Link to Source Media (Where Possible).
- If the audio files reside on a volume from which Pro Tools cannot play back audio, select Copy from Source Media to copy all audio to the Pro Tools audio storage or Consolidate from Source Media to copy only the portions of the audio used in the Pro Tools Timeline to the Pro Tools audio storage.

10 From the Video Media Options pop-up menu, choose how you want to import video files into Pro Tools:

- If the video files reside on a volume from which Pro Tools can play back video, select Link to Source Media.
- If the video files reside on a volume from which Pro Tools cannot play back video, select Copy from Source Media to copy all video to the Pro Tools video storage.


11 Set other parameters as desired.

12 Click OK.

Pro Tools creates a new Audio Files folder, a Video Files folder, a cache.wfm file, and a session file at the designated locations.

## Importing an AAF Sequence into an Existing Session


You can import an AAF sequence containing audio and video media into an existing Pro Tools session.


 *Any video imported into Pro Tools must be the same frame rate as video already placed in the Timeline.*

### To open and import audio and/or video tracks from an AAF sequence:

**1** Open an existing Pro Tools session.

**2** Choose File > Import > Session Data, and choose the AAF sequence that you wish to import.

 *Pro Tools cannot play video that is embedded in an AAF sequence, but it can read the video editing metadata when imported into a satellite track. Do not use this option if you want to import the video itself into Pro Tools.*

 *You can also open an AAF sequence by dragging it from any location on your computer or the DigiBase browser to the Pro Tools Timeline.*

**3** From the Audio Media Options pop-up menu, choose how you want to import audio files into Pro Tools:


- If the audio files reside on a volume from which Pro Tools can play back audio, select Link to Source Media (Where Possible).
- If the audio files reside on a volume from which Pro Tools cannot play back audio, select Copy from Source Media to copy all audio to the Pro Tools audio storage or Consolidate from Source Media to copy only the audio used in the session to the Pro Tools audio storage.

**4** From the Video Media Options pop-up menu, choose how you want to import video files into Pro Tools:

- If the video files reside on a volume from which Pro Tools can play back video, select Link to Source Media.
- If the video files reside on a volume from which Pro Tools cannot play back video, select Copy from Source Media to copy all video to the Pro Tools video storage.

**5** In the Import Session Data dialog, deselect any source tracks that you do *not* want to be imported. (If you are importing Session Data from AAF sequences, all tracks are selected by default. If you are importing tracks from a Pro Tools session, no tracks are selected by default.)

**6** Click OK.

 *If there are any errors or clip name truncations, a dialog will appear asking you if you want a detailed report of the changes. Click Yes and choose where you want to save the log.*

7 If your audio or video source media is on a volume that is not suitable for playback (shown as a Transfer volume in the Workspace browser) or if your ISIS workspace privileges are read-only, Pro Tools displays a dialog that guides you to copy the media to a volume designated for Playback or Record. (Click Yes.)

Pro Tools imports the audio and video media to the Timeline. Audio tracks with mixed sample rates and/or bit depth are automatically converted to the same sample rate and bit depth as the session.

Now you are ready to edit the audio files in Pro Tools.

### Drive Selection When Importing Session Data

When using the Import Session Data dialog to import audio files with Copy or Consolidate Source selected in the Audio Media Options pop-up menu, all new audio files are stored on the volumes designated for their respective target tracks in the Disk Allocation dialog.

### Selecting a Networked Workspace When Importing Session Data

When using the Import Session Data dialog to import audio files with Copy or Consolidate Source selected in the Audio Media Options pop-up menu, all new audio files are stored on the volumes designated for their respective target tracks in the Disk Allocation dialog.

When importing video files (such as from a CD), the video files are copied by default to the same volume that holds the session file. To have the files copied to another volume, open the Workspace browser, and select T in the volume designation column for all volumes except the volume where you want the video to be stored. To ensure that the files are not copied to the root level of

the volume, create a folder with the session name on the desired network workspace, then create a folder within that session folder named Video Files.

## Importing Sequences into Pro Tools from Interplay

The Avid Interplay media management system can be used in tandem with an ISIS network to manage media sharing between Pro Tools and Avid video editing application clients. For more information on importing a sequence into Pro Tools from Interplay, see the *Pro Tools Avid Interplay Guide*.

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## Editing Audio in Pro Tools

Audio files created in the Avid video editing application are either OMF or MXF files, which Pro Tools cannot edit destructively.

When you use Pro Tools to perform a destructive edit (such as using the Pencil tool to edit a waveform), it creates a new copy of the file and leaves the original untouched.



*See the Pro Tools Reference Guide for detailed information on editing audio files in Pro Tools.*

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## Exporting Audio from Pro Tools for Avid Editing Applications

In Pro Tools, you can export audio tracks for use in the Avid video editing application using any of the following commands:

- Exporting selected tracks as an AAF sequence
- Bouncing to disk
- Exporting selected clips as files
- Exporting edited audio tracks to Interplay from Pro Tools (Avid Interplay system required)

For other export methods, see the *Pro Tools Reference Guide*.

### Exporting Tracks as AAF Sequences

Use Export Selected Tracks as OMF/AAF to export individual tracks or an entire Pro Tools session in AAF format.

💡 *Tracks are exported in their entirety and time selections are ignored.*

💡 *Volume and pan automation is not retained on export if Quantize Edits to Frame Boundaries is enabled (Avid Compatibility Mode).*

💡 *The Movie track cannot be exported to AAF or OMF from Pro Tools.*

**To export selected audio tracks from Pro Tools as an AAF sequence:**

**1** In Pro Tools, select the tracks you want to export in the Pro Tools session by Shift-clicking the names of each track.

