Avid® Products

Getting Started Guide

make manage move | media™ Avid®

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Using This Guide

This guide provides information about how to get started using your Avid system. It presents the essential features of the system; most chapters also contain hands-on tutorials so you can practice what you learn.

The documentation describes the features and hardware of all models. Therefore, your system might not contain certain features and hardware that are covered in the documentation.

Who Should Use This Guide

This guide is written for video and film editors who are learning to use an Avid video-based editing system.

About This Guide

This guide was designed to be used for both the Avid Symphony™ product and the Avid Media Composer® or Film Composer® product.

The Contents that precedes this Using This Guide section lists all topics included in the guide. They are presented with the following overall structure:

- Chapter 1 explains how to turn on your system, install the tutorial media, and use Help and online documentation.
- Chapter 2 presents basic editing concepts and walks you through a typical workflow scenario.

- The main body of the guide presents introductory material on various aspects of your workflow, followed in most chapters by a tutorial section. Work through the tutorial for guided hands-on experience with your Avid system.
- A detailed Index helps you quickly locate specific topics.

This guide should get you started with your Avid system. For more information, see the Help and the *Avid Symphony Editing Guide or the Avid Media Composer and Film Composer Editing Guide.*

Symbols and Conventions

When the text applies specifically to the Symphony product, it is marked as follows:

- (Symphony only) means the information applies to the Avid Symphony product only.

Unless noted otherwise, the material in this document applies to the Windows 2000 and Mac OS X operating systems. When the text applies to a specific operating system, it is marked as follows:

- (Windows) or (Windows only) means the information applies to the Windows 2000 operating system.
- (Macintosh) or (Macintosh only) means the information applies to the Mac OS X operating system.

The majority of screen shots in this document were captured on a Windows 2000 system, but the information applies to both Windows 2000 and Mac OS X systems. Where differences exist, both Windows 2000 and Mac OS X screen shots are shown.

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
	A note provides important related information, reminders, recommendations, and strong suggestions.
	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
>	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File > Import means to open the File menu and then select the Import command.
▶	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
⌘	This symbol represents the Apple or Command key. Press and hold the Command key and another key to perform a keyboard shortcut.
Margin tips	In the margin, you will find tips that help you perform tasks more easily and efficiently.
Italic font	Italic font is used to emphasize certain words and to indicate variables.
`Courier Bold font`	Courier Bold font identifies text that you type.
Click	Quickly press and release the left mouse button (Windows) or the mouse button (Macintosh).
Double-click	Click the left mouse button (Windows) or the mouse button (Macintosh) twice rapidly.

Symbol or Convention	Meaning or Action
Right-click	Quickly press and release the right mouse button (Windows only).
Drag	Press and hold the left mouse button (Windows) or the mouse button (Macintosh) while you move the mouse.
Ctrl+*key* ⌘+*key*	Press and hold the first key while you press the second key.

If You Need Help

If you are having trouble using your Avid system, you should:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.
2. Check the release notes supplied with your Avid application for the latest information that might have become available *after* the hardcopy documentation was printed.
3. Check the documentation that came with your Avid application or your hardware for maintenance or hardware-related issues.
4. Visit the online Knowledge Center at www.avid.com/support. Online services are available 24 hours per day, 7 days per week. Search this online Knowledge Center to find answers, to view error messages, to access troubleshooting tips, to download updates, and to read/join online message-board discussions.
5. For Technical Support, please call 800-800-AVID (800-800-2843).

   For Broadcast On-Air Sites and Call Letter Stations, call 800-NEWSDNG (800-639-7364).

Related Information

The following documents provide more information about Avid's products:

- *Avid Symphony Release Notes for the Windows 2000 Operating System* or *Avid Symphony Release Notes for the Mac OS X Operating System* or *Avid Media Composer and Film Composer Release Notes for the Windows 2000 Operating System* or *Avid Media Composer and Film Composer Release Notes for the Mac OS X Operating System*

  These release notes include important information you should read before installing and using the Avid system.

- *Avid Symphony and Composer Products Site Preparation Guide for the Windows 2000 Professional Operating System* or *Avid Symphony and Composer Products Site Preparation Guide for the Mac OS X Operating System*

  These guides provide electrical, environmental, size, and weight information for users who are responsible for preparing a site for installation of the Avid system.

- *Avid Symphony and Composer Products Setup Guide for the Windows 2000 Professional Operating System or Avid Symphony and Composer Products Setup Guide for the Mac OS X Operating System*

  These guides are designed for anyone who is installing an Avid system, moving a system, or solving problems that can arise with the system hardware.

- *Avid Products Getting Started Guide* (this book)

  This guide provides a step-by-step tutorial covering the basic features of the Avid system video projects.

- *Avid Symphony Quick Reference for the Windows 2000 Operating System* or *Avid Symphony Quick Reference for the Mac OS X Operating System* or *Avid Media Composer and Film Composer Quick Reference for the Windows 2000 Operating System* or *Avid Media Composer and Film Composer Quick Reference for the Macintosh Operating System*

  These folded cards list convenient keyboard shortcuts for using Avid products.

- *Avid Symphony Editing Guide* or *Avid Media Composer and Film Composer Editing Guide*

  These guides provide complete information on all editing tasks, such as viewing and marking footage, editing, and trimming transitions.

- *Avid Symphony Effects Guide* or *Avid Media Composer and Film Composer Effects Guide*

  These guides describe techniques for using digital video effects, titles, third-party plug-in effects, mattes, keys, and layering options.

- *Avid Symphony Input and Output Guide* or *Avid Media Composer and Film Composer Input and Output Guide*

  These guides provide instructions for creating input (logging digitizing, importing) and generating output (digital cuts, exporting). It also includes conceptual information on workflows and film-to-tape transfer.

- *Avid Symphony Color Correction Guide* or *Avid Color Correction User's Guide*

  These guides provide complete information on the advanced color correction features, including Color Correction mode, Safe Color limiting and warning, and Spot Color Correction.

- *Avid Symphony Online Publications* CD-ROM or *Avid Media Composer and Film Composer Online Publications* CD-ROM

  These online collections provide electronic versions of most documents listed in this section, as well as documents for related Avid applications. You can view these PDF documents with Adobe® Acrobat® Reader®, which you can install from the CD-ROM.

- Avid Symphony Help or Avid Media Composer and Film Composer Help

  These Help systems provide all the information included in the editing guides, the input and output guides, the effects guides, and the color correction guides supplied with your system. The Help operates in a Web browser. To open the Help, select Help > Symphony Help in the Symphony application or select Help > Media Composer Help or Help > Film Composer Help in the Media Composer or Film Composer application. For information on using Help, click the Using Help button in the Contents list in the Help browser.

References to the above documentation are noted throughout this guide. The specific names of the documents will not be used and you should use the appropriate document that applies to your particular system. For example, when the text states: "See the appropriate effects guide for more information on this feature," you should see the Avid Symphony Effects Guide *or the* Avid Media Composer and Film Composer Effects Guide *depending on which system you have.*

If You Have Documentation Comments

Avid Technology continuously seeks to improve its documentation. We value your comments about this guide, the Help, the Online Publications CD-ROM, and other Avid-supplied documentation.

Simply e-mail your documentation comments to Avid Technology at

TechPubs@avid.com

Please include the title of the document, its part number, and the specific section you are commenting on in all correspondence.

How to Order Documentation

To order additional copies of this documentation from within the United States, call Avid Sales at 800-949-AVID (800-949-2843). If you are placing an order from outside the United States, contact your local Avid representative.

Avid Educational Services

For information on courses/schedules, training centers, certifications, courseware, and books, please visit www.avid.com/training or call Avid Sales at 800-949-AVID (800-949-2843).

Chapter 1

Introduction

This chapter sets you up to use this guide and explains how to work through the tutorial sections that teach you the basics of your Avid system.

This chapter contains the following sections:

Using the Tutorial Sections

The self-paced tutorial sections included in this guide are designed as guided Avid editing sessions, using the basic features of the system. In the tutorial sections, you're going to edit a 1-minute sequence about a company in Amesbury, Massachusetts that makes small fishing boats called *dories*.

The footage for the sequence is on the Tutorial CD-ROMs that came with your system. The CD-ROMs contain digitized media that is ready for you to use.

The instructions in the tutorial take you through each step of the editing process. The steps are:

- Starting a project (in Chapter 3)
- Getting ready to edit (in Chapter 5)
- Editing a rough cut (in Chapter 6)
- Refining the edit (in Chapter 7)
- Adding effects and titles to the sequence (in Chapter 8 and Chapter 9)
- (Symphony only) Finishing mode adds the finishing touches to your effects (in Chapter 10)
- Preparing output (in Chapter 11)
- Backing up (in Chapter 12)

To complete this tutorial, you need a basic familiarity with the Windows® operating system or Macintosh® computer. If you have never used a Windows or Macintosh system, refer to the Windows or the Apple® Macintosh manuals.

You don't need any previous experience with the Avid system. The terms and techniques needed for each tutorial section are in each chapter. However, it will help to read Chapter 2 of this guide before starting any of the tutorial sections. You can also use the Help system (see "Using Help" on page 36) and online books (see "Using Online Documentation" on page 42) for more information.

This tutorial takes approximately 4 hours. Before you begin, you need:

- An installed Avid system

  If you have not yet set up your system, see the appropriate setup guide. If you need to install the software, see the appropriate release notes.

- The Boat Shop media and project files on the Avid Video Editing Tutorial CD-ROM

What You Need

The Tutorial CD-ROMs packaged with your Avid system include all files necessary to complete this tutorial. They are:

- **OMFI MediaFiles folder —** contains the digitized files you need for the tutorial. You need to copy the OMFI MediaFiles folder to your external media drive.
- **Avid Projects folder —** contains the project and bins you need for the tutorial. You need to copy the project folder to the following location:

  \Program Files\Avid*Avid product*\Avid Projects (Windows)

  Macintosh HD/Users/Shared/Avid Projects (Macintosh).

Turning on Your Equipment

Begin your edit session by turning on the components of your Avid system. If any part of your system fails to turn on, make sure its electrical cord is plugged snugly into an appropriate electrical outlet or power strip. For information on setting up your system, see the appropriate setup guide.

If you fail to follow the proper sequence for starting up your system, you could damage your computer or storage drives.

Always turn on the devices in the following order:

1. **Fixed-storage drives:** Turn on fixed-storage drives before starting the computer. Allow 10 to 15 seconds for the drives to spin up to speed before starting your PC or Macintosh.
2. **Other peripheral hardware:** Turn on all other peripheral units except the PC or Macintosh. These include:
   - Monitors and speakers
   - Tape decks and additional autoassembly configurations (switcher, time-base corrector, and so on) if you plan to digitize or conduct an autoassembly
   - Meridien™ I/O box
   - Black burst generator (to maintain proper sync between audio and video while digitizing and editing)
3. The PC or Macintosh:

   Windows:

   a. Turn on your PC.

   The computer goes through a self-check routine, and the Windows startup screen opens.

   b. Press Ctrl+Alt+Delete and log on.

   The Windows desktop opens.

For information on your Windows features, such as the desktop and icons, see your Windows documentation.

Macintosh:

Press the Power On key located on your computer.

When you start the Macintosh:

- You hear a tone that means the hardware is operational.
- The computer goes through a self-check routine. If the Macintosh passes all of its internal logic tests, the smiling Macintosh icon appears.
- The Mac OS X startup screen opens and the initialization process begins.
- Select a user and type the password, and then click Log In.
- The Macintosh desktop opens.

For information on Macintosh features, such as the desktop and icons, see your Macintosh documentation.

To avoid system damage, do not disconnect or turn off external drives while the PC or Macintosh is on.

Installing the Tutorial Files (Windows)

The Tutorial CD-ROMs contain all the files you need for the tutorial sections of this guide. The CD-ROMs contain an NTSC version and a PAL version of the tutorial media files digitized at a 20:1 resolution. The tutorial files require three CD-ROMs for NTSC and three for PAL. The installation procedure is the same for installing either type.

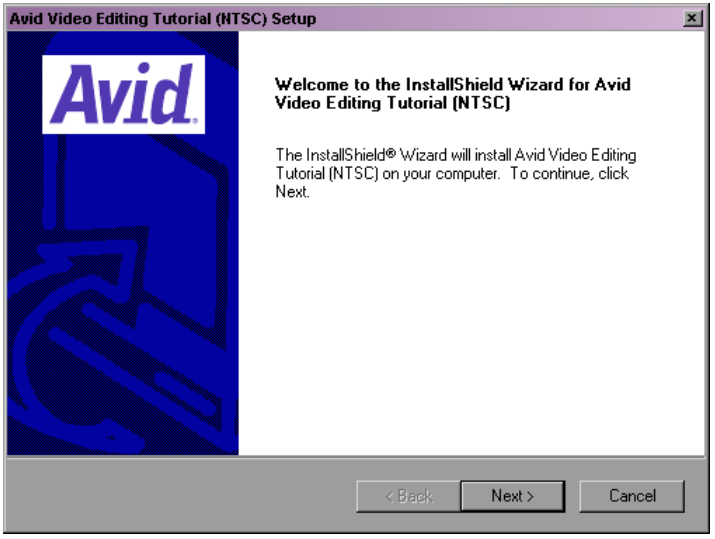
Each CD-ROM has its own installation program and is installed independently of the other CD-ROM. You will need approximately 1 GB of free space available on your external media drive.

It takes approximately 30 minutes to install the media files from the CD-ROMs to the external media drive.

To install the Avid Video Editing tutorial on a Windows system:

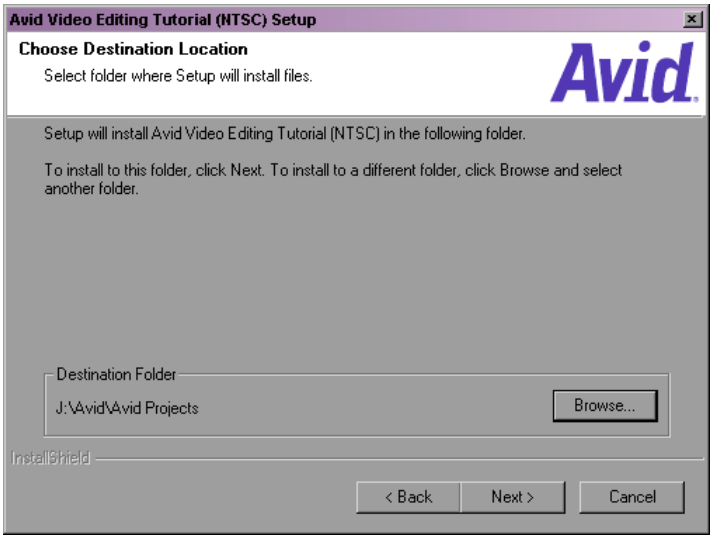
1. Insert the Avid Video Editing (NTSC or PAL) Tutorial Disc 1 of 3 into the CD-ROM drive. The Avid Video Editing Tutorial screen opens.
2. Click Install Avid Video Editing Tutorial.

   The Welcome to Avid Video Editing Tutorial (NTSC or PAL) Setup dialog box opens.



3. Click Next.

   The Choose Destination Location dialog box opens. This allows you to place the Boat Shop project files in the Avid Projects folder. If an Avid Projects folder is not already created, the installation will create one for you.



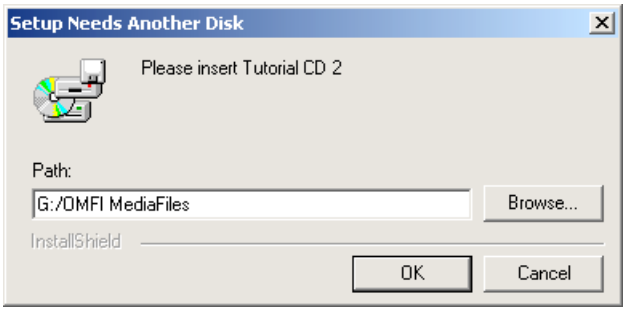
4. Select the destination location for the project files, and then click Next.

   The Select a Drive dialog box opens. This allows you to select the drive where you want to store the media files. The media files take up approximately 1 GB. Select a drive with adequate space.

5. Click the appropriate drive, and then click Next.

   - If an OMFI MediaFiles folder already exists on the drive, the media files are copied into that folder.
   - If there is no OMFI MediaFiles folder on the drive, a message appears asking if you want to create an OMFI MediaFiles folder on the drive. Click Yes. The folder is created and the media files are copied to the external drive.

The Setup Needs Another Disk dialog box opens. The system prompts you to insert Tutorial CD 2.



6. Eject the Avid Video Editing Tutorial (NTSC or PAL) Disc 1 of 3 from the CD-ROM drive.
7. Insert the Avid Video Editing Tutorial (NTSC or PAL) Disc 2 of 3 into the CD-ROM drive.
8. Click OK.

   The system installs the tutorial media files.

   When the media files on Disc 2 are copied to the drive, the system prompts you to insert Tutorial CD 3.
9. Eject the Avid Video Editing Tutorial (NTSC or PAL) Disc 2 of 3 from the CD-ROM drive.
10. Insert the Avid Video Editing Tutorial (NTSC or PAL) Disc 3 of 3 into the CD-ROM drive.
11. Click OK.

    A final dialog box opens informing you the installation is complete.
12. Click Finish, and then click Exit to close the Avid Video Editing Tutorial screen.
13. The installation is complete.

Installing the Tutorial Files (Macintosh)

The Tutorial CD-ROMs contain all the files you need for the tutorial sections of this guide. The CD-ROMs contain an NTSC version and a PAL version of the tutorial media files digitized at a 20:1 resolution. The tutorial files require two CD-ROMs for NTSC and two for PAL. The installation procedure is the same for installing either type.

Each CD-ROM has its own installation program and is installed independently of the other CD-ROM. You will need approximately 1 GB of free space available on your external media drive.

It takes approximately 30 minutes to install the media files from the CD-ROMs to the external media drive.

To install the Avid Video Editing tutorial on a Macintosh system:

1. Quit all active applications.
2. Insert the Avid Video Editing Tutorial CD 1 into the CD-ROM drive.
3. Double-click the Video Editing Tutorial (NTSC or PAL) CD-ROM icon on your desktop.
4. Double-click the Video Editing Tutorial (NTSC or PAL) Installer icon to start the installer.

   The opening window of the installer opens.
5. With Easy Install selected, click the Install button.

   If you have more than one Avid Projects folder created on your system, a Select Folder dialog box opens asking you to select the Avid Projects folder where you want to install the tutorial project. Click OK.

   The installation begins. If you do not have an OMFI MediaFiles folder created on your Macintosh HD, a message appears. When the installation is finished with Tutorial CD 1, the system prompts you to insert Tutorial CD 2.
6. Insert Tutorial CD 2 into the CD-ROM drive.

7. Click OK.

   The system installs the tutorial media files.

8. When the installation is complete, click Quit.

The installation program copies the following folders to your system:

- **Boat Shop project folder:** This folder contains the project and bins you need for the tutorial and is copied into the Avid Projects folder on your hard drive.
- **OMFI MediaFiles folder:** This folder contains the media files you need for the tutorial and is copied to a media drive.

Starting the Avid System (Windows)

To start the Avid system on a Windows system, do one of the following:

- Double-click the Avid application icon on your desktop.
- Click the Start button, and select Programs > Avid > Symphony or Media Composer.

Starting the Avid System (Macintosh)

For more information on making an alias and using the Go menu, see your Macintosh documentation.

To start the Avid system on a Macintosh system, do one of the following:

- Double-click the Avid application icon on your desktop.
- Select Go > Applications, and then double-click the Avid application icon.

Electronic Licensing

To accept your Avid product license electronically:

1. Read the License Agreement, then click the Accept button or the Decline button at the bottom of the screen.

   The agreement appears the first several times you start the application. After several starts, a new button appears at the bottom of the screen.

2. If you do not want to see the license agreement again, click the Accept and Don't Show Again button.

   A dialog box opens.

3. Type the name of your organization in the dialog box, and click OK.

After the application starts, the Select User and Project dialog box opens, as described in "Opening a Project" on page 68.

How to Proceed

The following are a few tips for taking full advantage of Avid documentation and other resources:

- Complete the tutorial sections in this guide before starting a project.
- Begin learning about basic procedures using the default settings. As your confidence increases, begin to explore additional procedures and settings.
- Instead of using the standard menus to find the command you need in a window, try using shortcut menus. Right-clicking (Windows) or pressing Ctrl+Shift and clicking (Macintosh) in a window brings up a shortcut menu that shows the most frequently used commands for that window.
- Keep the appropriate quick reference card available during editing sessions to speed the use of shortcuts and keyboard commands.
- Make a habit of reading Avid's newsletters, mailings, and other trade publications.

- Make use of additional training resources provided by Avid whenever possible, such as classes and instructional videotapes. For more information, contact Avid at 800-867-2843.
- Check the following Avid Web site for listings of courses, schedules, and locations:

  www.avid.com/education

Using Help

You can get help and background information for tasks, windows, dialog boxes, and screen objects through your Avid Help system. Your Help system is HTML-based and operates in a Web browser. You need v4.5 or later of Microsoft® Internet Explorer. On a Macintosh system, Avid recommends Internet Explorer v5.0 or later.

Setting Up Your Browser

You must have cookies enabled in your browser to use several capabilities of your Avid Help system. Avid does not retain personal information about you or your system other than your frequently visited Help topics.

To enable cookies:

1. Select Internet Explorer Tools > Internet Options.
2. Click the Security tab.
3. Click the Custom Level button.
4. Scroll down to the Cookies section.
5. Make sure the Enable button is selected.
6. Click OK, and then click OK again.

Getting Help for Windows and Dialog Boxes

The Help system provides you with context-sensitive Help for windows and dialog boxes, such as tools and settings.

To get Help for windows and dialog boxes:

1. Make sure the Avid application is active.
2. Position the mouse pointer anywhere in the window or dialog box for which you want help.
3. Press the F1 key (Windows) or the Help key (Macintosh) on the keyboard.

   If there is no information about a window or dialog box, a Navigation Canceled message appears in the browser. Open the Help and use the Search or Index functions to look for information on that window or dialog box.

Getting Help for Screen Objects

You can use What's This? Help to find out about buttons and other screen objects.

To get help for screen objects:

1. Do one of the following:
   - (Windows) Using the right mouse button, click the screen object (for example, a button).
   - (Macintosh) Ctrl+Shift+click the screen object (for example, a button).

   A pop-up menu opens.
2. Click the pop-up menu, and select What's This?.

   A browser window opens that explains how you use the item. Many windows include a link (marked by underlined text) to more information.

(Windows only) For some dialog boxes, such as Import and Print, use the Question Mark button to access What's This? Help.

Keeping Help Available (Windows Only)

When you access a Help topic and then return to the Avid application, the Help browser disappears behind the Avid system.

To keep Help available, you can use one of the methods in the following topics:

- Restoring Help from the Taskbar (Windows Only)
- Resizing the Application (Windows Only)
- Using Alt+Tab (Windows Only)

Restoring Help from the Taskbar (Windows Only)

You can restore the Help from the taskbar at the bottom of the screen. All your active applications are represented by buttons on the taskbar.

To restore Help, click the browser button on the taskbar, and the Help reappears.

If you can't see the taskbar, you might have set a property that hides it.

To keep the taskbar on top:

1. Right-click in an area of the taskbar where there are no buttons.
2. Click the pop-up menu, and select Properties.

   The Taskbar Properties dialog box opens.
3. Select Always on top.
4. Deselect Auto hide.
5. Click OK.

   The taskbar remains visible at all times.

If you want the taskbar to appear only when you pass the pointer over the bottom of the screen, select Auto hide along with Always on top.

Resizing the Application (Windows Only)

To resize the application and leave Help available:

1. With Help active, click the purple Help title bar and drag it to the top of the screen.
2. Click in the Avid application.

   The Help browser disappears behind the Avid system.

3. Click the Restore button in the top right corner of the application.

   The application shrinks slightly and reveals the Help browser behind it.

   This allows you to click back and forth between the application and the Help browser without significantly reducing the size of the Avid application.

Using Alt+Tab (Windows Only)

To use Alt+Tab:

1. Press and hold the Alt key.
2. Press and release the Tab key.

   A window opens containing icons and names for all the applications currently started on your system. A box surrounds the active application.
3. Continue to hold the Alt key and press and release the Tab key until the box surrounds the Help browser icon, and then release both keys.

Finding Information Within the Help

You see the Help browser when you open Help from the Help menu. The left frame of the Help browser includes a Contents list and buttons for several other methods of finding information.

Using the Contents List

The Contents button provides a list of topics covering the entire Help system.

To view the Contents list using the Contents button, do one of the following:

- Select Help > Avid Symphony or Media Composer Help, and then click the Contents button.
- From a Help topic, click the Contents button.

To display a topic, double-click the topic title in the Contents list.

The Contents displays only the top-level topics. Many entries link to subtopics with related information or procedures.

Using the Index

The Index button provides an alphabetized list of entries, like the index of a printed book.

To find topics using the Index button:

1. Select Help > Avid Symphony or Media Composer Help, and then click the Index button (or click the Index button from a Help topic).
2. From the alphabet at the top, select the letter that begins the topic you want to find (for example, click **A** to jump to index entries listed under audio).
3. Scroll through the topics beginning with that letter until you find the topic you want.
4. Click the number to the right of the index entry. The number indicates how many topics that index entry has associated with it.

   The topic opens in the right frame of the browser.

Using the Search Feature

The Search button lets you search the entire Help system for words or phrases, and then lists topics that include those words or phrases.

To search for topics using the Search button:

1. Select Help > Avid Symphony or Media Composer Help, and then click the Search button (or click the Search button from a Help topic).
2. In the text box, type the word or phrase that you want to find. You can type up to three words, not including invalid words like “the” or misspellings.
3. Press Enter (Windows) or Return (Macintosh) or click the Search button.

   A list shows topics that contain the word or words for which you searched.

Do not type quotation marks or asterisks in the text box.

4. Click a topic in the list.

   The topic opens in the right frame of the browser.

Using the Glossary

The Glossary defines and explains many terms common to the industry. Some entries might not apply to your particular system.

To use the Glossary:

1. Click the Glossary button.
2. Click the letter that begins the term or concept for which you are searching.
3. Scroll through the section to find your term.
4. Click links to see related information.

Printing Help Topics

You can print a Help topic if you need to refer to it during a complicated procedure or for reference later.

To print a Help topic:

1. Open or click the topic to make it active.
2. From the browser menu select File > Print, or click the Print button in the browser toolbar.
3. Select the print options.
4. Click OK (Windows) or Print (Macintosh).

(Windows only) Right-click and select Print to print a topic.

Using Online Documentation

The *Avid Symphony Online Publications* CD-ROM includes:

- *Avid Symphony Editing Guide*
- *Avid Symphony Input and Output Guide*
- *Avid Symphony Effects Guide*
- *Avid Symphony Color Correction Guide*
- *Avid Products Getting Started Guide* (this book)
- Avid Symphony Help system

The *Avid Media Composer and Film Composer Online Publications* CD-ROM includes:

- *Avid Media Composer and Film Composer Editing Guide*
- *Avid Media Composer and Film Composer Input and Output Guide*
- *Avid Media Composer and Film Composer Effects Guide*
- *Avid Color Correction User's Guide*

- *Avid Products Getting Started Guide* (this book)
- Avid Media Composer and Film Composer Help system

The books are PDF files. You can view them with the Adobe Acrobat Reader, which you can install from the CD-ROM.

The online version of the books enables you to:

- Navigate through books using bookmarks and hyperlinks.
- Speed up information retrieval by performing keyword searches.
- Annotate the books with your own notes.
- Zoom in on a page, enabling closer review of text and images.
- Print any or all pages.
- View the books with full-color graphics.
- View movies that illustrate Avid effects.

Avid gives you permission to print up to three complete copies of each book.

Chapter 2

About the Avid System

This chapter provides a general overview of the capabilities of the Avid systems. It introduces basic concepts along with some tips for the beginning user in the following sections:

About the Avid System

The Avid system streamlines the editing process by combining the traditional tools of postproduction, the creative control of digital editing, and the simplicity of the user interface.

More than a method of saving time and money, nonlinear editing introduces a whole new style of craftsmanship into the postproduction suite by allowing greater experimentation in the composition of full-motion visual media.

The Avid system blends the traditional benefits of previsualization familiar to the conventional offline editor with the advanced production tools and image quality of high-end online production.

About Avid Symphony

Symphony is Avid's uncompressed finishing system offering uncompromising quality, performance, and capability for the creation of television programs and commercials. Three uncompressed streams make it the ideal tool for finishing your most demanding program types. It places all the tools you need right at your fingertips—from audio finishing to color correction, from keying to scratch removal to complex matte creation. And, when you need to work with dedicated effects and audio workstations, it includes strong links to Avid's family of products as well as third-party applications.

If you are still finishing in a linear suite, chances are your sequences are offlined on an Avid system. Avid Symphony can perfectly re-create your entire offline session with the touch of a button. That means every edit, every composite, every audio setting, and every effect move in their entirety to the online session. No more conforming from EDLs. No more hours spent re-creating layers. Simply redigitize your media and you have a totally conformed program.

Avid Symphony includes 24p Universal Editing and Mastering technology. Universal Editing and Mastering enables content producers to edit 24-frame progressive content in its native format and to deliver NTSC, PAL, 4:3, 16:9, and letterbox versions. It also outputs list formats such as film cut lists and 24-fps and 25-fps edit decision lists (EDLs) for high-definition television (HDTV) conforming. It can Total Conform 24p and 25p projects, complete with Pan and Scan information, from Media Composer XL systems equipped with the new Universal Offline Editing feature.

About Avid Film Composer

Film editors have long wanted access to the real-time effects and previsualization tools available in the online videotape suite, without losing their traditional sense of craftsmanship. The Film Composer nonlinear editing system makes this possible.

The nonlinear editing process is not new to film. In fact, you will discover many familiar terms and procedures of film editing preserved in this system. At the same time, Film Composer introduces random access to footage and the ability to easily create multiple versions of a cut.

This unique combination of traditional film concepts and state-of-the-art nonlinear technology dramatically shortens the distance between a concept and its execution in the cutting room, making the process of film editing more fluid. Film Composer includes new 24p and 25p editing technology which enables content producers to edit 24-frame progressive and 25-frame progressive content in its native format and to deliver NTSC, PAL, 4:3, 16:9, and letterbox versions. It also outputs list formats such as film cut lists and 24-fps and 25-fps edit decision lists (EDLs) for high-definition television (HDTV) conforming.

About 24p Media

With new digital television (DTV) formats expanding the options for content distribution, there is renewed interest in the oldest format in the industry — 24-fps film. In addition to its common format, film provides the highest resolution master for archiving purposes. Through a telecine transfer and the digitizing process, the Avid system captures and stores film frames as 24-fps progressive media, or 24p.

Progressive media is composed of single frames, each of which is vertically scanned as one pass. The Avid system creates 24p media by combining (deinterlacing) two video fields into a single, full, reconstructed frame. For NTSC film-to-tape transfers, the system creates 24p media by removing the extra fields inserted by the 2:3 pulldown process and creating progressive frames.

Working in 24p simplifies digital editing of film or other 24-fps-originated content, such as HDTV video that has been downconverted to ITU-R 601 digital video. In addition, 24p media requires less storage and processing power than 30-fps media. Because 24p provides a common production format for multiversion, multiformat delivery, it promises to become the new universal format for all film and video content.

About 25p Media

The 25p format is primarily for use in countries where PAL video is standard. When you transfer 25-fps film footage to 25-fps PAL video, no modifications are necessary due to matching frame rates.

The 25-fps feature provides the following advantages:

- Simultaneous input of video and audio in sync
- Frame-accurate ink number tracking
- Digital cut recording directly to videotape
- Frame-accurate cut lists and change lists
- Frame-accurate audio EDLs for online editing of audio tracks
- Frame-accurate EDLs for assembling footage from the transfer or for preparing an online show master

The source for 25p media is typically 25-fps film or 25-fps HDTV format. The methods for creating and storing 25p media are the same as for 24p media.

Editing Basics

The unique nature of nonlinear editing — and the specific features of the Avid system — suggest a new process of editing and the flow of your work on projects, as described in this section.

About Nonlinear Editing

As a digital, nonlinear editing tool, Avid systems provides complete *random access* to footage, with instantaneous cueing and retrieval of sequences, segments, clips, and frames.

In addition, traditional editing requires that you electronically copy video from a source tape to a master tape. When you make changes in this linear arrangement, you must reassemble all of the clips that follow the change. By contrast, when you edit with an Avid system, you are not actually

cutting or dubbing the footage. Instead, your source tapes are digitized into media files that can be played just like the original tapes. When you edit, you work with these images and sounds (*objects)* with great freedom, creating data files that refer to the media files and to your original source tapes. You can make changes, and the entire sequence is immediately updated. This is the primary benefit of nonlinear editing.

The system maintains frame-accurate links between each alteration of the objects you work with and the original media files. This allows you to experiment with every edit you make through multiple generations. When you play back your work, the system immediately accesses and plays the appropriate portions of the digitized video and audio.

Editing Components

Knowing some basic terms for the editing components will help you use your Avid system more effectively. They are:

- **Bin**: the window in which you organize the material to be edited
- **Cut list:** a series of output lists containing specifications used to conform the work print or film negative
- **Digital cut:** a copy made directly from disk to tape
- **EDL:** edit decision list containing detailed information on your sequence for editing of a videotape master
- **Effect mode**: the controls in the Timeline and the Effect Editor window to apply, render, and edit effects into the sequence
- **Finishing mode** (Symphony only): a mode composed of a Playback monitor that displays the assembled sequence
- **IN and OUT points:** the starting and ending points of an edit
- **Master clip**: an editing object that references the compressed media
- **Media file**: the stored, compressed digital data representing the original video and audio
- **Project**: the job that results in one or more sequences; the Project window organizes all the clips, sequences, effects, and media file pointers for a program or series of programs

- **Segment mode**: the editing controls for moving, deleting, marking, and editing segments in the Timeline
- **Sequence**: an edited composition that includes audio and video clips and rendered effects
- **Source clip**: the smallest media object that contains all the information necessary to reference footage
- **Source/Record mode**: a mode composed of a Source monitor that displays source clips, a Record monitor that displays the assembled sequence, and controls for making basic edits
- **Subclip:** a part of a master clip, which references the master clip
- **Timeline**: the graphical representation of every edit made to a sequence, including all nested effects and layered tracks
- **Trim mode**: the controls for fine-tuning edits and transitions with various trim procedures

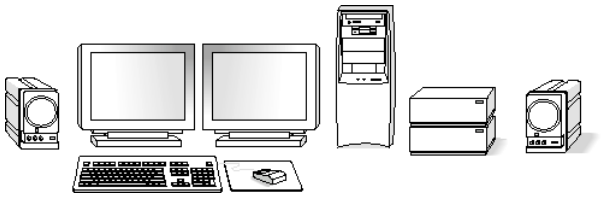
Project Workflow

The following sections introduce the five stages of a project, along with the system terms you encounter in the Avid system. Complete procedures for each phase are described in this guide, in the Avid Help system, in the online books, and in the appropriate editing guide.

Starting a Project

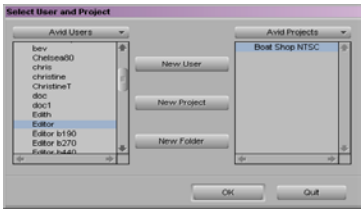
Starting a project involves the following steps:

1. Turn on your equipment in a prescribed order and start the Avid software.



1. Turn on and start your Avid system.

2. Select or create a new *project*: the job that will result in one or more finished *sequences*.



2. Select or create a project.

3. Create and organize *bins*.

3. Create and organize bins.

4. Back up the project.

4. *Back up* your project on a regular basis.

Preparing to Edit

Preparing to edit involves the following steps:

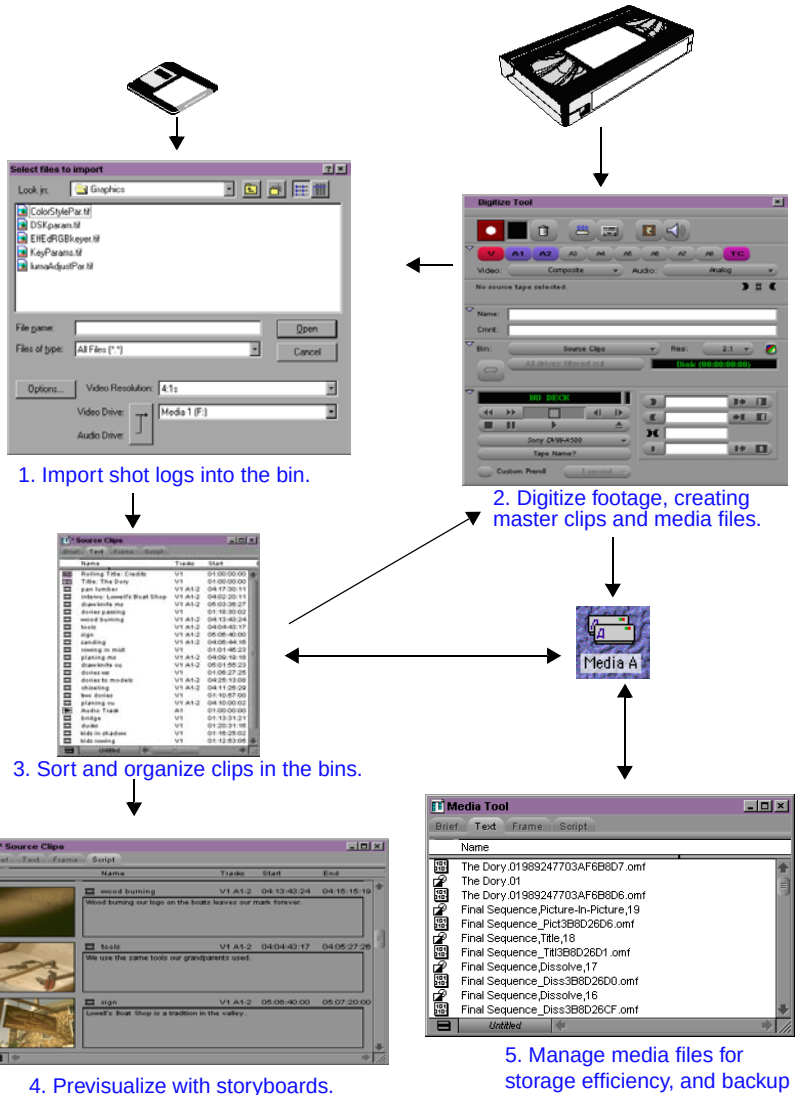
1. Import your shot logs into the bins, or log the material manually to create *source clips*.