**2** Choose File > Export > Selected Tracks as OMF/AAF.

**3** Under OMF/AAF Options, choose AAF (or OMF) from the Export As pop-up menu.

**4** Select Enforce Avid Compatibility.

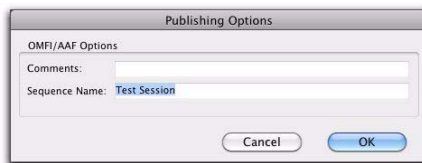
Enforce Avid Compatibility creates frame-accurate edits, wraps the files as OMFI (unless you choose MXF), and limits the sample rate options to 44.1 or 48 kHz. Dithering without noise shaping will be applied to files being exported from 24-bit to 16-bit.

💡 *An OMF sequence cannot reference MXF media files. In the Export Selected Tracks as OMF/AAF dialog, MXF is only available when AAF is selected in the Export As pop-up menu.*

**5** Ensure that the Target Project Timecode Format pop-up menu displays the correct frame rate for the Avid project.

**6** Click OK.

**7** In the Publishing Options dialog, type the Pro Tools Comment and Sequence Name.




*Pro Tools Publishing Options dialog*

**8** Click OK.

Pro Tools will create a sequence with the name you supply. (The Pro Tools comment appears in the Avid bin in a Pro Tools Comment column.)

**9** In the Name the AAF/OMF File to Export dialog, navigate to a folder where you can easily locate the Pro Tools composition when it is time to import it into the Avid video editing application.

 *Do not save the sequence to either the OMFI Media Files folder or the Avid Media Files folder.*

**10** Click Save.

**11** In the Please Choose a Folder for Converted Audio Files dialog, do one of the following:

- If you are exporting to the same storage that the Avid video editing application will be accessing, navigate to the OMFI MediaFiles folder (AIFF or WAV files) or the Avid MediaFiles folder (MXF files).

– or –

- If you are exporting to a location that is not directly accessible to the Avid video editing application, navigate to a location where you can easily find the audio files when you need to copy them over to the Avid computer.

**12** Click Use Current Folder (Windows) or Choose (Mac).

Pro Tools exports the following files:

- The AAF sequence is saved to the folder you designated.
- If you exported audio files directly to the Avid video editing application's video storage, related media is saved to the appropriate volume and folder (OMFI MediaFiles or Avid MediaFiles) accessible to the application.

**13** Do one of the following:

- If you are using the Avid video editing application on the same computer as Pro Tools and are ready to use it to import the files you just exported from the Avid video editing application, exit Pro Tools.
- If you were unable to save the audio portion of the AAF sequence directly to storage that is accessible from the Avid video editing application, copy the audio files from their saved location to the OMFI MediaFiles folder (for AIFF or WAV media) or Avid MediaFiles folder (for MXF media) on a drive connected to your Avid system.

## Exporting Audio Files Using Bounce to Disk

Use the Bounce to Disk command to create premixed files of the current Pro Tools session. This does not export all of the individual files on the Timeline, but it does guarantee that the mix you hear in the Avid video editing application will be identical to the mix you hear in Pro Tools, including all panning, effects and automation.

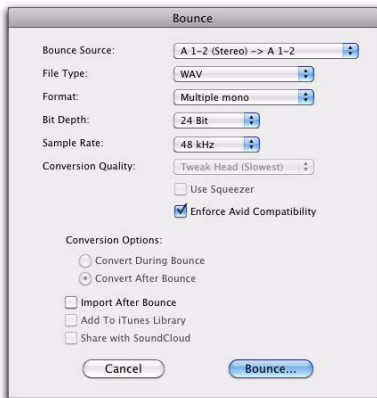
### To export audio files using Bounce to Disk:

**1** In Pro Tools, finalize the mix.

**2** Select the time range of the session that you want to export. (All audible tracks in that time range will be included in the bounce, whether they are selected or not.)

**3** Choose File > Bounce to > Disk.

**4** In the Bounce to Disk dialog, select the Enforce Avid Compatibility option.



*Bounce to Disk dialog*

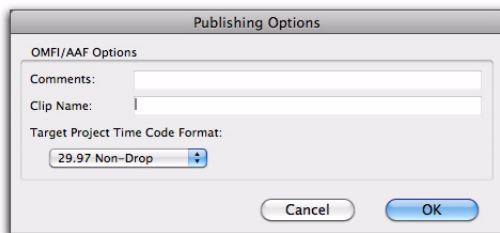
Enforce Avid Compatibility creates frame-accurate edits, wraps the files as OMFI (unless you choose MXF), and limits the sample rate options to 44.1 or 48 kHz. Dithering without noise shaping will be applied to files being bounced from 24-bit to 16-bit.

**5** Select the desired file type from the File Type pop-up menu.

**6** Click Bounce.

**7** In the Publishing Options dialog, type the Pro Tools Comment and Clip Name.

If you selected more than one clip for export, the Clip Name field will not be available and the names of the clips will be used for the exported files.



*Publishing Options dialog*

**8** Select the appropriate Target Project Timecode Format.

**9** Click OK.

**10** In the Save Bounce As dialog, navigate to the volume you will use for audio playback in the Avid video editing application.

- For MXF audio files, ensure the file is saved to the Avid MediaFiles folder.
- For all other audio files, ensure the file is saved to the OMFI MediaFiles folder.

**11** Click Save.

All audible audio in the selection will be exported to two multi-mono audio files.

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## Importing Pro Tools Audio Files Back into the Avid Video Editing Application

After you have checked out the completed audio stems to the Pro Tools sequence on the Interplay server, you may want to import the sequence back into the Avid video editing application.

For more information on importing Pro Tools audio into an Avid application with Interplay, see the *Pro Tools Avid Interplay Guide*.



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