2. Digitize your analog footage, creating *media files* and *master clips*.

3. Work with bins and clips to organize your source material for easy access during editing.

4. (Option) Build a *storyboard*, to begin previsualizing your final cut before editing.

5. Manage media files using controls provided by the system, such as the Media tool.



1. Import shot logs into the bin.

2. Digitize footage, creating master clips and media files.

3. Sort and organize clips in the bins.

4. Previsualize with storyboards.

5. Manage media files for storage efficiency, and backup security.

Editing a Sequence

Editing a sequence involves the following steps:

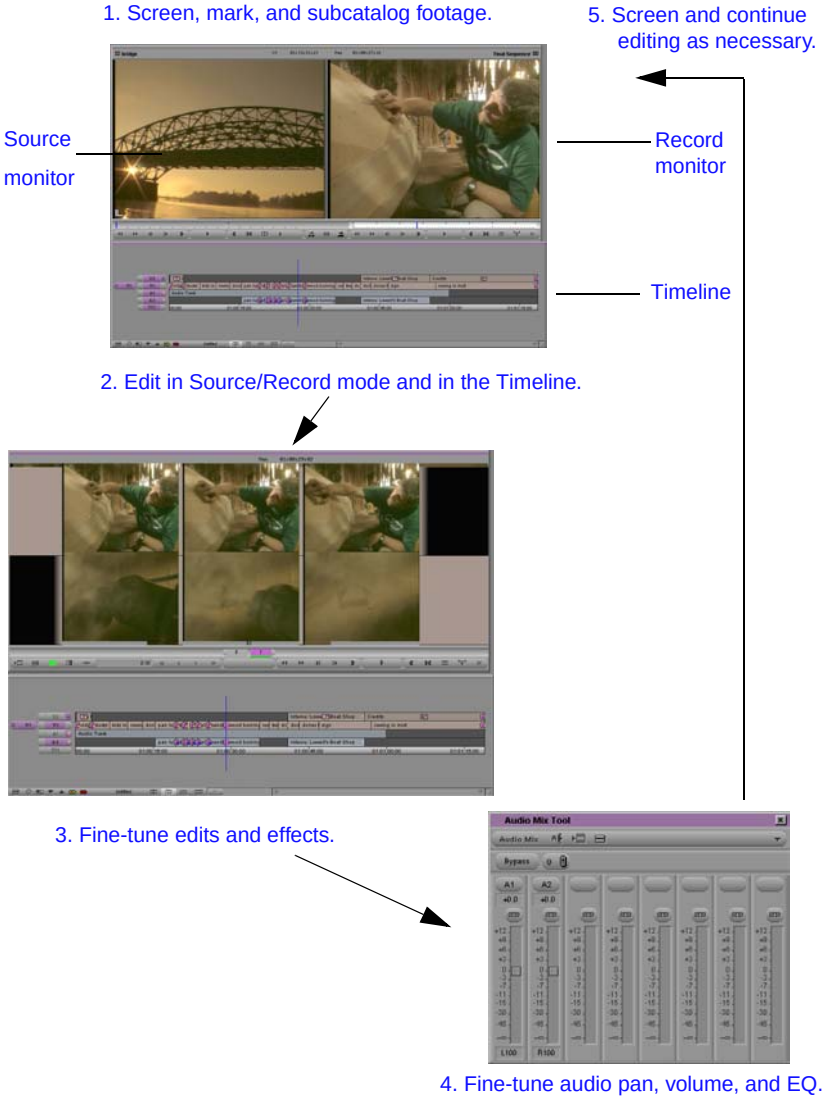
1. View your clips in advance and mark *IN points* and *OUT points*, or create *subclips* based on selected portions of your master clips.

2. Build your sequence in Source/Record mode, which provides nonlinear editing controls with Source and Record monitors, and in the *Timeline*.

3. Fine-tune your edits and effects using functions of the various edit modes, such as Segment mode, Trim mode, and Effect mode.

4. Adjust and mix multiple audio tracks and prepare for final playback or output, using the Avid *Audio tool* and *Audio Mix tool*.

5. Return to editing if further adjustments are required.



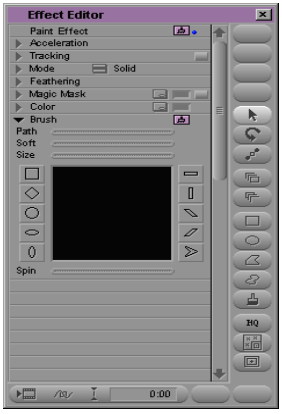
Finishing a Sequence (Symphony Only)

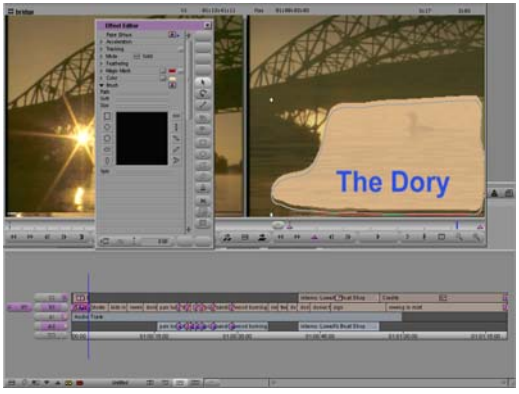
Finishing a sequence involves the following steps:

1. Batch digitize your clips at a 1:1 resolution (uncompressed).

1. Batch digitize at an uncompressed rate.

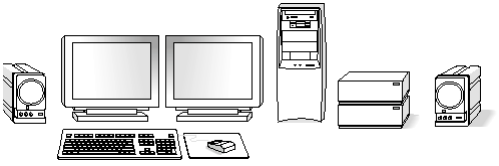
2. In Finishing mode, you can sweeten audio, make any color corrections, add a chroma or luma key effect, repair dropouts, or add complex matte creations.





2. Adjust color, add key effects, and repair dropouts.

3. Link to Avid's family of products or third-party applications.

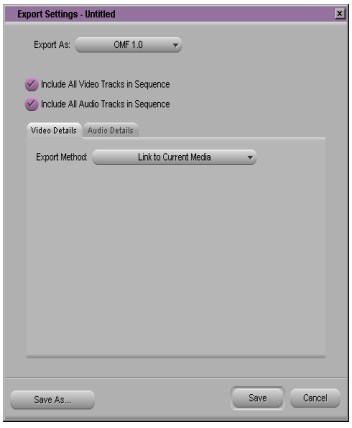


3. Link to other applications.

Generating Output

Generating various forms of output based on your sequence involves selecting among several options:

1. Export and exchange material for audio sweetening or graphics enhancement in a third-party application, or for incorporating into a multimedia project.



1. Export and exchange material for import into third-party applications.

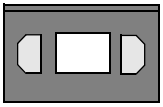
2. Record the final sequence as a digital cut as NTSC or PAL, with 16:9 or 4:3 screen ratio.

Or

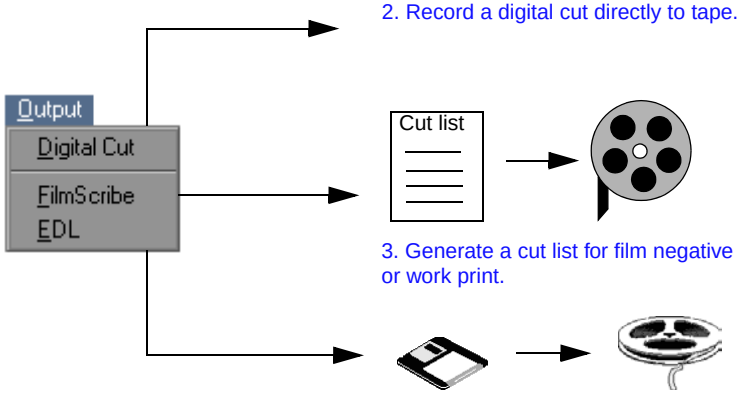
3. Generate a cut list to be used for conforming a film negative or work print.

Or

4. Generate an EDL to create an HDTV online master.



2. Record a digital cut directly to tape.



3. Generate a cut list for film negative or work print.

4. Generate an EDL for HDTV online master.

Behind the Scenes

Every time you work and make changes to a project it's backed up and saved to a folder.

The Avid Attic Folder

The Avid system saves copies of your current project and its bins at regular intervals and whenever you save or close a project or bin. These auto-save files are stored in the Avid Attic folder in the Avid application folder. If at any time you lose work due to a power outage or system error, open the Avid Attic folder and look for a project or bin of the same name with the file name extension .bak*xx*, where *xx* is the version number. For example, the first backup file for the bin Rough Cut would be named Rough Cut.bak01. Later versions would be named Rough Cut.bak02, Rough Cut.bak03, and so on.

Chapter 3

Starting a Project

The Project window provides controls in five different display modes for structuring and viewing important information about your current project. These include a display of bins and folders associated with the project, a list of all settings, and basic information about the format of the project and use of system memory, hardware, and project usage.

Starting a project is described in the following sections:

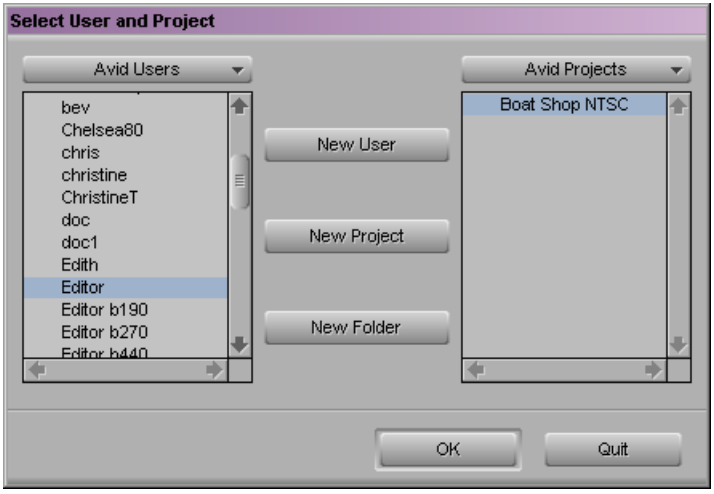
- About Avid Projects and Avid Users Folders
- Copying Project Information
- Using the Bins Display
- About Trash
- Using the Settings Display
- About Settings
- Customizing Your Workspace

Tutorial: Starting a Project contains the following sections:

- Starting the Application (Windows)
- Starting the Application (Macintosh)
- Opening a Project

About Avid Projects and Avid Users Folders

Avid Projects and Avid Users folders allow you to move whole projects or selected project and user settings between systems by copying and moving files on your desktop.



When you create a new project or user, the system creates the following files and folders:

- When you create a new user, the system creates three items: a user profile file, a User settings file, and a user folder containing the two. Each item is given the user name you provide. This new folder is stored in the Avid Users folder on your internal hard drive in \Program Files\Avid\Symphony or \Program Files\Avid\Media Composer (Windows), or in Macintosh HD/Users/Shared (Macintosh).
- When you create a new project, the system creates three items: a project file, a Project settings file, and a folder containing the two, each of which is given the project name you provide. This new folder is stored in the Avid Projects folder on your internal hard drive in \Program Files\Avid\Symphony or \Program Files\Avid\Media Composer (Windows), or in Macintosh HD/Users/Shared (Macintosh).

Your settings are initially set to the default values. As you work, the files maintain current settings, or are adjusted to your use, while the project folder fills with bin files.

Copying Project Information

The Avid system allows you to copy a project from one Avid product to another, such as from an Avid Media Composer system to an Avid Symphony system. You can also move a project to another Avid system through Avid EDL Manager or by importing an OMFI file (composition only).

To copy project information to your Avid system:

1. On the offline system, copy the project folder to a PC-formatted disk or a location on a server.

   You can also copy settings. User Settings folders are located in the Avid Users folder at the top level of the internal hard drive (Windows) or the Macintosh HD drive (Macintosh). Site settings are located in the *Avid product* folder, also at the top level of the internal hard drive (Windows) or the Macintosh HD drive (Macintosh).

2. On the Avid system (Windows), copy the project folder from the disk or server to the following folder:

   C:\Program Files\Avid*Avid product*\Avid Projects

   Copy the User settings to:

   C:\Program Files\Avid*Avid product*\Avid Users

   Copy the Site Settings folder to:

   C:\Program Files\Avid*Avid product*\Settings

3. On the Avid system (Macintosh), copy the project folder from the disk or server to the following folder:

   Macintosh HD/Users/Shared/Avid Projects

   Copy the User settings to:

   Macintosh HD/Users/Shared/Avid/Avid Users

Copy the Site Settings folder to:

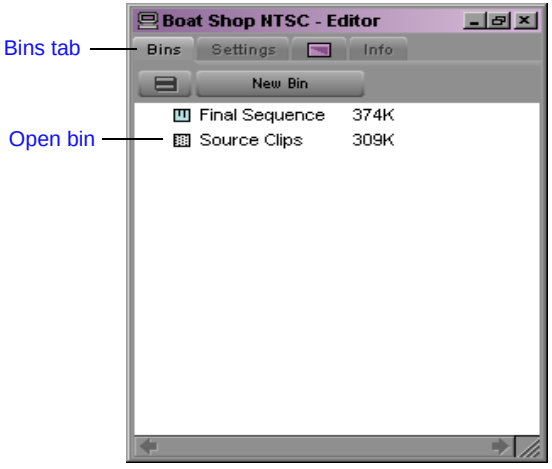
Macintosh HD/Application/*Avid product*/Settings

The next time you see the Select User and Project dialog box, the new project will appear in the project scroll list. New User settings will appear in the user list.

Using the Bins Display

Bins are windows that contain titles, thumbnails (small pictures that represent clips), and information about the material you digitize. These editable files are called master clips. They refer to the actual media files created when you digitize source material. While the physical media are stored on external hard drives, the master clips that refer to that media reside in the bin. Bins also store the sequences, subclips, group clips, and effects clips that you create during a project. The Project window allows you to make a new bin, close it, reopen it, and move clips among these bins. You can also open bins created for different projects.

After you select a user and project in the Select User and Project dialog box, the Project window opens. To view a complete list of bins associated with the project, click the Bins tab in the Project window. A list of bins appears.



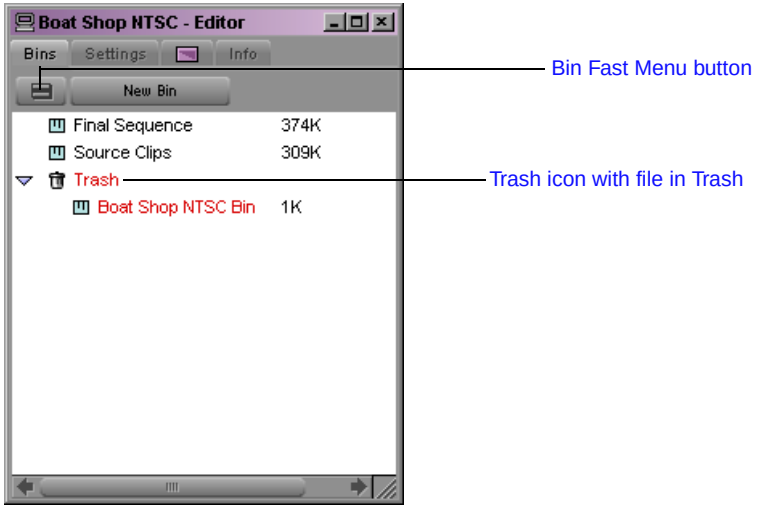
From the Bins list you can examine the number, names, size, and location of bins, and you can also open bins. Dotted bin icons next to bin names indicate bins that are currently open; solid icons indicate closed bins.

About Trash

Avid stores deleted bins in the Trash. The Trash icon is located in the Project window and only appears when you delete a bin. You can use the Trash to retrieve bins you deleted in error, or empty the Trash to create more disk space.

To empty the contents of the Trash:

1. Click the Trash icon to display its contents.
2. Click the Bin Fast Menu button at the top of the Bin window.
3. Select Empty Trash.

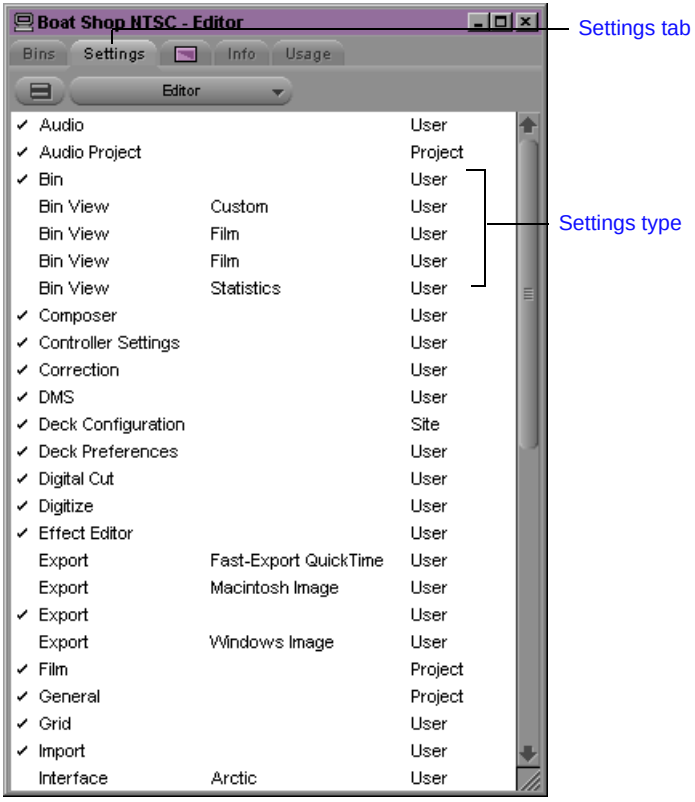


Clips, subclips, and effects that are in a bin appear in the Trash after you delete the bin. However, if you select a clip, subclip, or effect directly and press the Delete key, the item does not appear in the Trash.

Using the Settings Display

From the Settings display, you can view, select, open, and alter various User, Project, and Site settings, as described in this section.

To view the Settings display, click the Settings tab in the Project window. The Settings scroll list appears.



About Settings

Three types of settings are displayed in the Settings scroll list:

- **User settings** are specific to a particular editor. User settings reflect individual preferences for adjusting the user interface in your Avid system. Individual User settings are stored in each user folder within the Avid Users folder on your internal hard drive in \Program Files\Avid\Symphony or \Program Files\Avid\Media Composer (Windows), or in Macintosh HD/Users/Shared (Macintosh).
- **Project settings** are directly related to individual projects. When a Project setting is changed, it affects all editors working on the project. Specific Project settings are stored in each project folder within the Avid Projects folder on your internal hard drive in \Program Files\Avid\Symphony or \Program Files\Avid\Media Composer (Windows), or in Macintosh HD/Applications/Avid Symphony or Macintosh HD/Applications/Avid Media Composer (Macintosh).
- **Site settings** establish default parameters for all new users and projects on a particular system. These can apply to particular configurations of equipment installed at the site, for example, specifications and node settings for an external switcher. They can also include other User or Project settings that you copy into the Site Settings window. Site settings are stored in a separate Settings folder in the Symphony or Media Composer folder on your internal hard drive in \Program Files\Avid\Symphony or \Program Files\Avid\Media Composer (Windows), or in Macintosh HD/Applications/Avid Symphony or Macintosh HD/Applications/Avid Media Composer (Macintosh).

Reviewing Basic Settings

For a complete description of all settings and their options, see the Help system.

The following list describes basic system settings to review at the start of your project:

- Bin settings
- General settings
- Interface settings
- Workspace settings

Double-click each setting in the Settings scroll list of the Project window to view the following dialog boxes:

- **Bin settings** define general system functions related to bins, including:
  - Parameters of the Auto-save function
  - Maximum number of bin backup files stored in the Avid Attic folder
- **General settings** define fundamental system defaults, including:
  - Starting timecode for sequences edited in your Avid system
  - Setup default for either American NTSC or NTSC-EIAJ video input (affects calibration)
  - Whether the system uses Windows compatible file names and allows file names to exceed more than 27 characters
- **Interface settings** determine the level of basic information displayed in the interface, including whether written labels are displayed beneath icons in the various command palettes.
- **Workspace settings** let you associate a configuration of windows with a workspace setting name. You can customize any user settings and link the settings to a workspace. You can have as many workspace settings as you want. For more information, see the appropriate editing guide and “Workspace:assigning” in the Help index.

Customizing Your Workspace

A *workspace* is the arrangement and size of tools displayed on your Avid system. If you are accustomed to working with a particular group of windows arranged and sized in a particular setup, you can assign them to a workspace setting that saves that arrangement.

You can also link user settings to a workspace. You can create a customized workspace and set up specific options in any Settings window, and link them together by name.

For example, you can create an Audio workspace that opens the Audio Mix tool and Audio tool. This workspace will also open a customized Timeline (with enlarged audio tracks and rubberbanding displays). You can also link this workspace to a Settings window with customized options selected. You do this by creating a setting and giving it the same name in the Project window as the name of the workspace.

You can assign up to eight buttons that allow you to switch between user-customized workspaces. This is very useful if there is more than one user accessing the same Avid system. *Each* user can assign up to eight workspaces using the workspace buttons. For more information on creating workspace settings, see “Creating a New Workspace Setting” in the appropriate editing guide.

Tutorial: Starting a Project

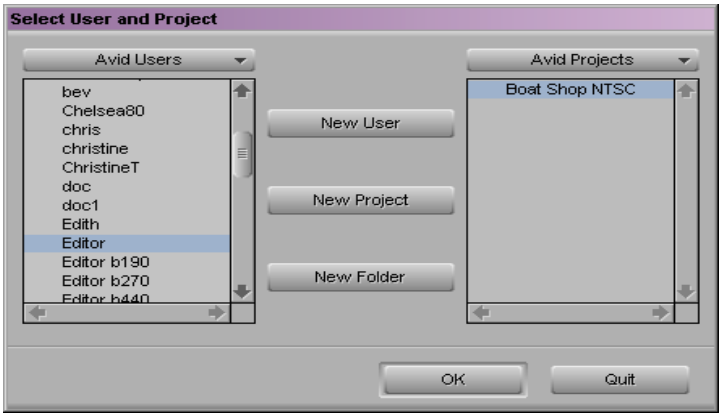
In this tutorial, you start your Avid system, create a user, and select a project. Before starting this procedure, make sure you have installed the Tutorial files (see "Installing the Tutorial Files (Windows)" on page 29 or "Installing the Tutorial Files (Macintosh)" on page 33).

Starting the Application (Windows)

To start the Avid system on a Windows system, do one of the following:

- Double-click the desktop shortcut icon.
- Click the Start button, and select Programs > Avid > Symphony or Media Composer.

  After a few moments, the Select User and Project dialog box opens.



To start the application from the desktop, Avid recommends you create a shortcut and place it there.

If the license agreement window opens, click either Accept or Accept and Don't Show Again.

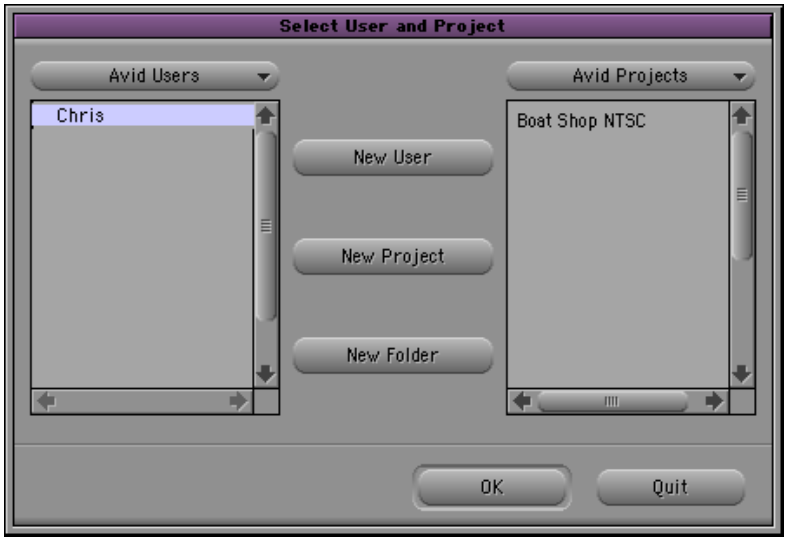
For this tutorial, you will use the Boat Shop NTSC or Boat Shop PAL project (along with its settings file) that you installed into the Avid Projects folder in “Installing the Tutorial Files (Windows)” on page 29.

Starting the Application (Macintosh)

To start the Avid system on a Macintosh system, do one of the following:

- Double-click the desktop shortcut icon.
- Select Go > Applications, and then double-click the Avid application icon.

  After a few moments, the Select User and Project dialog box opens.



If the license agreement window opens, click either Accept or Accept and Don’t Show Again.

For this tutorial, you will use the Boat Shop NTSC or Boat Shop PAL project (along with its settings file) that you installed into the Avid Projects folder in “Installing the Tutorial Files (Macintosh)” on page 33.

Opening a Project

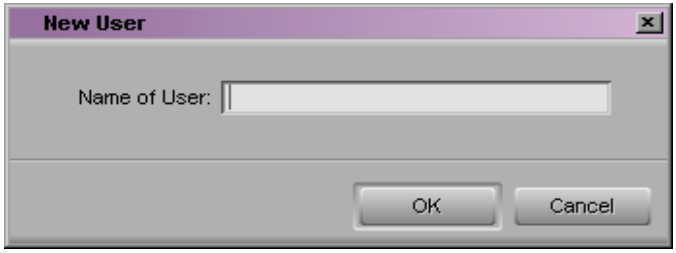
To open a project, you create a new user and select an existing project.

Creating a User

To create a new user:

1. Click the New User button in the Select User and Project dialog box.

   The New User dialog box opens.



2. Type your name and click OK.

   The Select User and Project dialog box reopens with your name highlighted in the list of users.

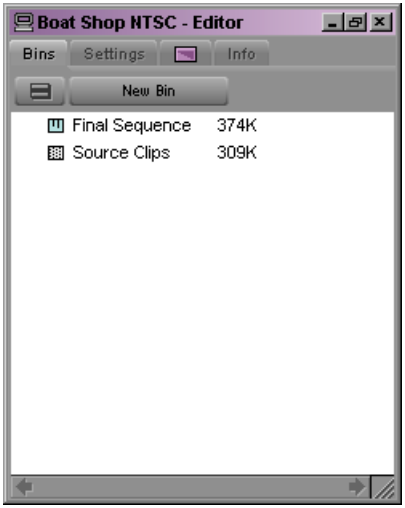
Selecting a Project

To get help for the Project window, press Ctrl+Shift and click in the Project window. (Macintosh only)

To select a project:

1. Select Boat Shop NTSC or Boat Shop PAL from the Avid Projects list and click OK.

   The Project window opens. It lists the bins, or storage areas, created to hold the clips and sequences you will need for this tutorial.



2. Double-click the icon to the left of **Source Clips** to open the bin.

   This bin contains the clips of the source footage you will use to begin to build the Tutorial sequence.

You've finished this tutorial. The next tutorial is "Tutorial: Getting Ready to Edit" on page 96. Be sure to read Chapter 4 and the introductory material in Chapter 5 *before* continuing the tutorial.

Chapter 4

Digitizing

This chapter discusses the digitizing process and related tools.

Digitizing is described in the following sections:

Selecting Settings

A number of settings have a direct bearing on the digitizing process. Before digitizing, review the following options for General Settings, Deck Settings, and Digitize Settings:

- **Drive Filtering Based on Resolution** causes the system to dim all drives for which speed capabilities are unknown or untested in a particular video resolution. This setting is selected by default in the General Settings dialog box.

The Avid system does not prevent you from using non-Avid drives, but their reliability cannot be assured.

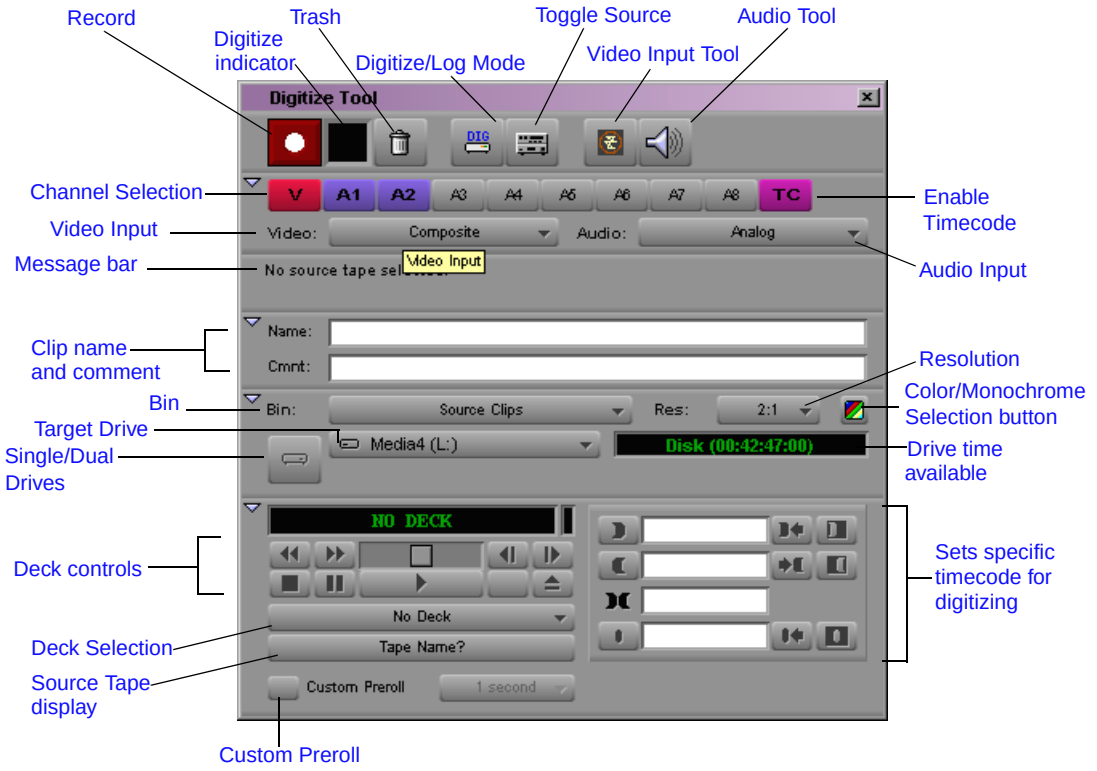
- **Deck Preferences** include various options for source deck, sync mode, preroll, drop/non-drop-frame preference, and deck control.
- **Deck Configuration Settings** allow you to establish deck control parameters for a single deck or for multiple decks. You can manually configure the deck or use the Autoconfigure option.
- **Digitize Settings** include essential options for digitizing and batch digitizing, including general parameters for capture of the source material, and special conditions such as digitizing across timecode breaks or capturing a single video frame.

About the Digitize Tool

For more information on the Digitize tool, see "Digitize tool:setting up" in the Help index.

The Digitize tool provides controls for digitizing your footage.

To open the Digitize tool, select Tools > Digitize. The Digitize tool opens.



The Digitize tool has the following options:

- **Audio Input pop-up menu** allows you to select Analog, AES/EBU, or S/PDIF.
- **Audio Tool button** opens the Audio tool.
- **Bin pop-up menu** lets you select a target bin as the destination for the master clips created when you digitize on-the-fly. You can also select a target bin containing the logged clips you will use to batch digitize your media.
- **Channel Selection panel** lets you select which audio and video tracks you want to digitize from the source tape, whether you want to digitize video or audio only, and whether you want to record timecode.
- **Clip name and comment** allows you to enter a clip name and any other information about the clip.
- **Color/Monochrome Selection button** allows you to filter out all of the color from each frame of video when digitizing.
- **Custom Preroll check box** allows you to select a preroll of 1 to 30 seconds.
- **Deck controls** operate the deck.
- **Deck Selection pop-up menu** lets you select the deck you want to play from. It also lets you check and reset serial port connections to decks.
- **Digitize indicator** flashes on and off while you are digitizing.
- **Digitize/Log Mode button** lets you switch between Digitize mode and Log mode.
- **Drive time available** is displayed after you select a video resolution and target a drive or drives for the digitized media.
- **Enable Timecode button** allows the system to digitize timecode from the source tape. If this is deselected, the system digitizes the time-of-day timecode.
- **Message bar** displays information on the current status of the tool.

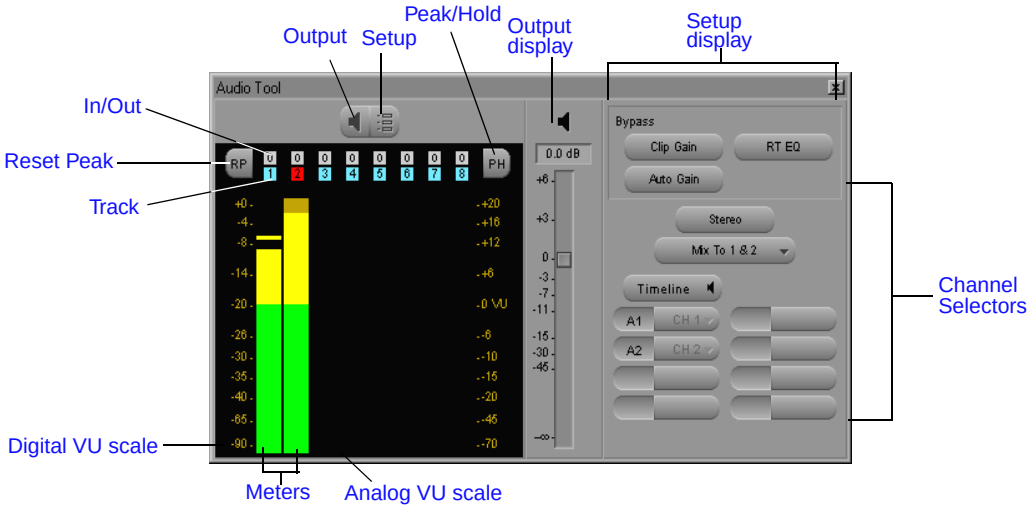
- **Record to the Timeline** allows you to digitize footage directly from tape into a sequence loaded in the Timeline in one step. Recording to the Timeline works best when you are digitizing on-the-fly.
- **Red Record button** begins the digitizing process.
- **Resolution pop-up menu** next to the Bin pop-up menu lets you select a video resolution including an uncompressed resolution to digitize three uncompressed streams of media.
- **Single/Dual Drives button** lets you target a single or separate media drives for digitizing the audio and video for each clip.
- **Source Tape display** shows the name of the source tape.
- **Target Drive pop-up menu** lets you select the target drive.
- **Toggle Source button** switches the deck online or displays the External Timecode icon, which allows you to select LTC (longitudinal or linear timecode).
- **Trash button** stops the digitizing process and deletes the digitized media.
- **Video Input pop-up menu** allows you to select Composite, Component, or S-Video.
- **Video Input Tool button** opens the Video Input tool.

About the Audio Tool

For more information on the Audio tool, see "Audio tool:setting up" in the Help index.

The Audio tool controls parameters for audio input and output.

To open the Audio tool, select Tools > Audio Tool or click the Audio Tool button in the Digitize tool. The Audio tool opens. Click the Output and Setup buttons to fully open the Audio tool.



The Audio tool has the following options:

- **Analog VU scale** on the right displays a fixed range of values that you can conform to the headroom parameters of your source audio.
- **Channel Selector pop-up menus** let you map tracks in the sequence to output channels.
- **Digital VU scale** on the left displays a fixed range of values from 0 to –90 decibels (dB), according to common digital peak meter standards.
- **In/Out buttons** switch the meter displays for each channel between input levels from a source device, and output levels to the speakers and record devices. **I** indicates Input and **O** indicates Output.

- **Meters** dynamically track audio levels for each channel as follows:
  - Meters show green below the target reference level (the default reference level is –14 dB on the digital scale).
  - Meters show yellow for the normal headroom range, above the reference level to approximately –3 dB.
  - Meters show red for peaks approaching overload, between –3 dB and 0 dB.
  - Thin green lines at the bottom indicate signals below the display range.
- **Output button** displays the Output display.
- **Output display** contains a single slider control for raising or lowering global audio output.
- **Peak/Hold button** allows you to select options for customizing the meter displays, and setting and playing back the internal calibration tone.
- **Reset Peak button** resets the current maximum peak measurements. It also stops the playback of the internal calibration tone.
- **Setup button** displays the Setup display.
- **Setup display** contains information and controls for adjusting various audio hardware parameters.
- **Track indicator** displays the audio track number.

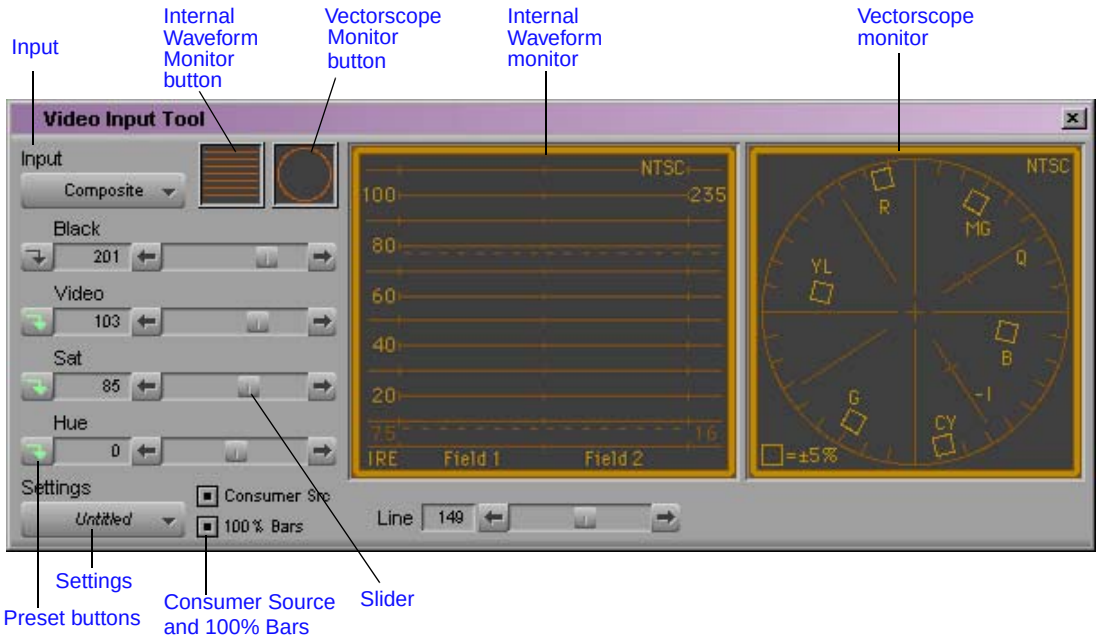
For more information on using the Audio tool, see the Help system.

About the Video Input Tool

For more information on the Video Input tool, see “Calibrating:for video input” in the Help index.

The Video Input tool controls parameters for incoming video.

To open the Video Input tool, select Tools > Video Input Tool or click the Video Input Tool button in the Digitize tool. The Video Input tool opens. Click the Internal Waveform Monitor and Vectorscope Monitor buttons to fully open the Video Input tool.



The Video Input tool has the following options:

- **100% Bars** is used if the source displays 100% bars for calibration.
- **Consumer Source** is selected if you are using a consumer-grade video deck (VCR), or a deck that has no built-in time-based corrector.
- **Input pop-up menu** lets you select either Composite, Component, or S-Video input source.
- **Internal Waveform Monitor button** lets you adjust luminance (Y gain and black setup) values.

- **Preset buttons** are lit when the factory preset levels are displayed. When you click a lit Preset button, it dims and the slider returns to the most recent manual level setting.
- **Settings pop-up menu** lets you save the Site settings for an individual tape each time you calibrate bars.
- **Sliders** let you change the value for: Black, Y Gain, Saturation, and Hue.
- **Vectorscope Monitor button** lets you adjust hue and saturation.

Digitizing Preparations Check List

☐ 1. Consider striping your drives in advance according to the appropriate setup guide, *Avid MediaDrive Utilities User's Guide* (Windows), or *AVIDdrive Utility 2 User's Guide* (Macintosh) if you are working on a complex project with multiple streams of video and high-resolution images.

☐ 2. Consider labeling each of your external drives. If there are no labels, you can add a specific name to help identify the information on the drive, for example, Boat Shop (G:). When digitizing audio, you must keep the audio files on a separate external drive from the uncompressed video files. To keep both the audio and video on separate drives, label your drives, for example: Audio (F:) and Media (G:).

☐ 3. Check your hardware configurations: power switches, cable connections, and remote switch on the source deck for deck control (for hardware configurations, see the appropriate setup guide).

☐ 4. In the Project Settings scroll list, make sure you have selected the options you want in the General Settings, Deck Settings, Deck Preferences, Deck Configuration, and Digitize Settings dialog boxes.

☐ 5. Insert a tape into the deck and set up the Digitize tool for track selection, target bin, target drives, source tape, and source deck.

☐ 6. Set up the Compression tool for video resolution and color compression (for more information, see the appropriate editing guide and “Compression tool:setting up” in the Help index).

☐ 7. Use the Audio tool to set the audio input levels.

☐ 8. Use the Video Input tool to set the video input levels; save your video settings for future use.

About Digitizing

You can digitize your source material in one of the following ways:

- Digitize and log at the same time
- Batch digitize
- Redigitize

Digitizing and Logging at the Same Time

When you digitize without entering log information in a bin ahead of time, the system creates clips and associated media files while you digitize. Digitizing in this manner involves manually cueing source footage with an Avid-controlled deck, using the deck controls in the Digitize tool.

For more information on digitizing, see “Overview:digitizing” in the Help index.

There are several ways to digitize and log at the same time. They are:

- **Digitizing from a mark IN to a mark OUT.** This method lets you specify the exact timecode location to begin and end digitizing. You can also specify only a mark IN or mark OUT, and enter the other mark on-the-fly.
- **Digitizing on-the-fly.** This method is easier than setting marks, but it is more imprecise. It involves using the deck controls in the lower left corner of the Digitize tool to cue, play, and stop the source footage manually while digitizing.

- **Autodigitizing.** This method requires the least amount of supervision and effort, but usually calls for more digitizing time and disk storage space. It involves playing each source tape from a cue point near the beginning and letting the system digitize the entire tape, automatically naming and entering each long clip into the bin.

Batch Digitizing

For more information and procedures, see "Batch digitizing" in the Help index.

Once you have imported a log or manually logged a group of clips into a bin, you can automate the digitize process using your Avid system's batch–digitizing capabilities. To batch digitize, source tapes must have timecode.

(Symphony only) In Symphony, after selecting all the clips you want to batch digitize, select Res > *uncompressed resolution*.

(Symphony only) If your media was analog (not digital) when digitized, you will need to reset the color bars in the Video Input tool before batch digitizing.

For more information and procedures, see "Adjusting color bars" in the Help index.

(Symphony only) After you batch digitize the media at the uncompressed resolution, you will have to re-create title media and rerender any non-real-time effects you might have in your sequence. See "Re-creating Title Media" and "Rendering Multiple Effects "in the appropriate effects guide.

Redigitizing

For more information and procedures, see "Redigitizing" in the Help index.

Redigitizing is the process of capturing previously digitized source footage based on existing clips and sequences. Redigitizing uses the batch–digitize process and does not require extra logging time because the clip information for such things as source tracks, timecodes, and resolution settings already exists in the bin.

Chapter 5

Getting Ready to Edit

Before starting an editing session, you need to understand how to organize and manipulate your clips.

Preparing to edit is described in the following sections:

- About Bin Views
- Controlling Playback
- Marking IN and OUT Points
- Creating Subclips

Tutorial: Getting Ready to Edit contains the following sections:

- Viewing Clips
- Playing Clips
- Marking Edit Points
- Subclipping
- Clearing IN Points and OUT Points

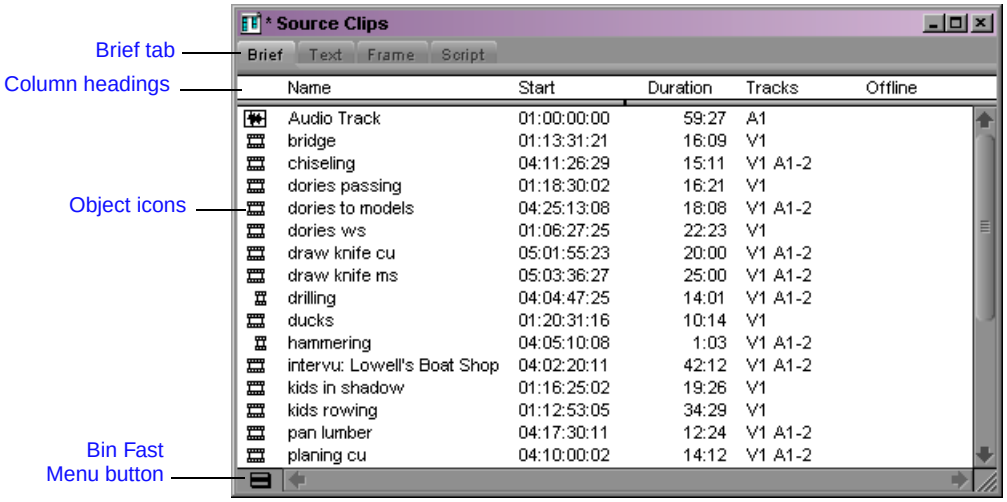
About Bin Views

You can use four views for working with clips in a bin: Brief view, Text view, Frame view, and Script view.

The Bin Fast menu displays the same menu as the Bin menu on the toolbar along the top of your screen.

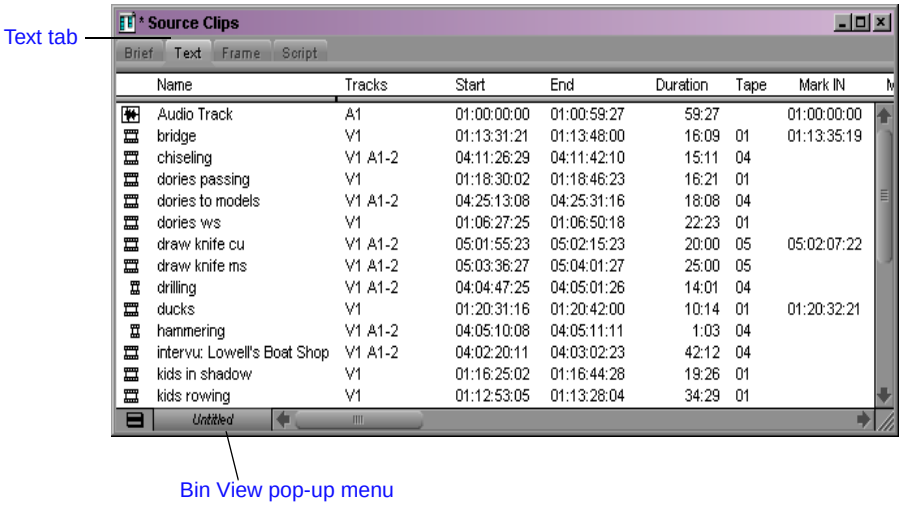
- In *Brief view,* clips are displayed in a database text format that uses columns and rows, with icons representing the various objects. Brief view displays only five standard columns of information about your clips and sequences.

  To enter Brief view, click the Brief tab.



- In *Text view*, clips are displayed in a database text format that uses columns and rows, with icons representing the various objects. You can save various arrangements of columns, text, and objects as customized *views* using the Bins settings in the Project window and the Bin Fast menu.

  To enter Text view, click the Text tab.

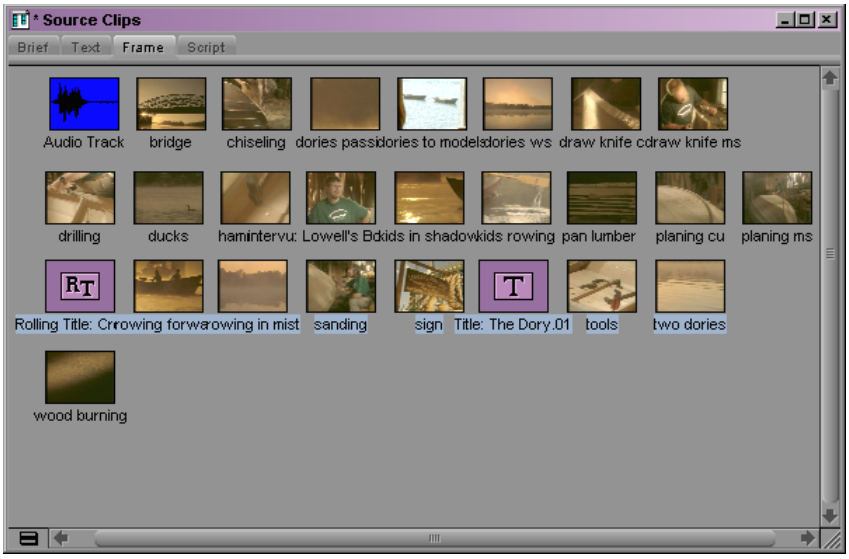


To the right of the Bin Fast Menu button in Text view, is a pop-up menu of titles for different Bin views. Bins have the following default views that are automatically loaded:

- **Statistics** view uses the standard statistical column headings derived from information established during capture, such as Start and End timecodes, Duration, Resolution, and so on.
- **Custom** view allows you to create and save customized views. The only required heading is the clip name, displayed by default. You can customize the view by adding, hiding, or rearranging column headings.

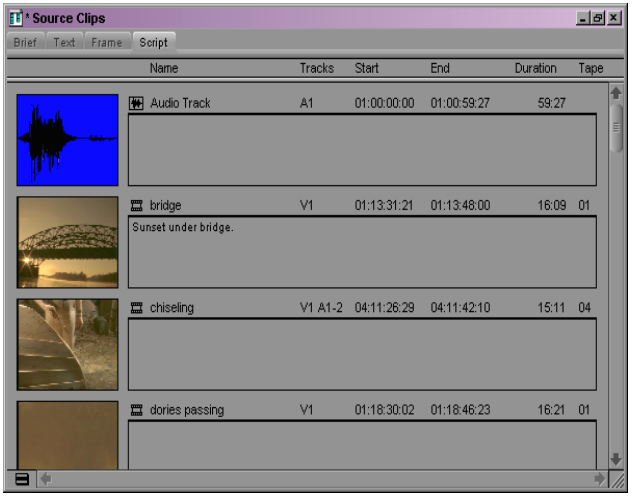
- In *Frame view*, each clip is represented by a single picture frame, with the name of the clip. You can play back the footage in each frame, change the size of frames, change the size of frames, and rearrange frames in any order within the bin.

  To enter Frame view, click the Frame tab.



- In *Script view,* the Avid system combines the features of Text view with Frame view, and adds space for typing notes or script. The frames are displayed vertically on the left side of your screen with a text box to the right of each clip. Clip data is displayed above the text box.

  To enter Script view, click the Script tab.



Controlling Playback

There are several ways to play, view, and cue clips. You can:

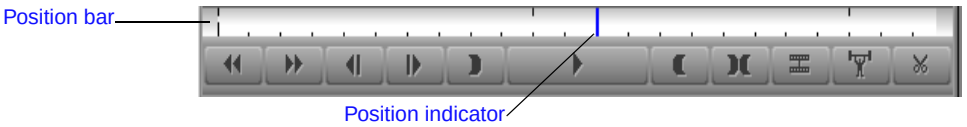
- Instantly access frames or move through footage using the *position indicator* within the position bar under the Source or Record monitors and under the Playback monitor (Symphony only) in the Symphony system's Finishing view
- Play, step (jog), or shuttle through footage using user-selectable buttons
- Play, step, or shuttle using keyboard equivalents
- Step or shuttle using the mouse

For additional keyboard and user-selectable button shortcuts, see the appropriate quick reference card.

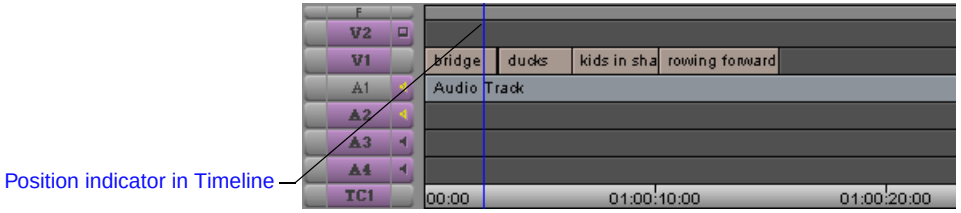
Using Position Bars and Position Indicators

You can quickly access frames within a clip that's been loaded into a monitor, or move through the footage using the position indicators that appear in the position bars under Source or Record monitors and in the Timeline when you are viewing a sequence.

- You can move the position indicator within the position bar under the Source or Record monitors by clicking anywhere in the position bar, or by clicking the position indicator and dragging it to the left or right. The speed with which you drag the position indicator determines the speed at which you move through the footage.



- In the Timeline, the position indicator shows your position within the sequence. It is always in the same position as the position indicator in the Record monitor's position bar, and works in the same way. You can click anywhere in the Timeline to relocate the position indicator, or you can click the position indicator and drag it through footage at varying speeds.



- You can go directly to the beginning or end of a clip or sequence by clicking at the far left or far right of the clip or sequence.

Using Buttons

You can use the user-selectable buttons that appear below the Source and Record monitors to play and step through your footage. You can also use the keyboard to manipulate footage.

These buttons can be remapped from the Command palette onto any of the user palettes and the keyboard in any configuration.

Play Reverse, Play, Pause, Stop, Rewind, and Fast Forward Buttons

The Play Reverse, Play, Pause, Stop, Rewind, and Fast Forward buttons work much like the buttons on any conventional VCR. With a clip loaded in a monitor, the Play button plays your footage at a normal rate. The Play Reverse button plays backward at a normal rate.

During playback, the Play button also acts as a Stop button.

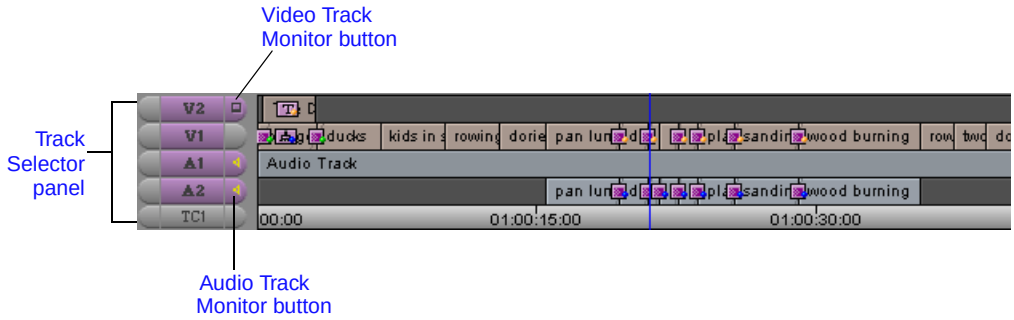
The Fast Forward and Rewind buttons instantly cue the footage to the next transition between clips. By default, the buttons cue footage to the head frame of the next transition. You can select the following alternatives in the Settings dialog box:

- Stop at Tail Frames
- Stop at Locators
- Ignore Track Lights

To access the Settings dialog box, click the Settings tab in the Project window.

The Play, Fast Forward, and Rewind buttons appear by default in the first row of buttons below the Source and Record monitors and the pop-up monitors. You can map the Play Reverse, Stop, and Pause buttons from the Command palette.

When viewing sequences in the Playback monitor (Symphony only) or Record monitor, you can play only video and audio tracks that are currently monitored in the Track Selector panel.

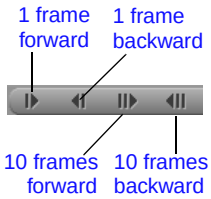


To play a clip:

1. Load a clip or sequence into a monitor.
2. For sequences in the Record monitor, click the Video Track Monitor or Audio Track Monitor button in the Track Selector panel if they appear dimmed.

3. Go to the start of the clip or sequence by clicking the start of the position bar under the monitor, or by pressing the Home key.
4. To play the clip or sequence, click the Play button under the selected monitor.
5. To stop playback, press the space bar or click the Play button again.

Step Buttons



You can also use the Step buttons under the monitors to play the clip backward or forward in 1-frame or 10-frame increments.

When you have a single row of buttons displayed under your monitors, the Step Forward and Step Backward buttons appear. If you press and hold the Alt key (Windows) or the Option key (Macintosh) while clicking either button, you can advance 1 or 10 frames forward and 1 or 10 frames backward.

To display all four Step buttons, you must display two rows of buttons under the monitors when configuring the Source and Record monitors in the Settings dialog box.

To step through footage:

1. Load a clip or sequence into a monitor.
2. Click the appropriate button to step 1 or 10 frames forward or backward.

Using the Tool Palette

The Tool palette provides additional buttons for editing and navigating.

Tool palette without text

Tool palette with text

You can view the Tool palette by clicking the Fast Menu button between the Source and Record monitors. Click the Tool palette and drag it to any other location on the screen for easy access. You can also map additional buttons from the Command palette to the Tool palette (see "Using the Command Palette" on page 139).

To view the Tool palette *with* text, make sure the Show Labels in Tool Palette option is selected in the Interface Settings dialog box.

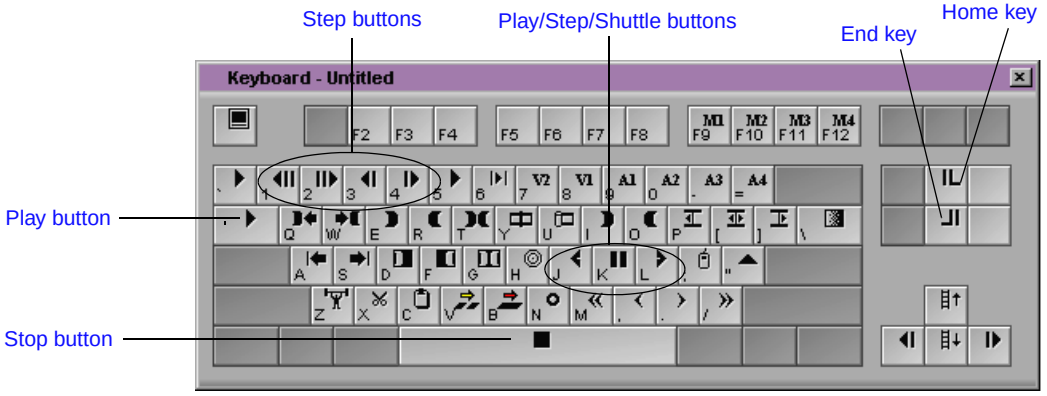
To access the Settings dialog box, click the Settings tab in the Project window.

Using the Keyboard

The default keyboard contains all of the buttons mentioned, except the Single-Field Step buttons.

You can view your keyboard settings by selecting Keyboard from the Settings scroll list in the Project window.

You can move and reassign buttons on the keyboard using the Command palette; see "User-selectable buttons:mapping" in the Help index.



J-K-L Keys (Three-Button Play)

The J-K-L keys on the keyboard allow you to play, step, and shuttle through footage at varying speeds. This feature, also referred to as *three-button* or *variable-speed* play, allows you to use three fingers to manipulate the speed of playback for greater control.

To shuttle through the footage using the J-K-L keys on the keyboard:

1. Do one of the following:
   - Load a clip or sequence into the Source or Record monitor.
   - Select a clip in a bin in Frame view.
2. Use the following keys to shuttle at varying speeds:
   - Press the L key to move forward through the footage at normal speed. Press once to increase the forward speed 2 times, twice to increase it 4 times, and three times to increase it 8 times normal speed, as desired.
   - Press the J key to move backward at the same shuttle speed increments.
   - Press and hold the K and L keys together for slow forward.
   - Press and hold the K and J keys together for slow backward.
3. To pause the shuttling, press the K key or press the space bar.

Home, End, and Arrow Keys

You can use the Home, End, and arrow keys on the keyboard to move through footage when a clip is loaded in a monitor.

- The Home key takes you to the beginning of a clip or sequence.
- The End key takes you to the end of a sequence.
- The Left Arrow key moves the footage one frame backward.
- The Right Arrow key moves the footage one frame forward.

Using the Mouse

You can use the mouse for one-handed control of playback. You can either step or shuttle using the mouse.

Stepping with the Mouse

To step using the mouse:

1. Do one of the following:
   - Load a clip into the Source monitor or a sequence into the Record monitor.
   - Select a clip in a bin in Frame view.
2. Do one of the following:
   - Press the N key to activate mouse control for stepping.
   - Activate the buttons on the Command palette by selecting Active Palette at the bottom of the Command palette. Then click the Mouse Jog button, which appears on the Play tab of the Command palette. This button can be mapped to any button under the Record monitor by selecting the Button to Button Reassignment option (see "Using the Command Palette" on page 139).

Mouse Jog button 

3. Move the mouse to the right to step forward, or to the left to step backward.
4. To quit stepping with the mouse, press the space bar.

Shuttling with the Mouse

To shuttle using the mouse:

1. Do one of the following:
   - Load a clip or sequence into the Source or Record monitor.
   - Select a clip in a bin in Frame view.
2. Do one of the following:
   - Press the semicolon (;) key to activate mouse control for shuttling.

Mouse Shuttle button 

   - Activate the buttons on the Command palette by selecting Active Palette at the bottom of the Command palette. Then click the Mouse Shuttle button, which appears on the Play tab of the Command palette. This button can be mapped to any button under the Record monitor by selecting the Button to Button Reassignment option (see "Using the Command Palette" on page 139).
3. Move the mouse to the right to increase the shuttle speed, or to the left to decrease the shuttle speed.
4. To quit shuttling with the mouse, press the space bar or double-click the mouse button.

You can also use the keyboard in conjunction with the mouse to control shuttling. For example, if you are shuttling with the mouse and you press the L key, the playback speeds up to the next normal play rate (30, 60, 90, 150, or 240 fps for NTSC; 25, 50, 75, 125, or 200 fps for PAL). You can continue to change the shuttle speed and direction with the mouse.

Marking IN and OUT Points

You can mark IN and OUT points for your clips in advance, which provides several advantages:

- You can quickly build a sequence by splicing the marked clips into place one after another.
- You can use the process of rough-cut or *storyboard* editing, which allows you to instantly splice several prepared clips into a sequence (see "Storyboarding" on page 145).
- You can play back and mark clips in the bin before loading a single clip, saving several steps.

Even if your marks are not accurate now, the Avid system allows you to trim the edit points and fine-tune the sequence later without reediting the material.

Creating Subclips

When you mark footage with IN and OUT points, you can either save the entire clip along with the new marks, or you can create subclips based on the marks you set to break up longer master clips into smaller segments of selected footage.

Unlike master clips, subclips do not directly reference the original media. Subclips remain linked to the master clips from which they are created, and the master clips in turn reference the digitized media files located on your storage drives. As a result, none of the original footage is lost.

You can also create subclips while digitizing as described in "Subclips:creating on-the-fly" in the Help index.

You can create subclips directly from the marked section of material in the monitors using the following methods:

- **Alt key (Windows) or the Option key (Macintosh):** Press and hold the Alt key (Windows) or the Option key (Macintosh), then click the picture and drag it from the monitor to the bin in which you want to store the subclip.
- **Clip icon:** Click the icon next to the clip name in the Source monitor, then drag the icon to the bin in which you want to store the subclip.

Clip icon

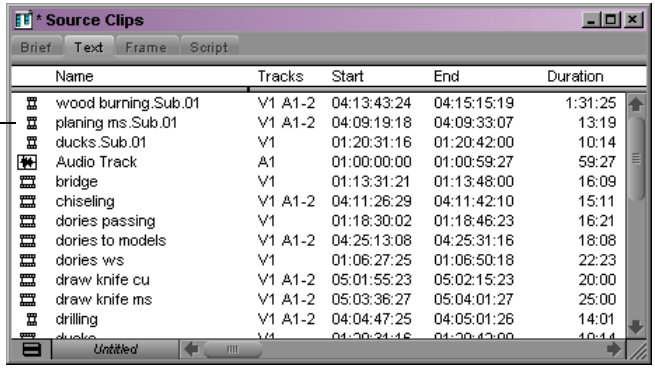
The pointer changes to an icon of a hand pointing at a frame while you drag the frame. When you release the frame the subclip acquires a new name with the file name extension Sub.*x*, and a Subclip icon appears in the intended bin.

- **Make Subclip button:** Click the Make Subclip button located in the Command palette to create the subclip and place it into the active bin by default. If you press and hold the Alt key (Windows) or the Option key (Macintosh) while you click the Make Subclip button, a dialog box allows you to select the destination bin for the subclip.

For more information on trimming, see "Trim edits" in the Help index.

The new subclip is listed in the bin, preceded by a Subclip icon and identified with a numbered *.Sub* file name extension, as shown in the following illustration.

A new subclip as referenced in Text view



Tutorial: Getting Ready to Edit

This tutorial takes you through the early stages of editing.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

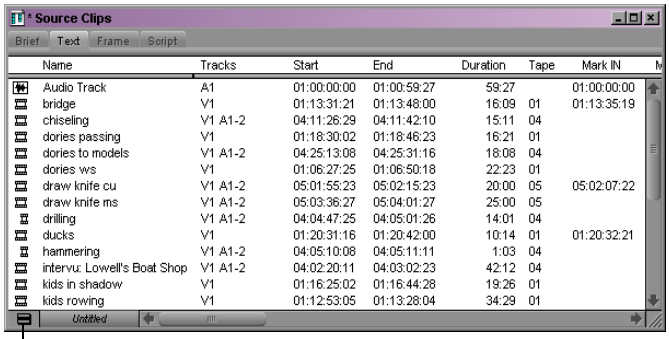
   The clips are displayed in the bin.

Viewing Clips

The information in a bin can be viewed in the following ways:

- Brief view displays only five standard columns of information about your clips and sequences.
- Text view displays multiple columns of information about your clips and sequences.
- Frame view displays each clip as a single representative image.
- Script view displays each clip with an image and an area in which to enter text as part of a storyboard.

Text view



Bin Fast Menu button

Frame view

Using Text View

Let's look at Text view.

1. Click the Text tab to view information about clips in the **Source Clips** bin.

   If the tab is highlighted, you are already in Text view.

   You can rearrange the clips in the bin by sorting on a particular column. Let's sort by clip name so we can easily locate any clip.

2. Click the Name heading in the bin.

3. Select Bin > Sort along the top of the screen.

   The clip names are rearranged in alphabetical order.

To sort in numerical order, select another heading, for example, duration.

Using Frame View (Windows)

Now let's look at Frame view.

1. Click the Frame tab to see a picture-frame representation of each clip in the bin.

The sorted order of clips does not carry over to Frame view.

2. Select Edit > Reduce Frame or Enlarge Frame.

   To change frame size at the keyboard, you can also press Ctrl+K (Reduce Frame) and Ctrl+L (Enlarge Frame).

   If some clips are now off screen, do one of the following:

   - Click the Maximize button in the upper right corner of the bin window.
   - Select Bin > Fill Window.
   - Click and drag the window corner in the lower right corner of the bin window.

   The clips are arranged in neat rows and columns in the bin.

Using Frame View (Macintosh)

Now let's look at Frame view.

1. Click the Frame tab to see a picture-frame representation of each clip in the bin.

The sorted order of clips does not carry over to Frame view.

2. Select Edit > Reduce Frame or Enlarge Frame.

   To change frame size at the keyboard, you can also press Command (⌘)+K (Reduce Frame) and ⌘+L (Enlarge Frame).

If some clips are now off screen, do one of the following:

- Click the Zoom button in the upper right corner of the bin window.
- Select Bin > Fill Window.
- Click and drag the size box in the lower right corner of the bin window.

3. Click the Zoom button in the upper right corner of the bin window labeled **Source Clips**.

   The bin zooms out to enclose all the clips. However, they might be scattered randomly in the bin window. Let's fix that.

4. Select Bin > Fill Window.

   The clips are arranged in neat rows and columns in the bin.

   Now you can adjust frame size so the clips are "readable" but not so large that they won't fit in the bin window.

   The clips are arranged in neat rows and columns in the bin.

Playing Clips

Your Avid system offers a variety of ways to play clips. The more you practice the various methods, the more control you will have over the editing process.

Playing Clips in the Source Monitor

(Symphony only) To display both the Source and Record monitors, click the Source/Record button to exit Finishing mode.

The Source and Record monitors are windows in which you can play clips.

1. In the **Source Clips** bin, open the clip named **bridge** by double-clicking anywhere in the frame.

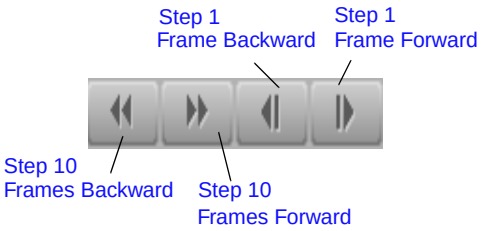
The **bridge** clip opens in the Source monitor.

2. Press the Home key on the keyboard (between the main keyboard and the numeric keypad) to go to the start of the clip.

   The End key, just below the Home key, moves the position indicator to the end of the clip.

3. Press the Play (5) key on the keyboard to play the clip at normal speed.
4. Press the Play (5) key again (or press the space bar on the keyboard) to pause playback at any point.
5. Press the L key (Play) on the keyboard to play the clip forward at normal speed. Press the key repeatedly to play the clip forward at 60, 90, 150, and 240 frames per second (fps).
6. Press the J key (Reverse Play) on the keyboard to play the clip backward at normal speed. Press the key repeatedly to play the clip backward at 30, 60, 90, 150, and 240 frames per second (fps).
7. Press the K key (Pause) on the keyboard to pause playback.
8. To move forward or backward at slow speed, press and hold the K key while you press and hold the L or J key.

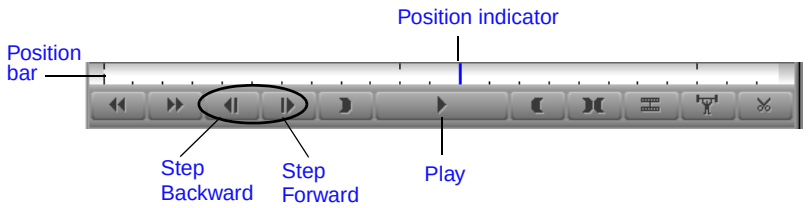
9. Use the 4, 3, 2, and 1 keys to step through the footage forward or backward in 1-frame or 10-frame increments.



Controlling Playback

In the Source and Record monitor, you can use:

- Playback control keys
- Equivalent buttons under the Source and Record monitor
- Blue position indicator to go to a specific position or scroll (move) through a clip



To play through the clip:

1. Double-click the **tools** clip to open it.

   The **tools** clip opens in the Source monitor.

You can press the Play (5) key on the keyboard for the same purpose.

2. Click the Play button.
3. Click the Play button again (or press the space bar on the keyboard) to pause playback at any point.

4. Step through the footage forward or backward in 1-frame and 10-frame increments using the Step Forward and Step Backward buttons under the Source monitor. You can also use the 4, 3, 2, and 1 keys on your keyboard.
5. Locate the vertical blue position indicator in the position bar in the Source monitor.

To step several frames forward, click just to the right of the position indicator.

6. Click just to the left of the position indicator to step several frames back in the clip.
7. Press the Home key to go to the beginning of the clip.

Press the End key to go to the end of the clip.

8. Step through the clip by clicking different spots in the position bar.
9. Click the position indicator and drag it to the left, then to the right, to scroll through the clip.

Marking Edit Points

Before making your first edit, you can mark the segments of the clips you want to use in your sequence. You can mark clips in the Source monitor.

In this section, you will:

- Mark IN and OUT points in the Source monitor.
- Locate IN and OUT points by timecode in the Source monitor.

Marking the planing ms Clip

Let’s first display clips in the Source monitor, and then mark a couple of clips you will use when you edit the sequence.

1. Activate the **Source Clips** bin by clicking anywhere in it.

   The bar above the active window changes to purple.

2. Double-click the **planing ms** clip to open it.

   The clip name is highlighted and the clip opens in the Source monitor.

3. Play the clip from the head by pressing the Home key and then the Play (5) key, and find the approximate place where the boatbuilder begins to plane. Then use the Step Forward and Step Backward (3 and 4) keys to locate the frame where he starts the first planing stroke.

4. Mark an IN point by pressing the Mark IN (I) key.

   A white sawtooth pattern appears on the left edge of the Mark IN frame.

5. Step forward two full strokes of the plane.

6. Mark an OUT point by pressing the Mark OUT (O) key.

   A white sawtooth pattern appears on the right edge of the Mark OUT frame.

   The system saves your IN and OUT points until you change them.

Marking the ducks Clip

Now mark the IN and OUT points for the **ducks** clip. This time, instead of using the Play (5) key, use the J-K-L keys to play the clip.

1. Double-click the **ducks** clip to open it.
2. Locate the frame where the second duck enters the right edge of the frame behind the duck swimming in the foreground.

   Use the 3 and 4 keys to locate the precise frame.

3. Mark an IN point by pressing the I key.

   A white sawtooth pattern appears on the left edge of the Mark IN frame.

4. Step forward to locate the first frame where the same duck flies beyond the left edge of the screen.

5. Mark an OUT point by pressing the O key.

   A white sawtooth pattern appears on the right edge of the Mark OUT frame.

Marking the draw knife cu Clip

Let's mark another clip we'll use in the sequence.

1. Double-click the **draw knife cu** clip to open it.

   When you edit the sequence, you want to show just three strokes of the knife.

2. Place the position indicator near the midpoint of the clip, and play forward until just after the first fairly large wood chip falls off.

   Use the Play button (or J-K-L keys) to get close to the frame, and then use the Step buttons to locate the frame you want to use as your IN point.

3. Mark an IN point by clicking the Mark IN button under the monitor.

   A white sawtooth pattern appears on the left edge of the Mark IN frame.

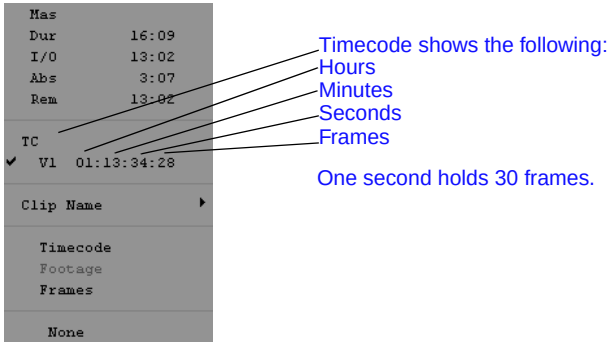
4. Step forward and locate a frame just after three strokes of the knife.

5. Mark an OUT point by clicking the Mark OUT button under the monitor.

   A white sawtooth pattern appears on the right edge of the Mark OUT frame.

Using Timecode to Find a Frame

You can mark IN and OUT points using timecode as your reference point. If you know the timecode for the frame you want to mark, you can go to that frame instantly by typing it on the numeric keypad.



In this section, you will use visual cues to mark an IN point, and then locate a specific timecode. First, you need to display the appropriate timecode information.

1. Double-click the **chiseling** clip to open it.
2. Place the pointer in the gray title bar area over the timecode information displayed above the Source monitor.
3. When the pointer changes to a downward arrow, click to display the pop-up menu, and select TC, V1 (timecode for track V1). A check mark means it is already selected.

   The timecode references the frame displayed in the Source monitor.
4. Mark an IN point by clicking the Mark IN button under the monitor.

   The timecode references the frame displayed in the Source monitor.
5. Read the timecode in the Timecode display at the IN point. Add 15 frames (13 frames PAL) to the timecode number. (Remember, there are 30 frames in a second.)

For example, if the timecode is 04:11:34:15, adding 15 frames gives you a result of 04:11:35:00.

6. Type **+15** on the numeric keypad on the right side of the keyboard and press the Enter key on the numeric keypad.

   As you start typing, a window opens in the middle of the Source monitor, showing the numbers you type. When you press the Enter key, the position indicator locates the specified frame.

   The Timecode window displays the current timecode.

To locate frames using the numeric keypad, you must show the appropriate timecode in the Timecode display. For example, the timecode display must show track V1 to go to a specific frame on the V1 track.

7. Click the Mark OUT button.

Using Frame Offset

Whenever you use the numeric keypad, you must press the Enter key on the numeric keypad after typing the number.

You can also use the numeric keypad to move the position indicator forward or backward a specified number of frames, with the frame offset feature. Let's mark an IN point for the **planing cu** clip and then use frame offset to locate the OUT point.

1. Double-click the **planing cu** clip to open it.
2. Use the Play and Step buttons to locate the frame where the boatbuilder begins making the first stroke of the plane.
3. Click the Mark IN button.
4. To advance 2 seconds, type **+129** (**+124** PAL) on the numeric keypad and press the Enter key on the numeric keypad. The system inserts the colons for you.

   Since the system counts the frame it is parked on, you type one frame fewer than 2 seconds.

   When using frame offset, type one frame fewer than the number of frames you want to advance.

   If you want to move back a certain number of frames, type a minus sign (**–**) instead of a plus sign (**+**) in front of the number.
5. Mark that frame as the OUT point.

Subclipping

Now you will copy portions of one clip into shorter clips, called subclips. Subclipping is a great way to organize your footage into manageable units.

1. Double-click the **tools** clip to open it.
2. Press the Home key to go to the start of the clip.
3. Scroll through the clip by clicking the Play button or by dragging the blue position indicator. There are two separate actions that can be copied into separate subclips.
4. Mark an IN point when the boatbuilder begins turning the auger drill.
5. Mark an OUT point 14 seconds later by typing **+1400** on the numeric keypad and pressing the Enter key on the numeric keypad.

Actually, you have marked an OUT point after 14 seconds and 1 frame, but that's acceptable because you need not be so precise here.

Clip icon 

6. Click the Clip icon next to the clip name in the upper left corner of the Source monitor, and drag the icon into the **Source Clips** bin.

   As you begin dragging, the pointer changes to a hand attached to a small box.

The subclip has the name of the original clip, followed by **Sub.n**, where **n** is the number of times the master clip has been cataloged to that bin.

   A new item called **tools.Sub.01** appears in the **Source Clips** bin. The name is highlighted.

7. Type **drilling** and press the Enter key (Windows) or the Return key (Macintosh) to name the subclip.

Clearing IN Points and OUT Points

To remove IN and OUT points:

1. With the **tools** clip in the Source monitor, click the Clear Both Marks button under the Source monitor to clear the IN and OUT points.
2. Mark an IN point in the clip when the boatbuilder begins hammering, after he takes a few practice swings.
3. Mark an OUT point at the end of the clip.
4. Press and hold the Alt key (Windows) or the Option key (Macintosh), click the clip, and drag it from the Source monitor to the **Source Clips** bin.

   The clip name is highlighted in the **Source Clips** bin.

5. Type **hammering** and press the Enter key (Windows) or the Return key (Macintosh).

You've finished this tutorial. You can go on to "Tutorial: Rough Cut" on page 122, or quit the Avid system.

Closing the Project

To close the project:

1. Select File > Close Bin.

   The bin closes.

2. Click the Project window and select File > Close.

   The system saves and closes the project. A dialog box opens.

3. Do one of the following:

   - Select an existing project.
   - Create a new one.
   - Click Quit.

Ending the Session

To end the session:

1. Select File > Save Bin or Save All Bins.
2. Click the Project window labeled Boat Shop NTSC or Boat Shop PAL.
3. Select File > Save All.
4. Do one of the following:

   - Go to the next tutorial.
   - (Windows) If you are ready to take a break, select File > Exit to quit the Avid system.

     (Macintosh) If you are ready to take a break, select File > Quit to quit the Avid system.

   The system returns to the desktop.

Chapter 6

Editing a Rough Cut

Beginning to edit involves working with various elements of the Avid system interface.

Editing a rough cut is described in the following sections:

- Viewing Methods
- Navigating in the Timeline
- Displaying Source Material in the Timeline
- Using the Track Selector Panel

Tutorial: Rough Cut contains the following sections:

- Making the First Edit
- Splicing Video into the Sequence

Viewing Methods

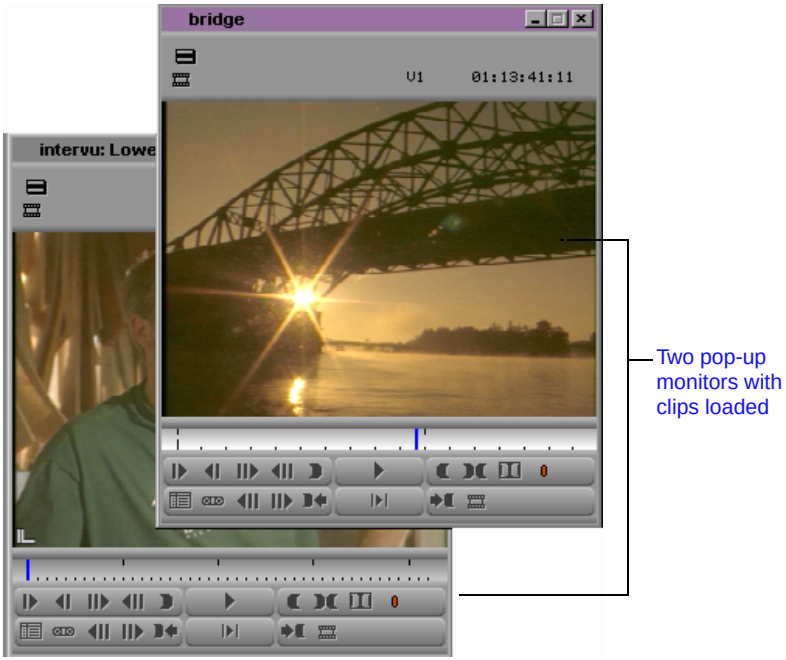
You can work with clips and sequences in several different ways, depending upon your needs and preferences. Each method has its own uses and advantages, as follows:

- **Viewing in bins:** Frame view shows you pictorial images of the clips in your bins; Brief and Text views show you the clips listed by name.
- **Viewing in the Source monitor:** You can load clips and sequences into the Source monitor to view and mark or subcatalog clips for use in a sequence that you build in the Record monitor.
- **Viewing in the Record monitor:** You can load a sequence into the Record monitor to view, mark, or modify an existing sequence. Press and hold the Alt key (Windows) or the Option key (Macintosh), and click a clip or group of clips and drag them into the Record monitor to create a sequence.

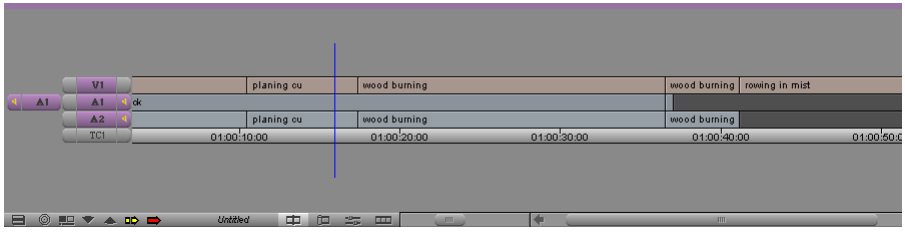
Source monitor
with clip loaded

Record monitor
with sequence loaded

- **Viewing in Finishing mode:** (Symphony only) The default monitor that opens for Avid Symphony is the Record monitor. You can perform all your editing functions in this mode. To exit Finishing mode, click the Source/Record button. This displays both the Source monitor and Record monitor.
- **Viewing in pop-up monitors:** You can load clips into pop-up monitors to view and mark one or several clips simultaneously in smaller, movable windows.



- **Viewing in the Timeline:** Use the Timeline to view individual tracks for either a sequence or a source clip.



The Timeline is used for viewing tracks.

- **Viewing in the Client monitor:** You can use the Client monitor to view your footage in a larger screen format.

Navigating in the Timeline

The Timeline window provides various controls for quickly moving through a sequence and adjusting your view of details displayed in the tracks while editing. You can make changes in the Timeline format using the Timeline Fast menu or by selecting Timeline in the Bin Settings scroll list.

Using the Position Indicator

The position indicator (the vertical blue line) in the Timeline marks your place in the sequence. It also determines how some of your commands are interpreted. For example, when you perform an edit, the system takes the location of the position indicator as the mark IN in the absence of established marks.

When you move the position indicator in the Timeline, the smaller position indicator within the Record monitor’s position bar also moves.

Using the Scroll Bar

The scroll bar functions like any standard scroll bar. Click the arrows or drag the scroll bar to scroll left or right.

Displaying More or Less Detail

The scale bar expands and contracts the Timeline area centered around the blue position bar, allowing you either to zoom in to focus on a specific area of your sequence, or zoom out to see your whole sequence. This is especially useful when you have a lengthy sequence with many edits.

The Timeline always expands or contracts proportionally on both sides of the position indicator.

- To see more detail, click the scale bar and drag it to the right.

  As the Timeline expands, a second “shadow” position indicator appears next to the blue position indicator showing the end of a single frame, and the two continue to move apart as you expand the Timeline.

  The position indicator and its shadow mark the beginning and end of each frame. The solid bar is the mark or edit point. You can click to the left of the bar or to the right of the shadow to move exactly one frame forward or backward.

  When the Timeline is one-third or less of the screen, it will scroll off the screen. If you expand the Timeline to fill half of the screen, it will split in half (or thirds) as it wraps through the sequence for you to see all the clips.

As the Timeline expands, a shadow position indicator appears.

You can prevent the Timeline from wrapping by deselecting Wrap Around from the Timeline Fast menu. If you turn off wrapping, the Timeline will scroll off the screen.

- To contract an expanded Timeline to see less detail but more of the sequence, click the scale bar and drag it to the left.

Focusing the Timeline

Another alternative to the scroll and scale functions is the Focus button.

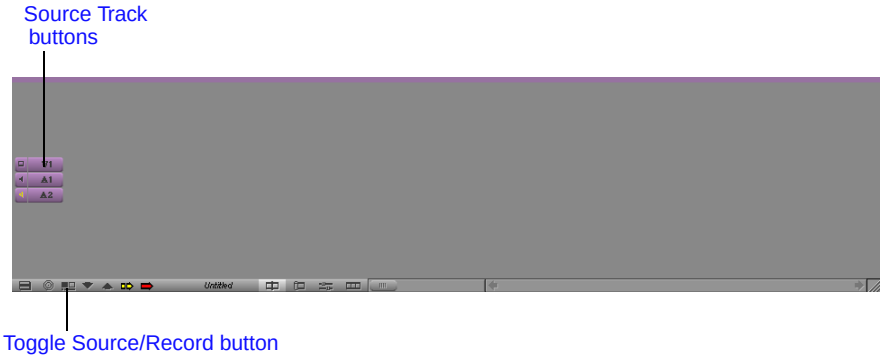
Focus button

The Focus button allows you to center the position indicator quickly and expand the Timeline. Unlike the scroll and scale functions, the Focus button expands the Timeline. The position indicator is centered in the window. When you click the Focus button a second time, it always returns the Timeline to its previous size.

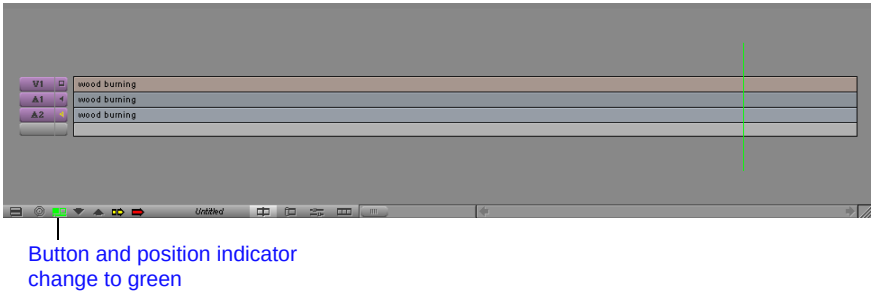
Displaying Source Material in the Timeline

The Toggle Source/Record button in the Timeline allows you to view a Timeline of the clips in the Source or pop-up monitor. This is especially useful if you are editing multitrack effects.

By default, the Timeline displays only the source material's tracks.



When you click the button to display the source material, both the button and the position indicator change to green to indicate you are viewing source material.

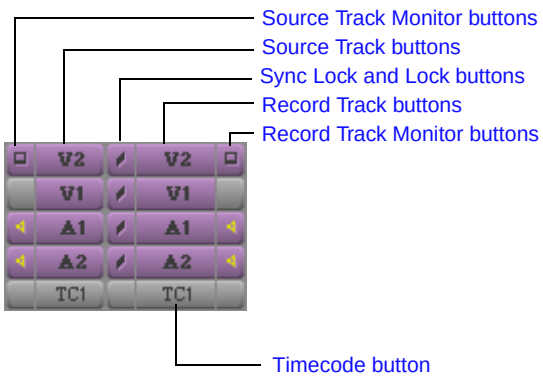


This feature is particularly useful when you are editing a sequence or a subclip created from a sequence. You can also use it to look at the contents of any source clip in a Timeline window.

Using the Track Selector Panel

The Track Selector panel provides numerous controls for working effectively with multiple tracks. With this one panel, you can select, delete, monitor, enlarge, reduce, lock, patch, and move any video or audio track.

The Track Selector panel also provides a quick display of track information. You can see which tracks (on the source or record side) are available, active, patched, monitored, or locked. The following configuration shows one example. The Track Selector panel might look very different depending on the nature of the source material or the work under way in the sequence.



The source side (left side) of the panel displays only those tracks available for the clip currently loaded and displayed in the Source or pop-up monitor. For instance, a clip that has audio digitized for track A1 only, does not display an A2 track in the Track Selector panel.

The record side of the panel displays only those tracks currently in use for the sequence. However, if you edit source material with a track selected that does not yet exist on the record side (A3 in the previous example), by default the track appears on the record side after the edit takes place.

A clip (or sequence) needs to be loaded in the Source and Record monitors to display both track panels.

Selecting Tracks

You can select tracks on either the record side or the source side as follows:

- You can edit selected tracks on the source side directly into the sequence, assuming you have selected parallel tracks on the record side.
- You cannot edit deselected tracks on the source side into the sequence, regardless of record track selections.
- You cannot edit deselected tracks on the record side, regardless of source track selections.

There are four methods for selecting tracks:

- Click any deactivated Track Selector button to select it. Click any activated Track Selector button to deselect it.
- Drag a lasso around multiple Track Selector buttons to select them all at once.
- With the Timeline window active, select Edit > Select All Tracks to select all tracks on the record and source side.

- Use the Cycle Picture/Sound button on the Edit tab of the Command palette to cycle among selection of the video tracks, the audio tracks, and all tracks.

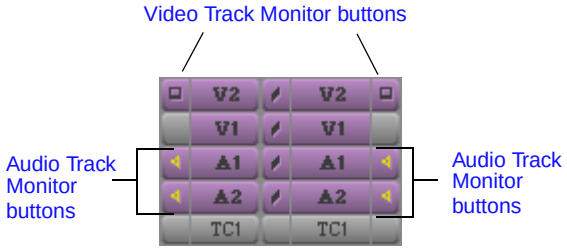
For example, you might select the source and record tracks for V1, A1, and A2 to edit video and audio from the source clip into the sequence. Select only V1 source and record tracks to edit the video without the sound. Or, select only A1 and A2 source and record tracks to edit the sound without the video.

Selected tracks change color.

There are also keyboard equivalents for selecting tracks. Check your keyboard or the Keyboard settings in the Project window Settings scroll list.

Monitoring Tracks

You determine the monitoring of tracks by clicking a Track Monitor button of either the source-side or record-side tracks to activate or deactivate the track for monitoring. Video Track Monitor buttons and Audio Track Monitor buttons behave differently in some circumstances, as described in this section.



Monitoring Video

The Video Track Monitor button determines whether you see video during playback. The Video Track Monitor button displays a Monitor icon when the track is monitored for playback and output. You can turn it off at any time to monitor only audio during editing. When there are multiple video tracks, all tracks below the monitored track are active during playback.

When you edit with multiple tracks, you can activate the Video Track Monitor button on a lower track to monitor only the video on that track. This is especially useful when you have multiple layers of video effects and need to see one track without the additional layers.

If you activate the Video Monitor Track button on a lower track, be sure to activate the topmost track to view, render, or record all the tracks together. Unmonitored tracks are not included in playback.

Auto-Monitoring

When you delete a video track with the Video Track Monitor button activated, auto-monitoring automatically activates the Video Track Monitor button for the next available track.

For example, if V2's Video Track Monitor button is activated and you delete the V2 track, then the V1 Video Track Monitor button is automatically activated. Auto-monitoring activated is the system default. You can deactivate auto-monitoring from the Timeline Settings dialog box.

Tutorial: Rough Cut

In this tutorial, you begin editing the Boat Shop sequence.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

   The clips are displayed in the bin.

Making the First Edit

In this section, you lay down the audio clip, which contains the sequence's music and narration. You learn how to mark exactly 1 minute of the clip, which will be the duration of your finished sequence. First, you play the clip.

1. Double-click the **Audio Track** clip and play the clip in the pop-up monitor.

   The clip opens as black because it's audio only.
2. Go to the head of the clip by pressing the Home key on your keyboard.

Using Digital Audio Scrub to Locate a Specific Frame of Audio

Use digital audio scrub to locate a specific frame of audio. Use it now to locate the first frame of music in the audio clip.

1. Press the Caps Lock key to activate digital audio scrub.

2. Play the clip again and click the Play button to stop at the approximate place where the music begins.

3. Press the Step (jog) keys (1, 2, 3, 4 on the keyboard) to locate the first frame of the music and click the Mark IN button.

   When you use the Step keys, a frame of music or speech sounds scratchy or buzzlike. You might want to increase the volume of your speakers to hear the first frame of music.

4. Press the End key on the keyboard.
5. Press the Step Backward key to find the last frame of music.
6. Mark that frame as the OUT point.
7. Press the Caps Lock key again to close digital audio scrub.

Splicing an Audio Clip

Click the yellow Splice-in button between the Source monitor and Record monitor to copy the audio clip into the Record monitor.

If no IN or OUT points are selected, the entire clip is edited into the Timeline.

The audio clip is edited onto track A1 of the Timeline. The first frame is the IN point you marked in the clip; the last frame is the OUT point you marked in the clip.

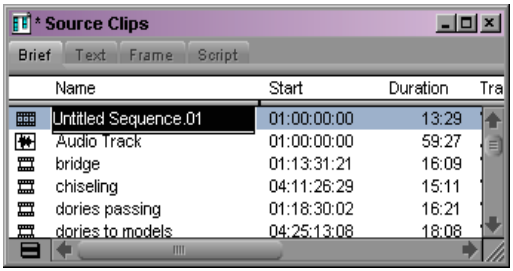
The audio track appears in the Timeline. The sequence also opens in the Record monitor (the audio track appears black).

Playing a Sequence

The **Source Clips** bin contains your newly created sequence. By default, the system names it **Untitled Sequence.01**. Let's change this name.

1. Click the name **Untitled Sequence.01** to select it; do not click the Sequence icon.

The name is highlighted.



2. Type **`Boat Shop Cut`** and press the Enter key (Windows) or the Return key (Macintosh).

Audio Track Monitor buttons

The Audio Track Monitor button appears gold when an audio track is selected.

3. Click the position bar under the Record monitor or anywhere near the left side of the Timeline, then click the Play button to play the audio.

   This audio track should run the length of the sequence, and its duration should be approximately 1 minute.

Confirming the Duration

To confirm the duration of your sequence, you can display the master timecode, which is the timecode of your sequence.

1. If the master timecode is not displayed, click and pull down the Timecode display from the gray area above the Record monitor and select Mas (Master) timecode.

   The master timecode displays the location of the position indicator in your sequence.

2. Move the position indicator in the Timeline or the Record monitor to the last frame of the sequence.

   The master timecode should read approximately 01:01:00:00.

Splicing Video into the Sequence

Now we'll start laying some video over the audio. For the opening clip in the sequence, use the **bridge** clip.

1. From the **Source Clips** bin, double-click the **bridge** clip to open it in the Source monitor.

Play the whole clip through once first to get a sense of the material.

2. Mark an IN point midway through the clip, about 2 seconds after the camera begins to pan left. Watch the timecode at the top of the Source monitor to determine 2 seconds after the camera pans left.
3. Mark an OUT point 3 seconds and 6 frames (5 frames PAL) later, at approximately 01:13:43:23.

If you do not mark an IN point and OUT point, the entire clip will be edited into the sequence.

4. Move the position indicator in the Timeline or Record monitor to the head of the sequence.

Deselect

5. Deselect the A1 Record Track button.

   The track is highlighted when it is selected; it appears dimmed when it is deselected.

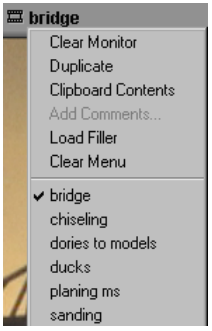
6. Press the Splice-in (V) key on the keyboard or click the yellow Splice-in button under the Source monitor.

   The **bridge** clip is edited into the V1 track in the Timeline and is displayed in the Record monitor. The position indicator rests on the first frame of black following the splice.

To activate an open bin or monitor, click anywhere in it or select Windows > *name*.

7. Click anywhere in the Record monitor to activate it.
8. Do one of the following to move to the head of the sequence:
   - Press the Home key.
   - Click the beginning of the Timeline.
9. Click the Play button to play the clip in the sequence.

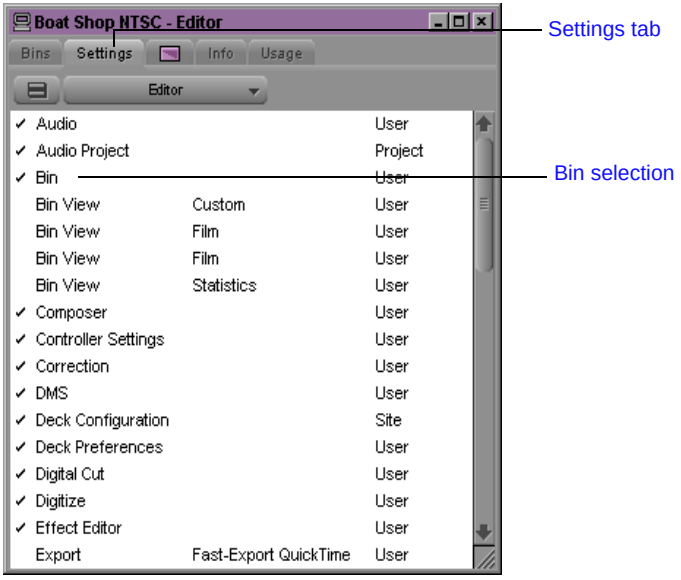
10. Above the Source monitor, click the Clip Name pop-up menu, and select Clear Monitor to close the clip.



Splicing a Clip in a Pop-up Monitor

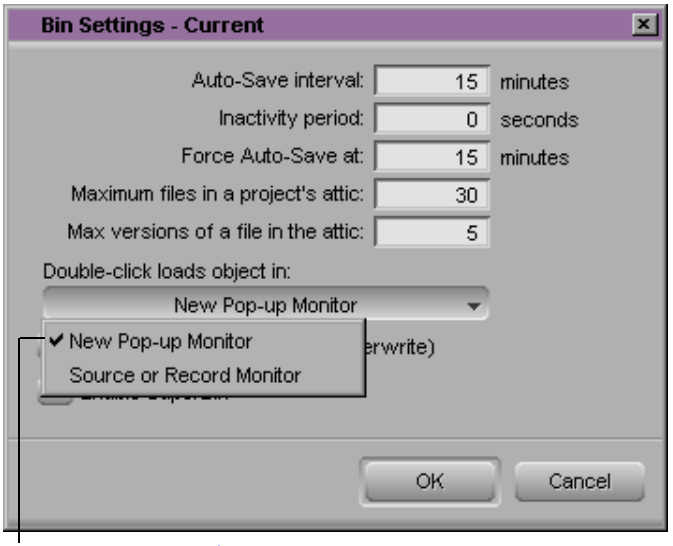
The default setting is to open a clip in the Source or Record monitor. If you want, you can change the default setting to open clips in a pop-up monitor.

1. From the Project window, click the Settings tab.



2. Double-click the Bin selection (you might have to scroll to locate the Bin selection).

   The Bin Settings dialog box opens.



Select to open pop-up monitors.

3. Click the pop-up menu, and select New Pop-up Monitor, and then click OK.

   By default, this loads the clip into a pop-up monitor when you double-click the clip.

4. From the bin, double-click the **ducks** clip.

   This opens a pop-up monitor. Previously, you entered IN and OUT points, but we need to create different ones. It's not necessary to clear the IN and OUT points. When you create a new IN point and OUT point, the system automatically clears previously set points.

5. Locate a frame in the pop-up monitor just after the clip's midway point where the duck that has been sitting in the water is about to take off. Using the Step Backward key, mark an IN point five frames before the duck begins to move its wings to fly.

6. Mark an OUT point in the first frame after the duck leaves the monitor to the left.

Playing IN to OUT

Now you can take a look at the marked portion of the clip to make sure it is what you want.

1. Click the Play IN to OUT button or press the 6 key on the keyboard.

   The clip plays from the IN point to the OUT point.

   If possible, it would be nice to provide a little “breathing space” before the next clip.

2. Play the rest of the clip to see if there are several frames of water after the duck leaves the clip.

Using the Go to OUT Button

The Avid system provides a number of methods for snapping the position indicator to an IN or OUT point.

1. Click the Go to OUT button or press the W key on the keyboard.

   The position indicator moves to the OUT point.

2. Type **+6** on the numeric keypad and press the Enter key on the numeric keypad to add 7 frames to the clip.

Whenever you use the numeric keypad, you must press the Enter key on the numeric keypad after typing the number.

3. Mark that frame as the OUT point.

   The OUT point automatically moves to the new position.

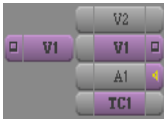
Moving to the Head and Tail of a Clip

Before splicing in the next clip, make sure the position indicator is on the first frame of black after the **bridge** edit. To do this:

To snap the position indicator to the last frame of a clip, press Alt+Ctrl (Windows) or Option+⌘ (Macintosh), and click the mouse between the ending transition and the position indicator.

1. Move the position indicator anywhere to the right of the **bridge** clip in the Timeline.
2. Press and hold the Ctrl key (Windows) or the ⌘ key (Macintosh) and click the mouse between the transition and the position indicator. The position indicator snaps to the first frame of the clip.
3. Click the V1 Source and Record Track buttons in the Timeline.

   The selected tracks appear highlighted, not dimmed (gray).



Using the Splice-in Button

To splice a clip:

1. With the position indicator at the end of the **bridge** clip, click the yellow Splice-in button under the Source monitor.

   The second clip is now edited into the sequence.
2. Go to the head of the sequence and play through the first two clips.

Splicing a Clip into the Middle of a Sequence

With nonlinear editing, you can splice a clip anywhere in your sequence.

1. To open the clip in the Source monitor, click the Settings tab in the Project window.
2. Double-click the Bin selection.

   The Bin Settings dialog box opens.

3. Click the “Loads clip into Source or Record monitor” option (to deselect it) and click OK.

   By default, this loads the clip into the Source monitor when you double-click the clip.

4. From the **Source Clips** bin, open the **kids rowing** clip in the Source monitor.

5. Mark IN and OUT points to mark 4 seconds of the camera panning from the girl to the boy.

   Let’s see what this clip looks like between the first and second clips.

6. Turn on the V1 and turn off the A1 record tracks.

7. Click in the middle of the **ducks** clip, between the position indicator and the **bridge** clip.

8. Press and hold the Ctrl key (Windows) or the ⌘ key (Macintosh), and click the mouse within the **ducks** clip in the Timeline to place the position indicator on the first frame of the **ducks** clip.

9. Press the Splice-in (V) key on the keyboard.

   Wherever you splice a clip into the middle of a sequence, the rest of the sequence moves down. Splicing lengthens the material on the track.

10. Play the sequence so far to see what you have done.

Undoing an Edit

The **kids rowing** clip doesn’t seem to fit here. Let’s undo the last step.

Select Edit > Undo Splice-in or press Ctrl+Z (Windows) or ⌘+Z (Macintosh).

Use the Undo feature whenever you feel you have made a mistake or want to go back a step. You can undo or redo up to 32 previous actions listed in the Edit menu.

Using the I/O (IN Point / OUT Point) Tracking Display

Now you will add two more clips to the sequence.

1. Open the **kids in shadow** clip.

2. Click the Clear Both Marks button.
3. Mark an IN point in the first half of the clip, one frame before the second boat enters screen left.
4. Mark an OUT point 3 seconds and 17 frames later (PAL: 3 seconds and 14 frames) by following this procedure:
   a. In the gray area above the Source monitor, click the Timecode Display pop-up menu (under the timecode), and select I/O.

      The I/O option displays the duration from the IN to OUT points. If you only mark the IN point, the I/O displays the duration from the IN point to the position indicator.

   b. Step forward until the I/O display reaches 3:17, and mark the OUT point.
5. Deselect the A1 Record Track button.
6. Move the position indicator to the first black frame.
7. Press the V key on the keyboard to splice the clip into the Timeline as the third clip.
8. Open the **rowing forward** clip and mark an IN point a little less than halfway through the clip, when the dory is evenly centered between the right and left edges of the frame.
9. Mark an OUT point 5 seconds later.
10. Select File > Save.
11. Splice the clip into the Timeline as the fourth clip.
12. Select File > Save All Bins.

You've finished this tutorial. You can go on to "Tutorial: Refining Edits" on page 144, or quit the Avid system.

Chapter 7

Refining the Edit

Refining edits tightens and improves the relationship between pictures and sound.

Refining edits is described in the following sections:

- Using Segment Mode to Edit in the Timeline
- Basic Trim Procedures
- Using the Command Palette
- Audio Editing

Tutorial: Refining Edits contains the following sections:

- Overwriting Clips into a Sequence
- Storyboarding
- Rearranging Clips
- Removing Footage from a Sequence
- Trimming
- Working with Audio

Using Segment Mode to Edit in the Timeline

Segment mode provides editing controls for moving, deleting, marking, and editing entire segments in the Timeline. A *segment* is a portion of the sequence that includes two or more transitions. There are two modes for editing segments or adding clips: Extract/Splice-in (indicated by a yellow arrow) and Lift/Overwrite (indicated by a red arrow).

Unlike traditional tape editing, Segment mode allows you to instantly reposition entire segments using visual controls as though you were physically "dragging" portions of your sequence around on a tape. You can move clips separately or together, on one track or across tracks.

Editing in Segment Mode

Observe the following guidelines when editing in Segment mode:

- Transition effects on either side of a moved selection are deleted. Transition effects inside the selection are preserved.
- You can track the audio while moving segments by pressing the Caps Lock key to enable audio scrub.
- When you are finished, Segment mode continues to affect your editing in Source/Record mode or Trim mode unless you click the active Segment Mode button to deactivate it.

Distinguishing Between Two Types of Editing Buttons

In Chapter 6, you used the Splice-in button. The Splice-in button and the Overwrite button (see "Overwriting Clips into a Sequence" on page 144) take clips from the Source pop-up monitor and place them into the Timeline. The Segment Mode buttons, Extract/Splice-in and Lift/Overwrite, move segments around within the Timeline. The names are similar but you use them for *different* purposes.

Basic Trim Procedures

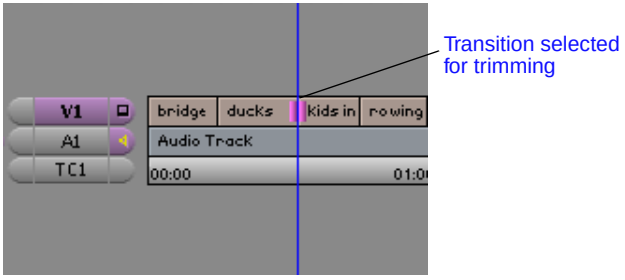
You can enter Trim mode in several different ways, depending on the type of trim you expect to perform. Once in Trim mode you can:

- Select additional tracks.
- Switch between Big and Small Trim mode.
- Switch between trim sides.
- Perform and play back the trim.

Entering Trim Mode

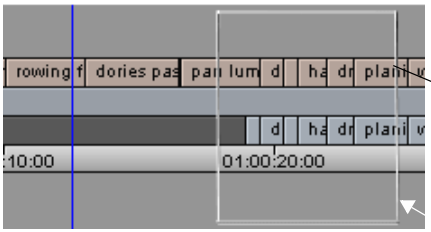
There are four alternative methods for entering Trim mode. They are:

- **Clicking the Trim Mode button.** By default, the system enters Trim mode and selects the tracks nearest the position indicator for dual-roller trimming. This method is useful for selecting straight-cut transitions on one track or across video and audio tracks.

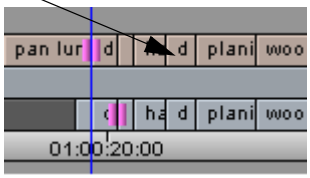


When you deselect one or more tracks in the Track Selector panel, by default, only the transitions in the highlighted tracks are selected for trimming. If the transitions are not straight cuts (overlap cuts or L-edits), the system highlights the topmost track nearest the position indicator.

- **Lassoing the transitions in the Timeline.** Draw the lasso by clicking at a point above the top track in the Timeline and dragging to surround the transitions. This method is useful when you need to select multiple transitions staggered across parallel tracks (overlap cuts) for simultaneous trimming.



Lasso drawn across three tracks.



Transitions are selected for dual-roller trim.

You can drag from right to left, or left to right, and you can lasso single transitions across several contiguous tracks. However, avoid lassoing more than one transition from left to right on a single track because this activates Segment mode.

To select transitions located below several track layers, draw a lasso within the Timeline by pressing and holding the Alt key (Windows) or the Option key (Macintosh) while you drag.

- **Using the Go to Previous/Next Edit buttons.** By default, the system selects the nearest transition in either direction of the selected track for dual-roller trimming.

  If the transition is a straight cut, the system selects all edited tracks. If the transition is an overlap edit with staggered transition points, the system selects the topmost track.

- **Using the Play Loop button.** This is useful if you like to trim quickly as you edit, going back and forth between Source and Trim mode.

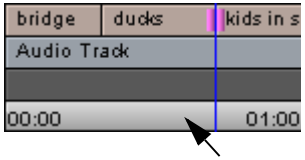
The Play Loop button does not appear in Source/Record mode by default. You must map it to the keyboard or a palette in advance. For information on button mapping, see "User-selectable buttons:mapping" in the Help index.

Exiting Trim Mode

You can exit Trim mode at any time in one of several ways:

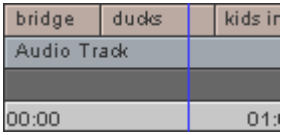
- Click the Trim Mode button at the bottom of the Timeline.

- Press the Esc (Escape) key on the keyboard to enter Source/Record mode by default.
- Click a specific location in the Timecode (TC1) track at the bottom of the Timeline to exit Trim mode. The position indicator moves to that location.



Click in the TC track at a selected location.

The system exits Trim mode and relocates the position indicator.



Switching Between Big and Small Trim Mode

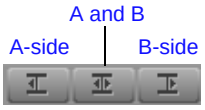
When you click the Trim Mode button, by default, the system enters Big Trim mode. If you click the Trim Mode button again, the interface switches between Big and Small Trim mode. This feature has the following uses:

- If you prefer the display of Small Trim mode, but need quick access to the Playback Duration controls from time to time, you can perform most of your work in Small Trim mode. Whenever you need the controls, click the Trim Mode button. This saves you the extra step of opening the Trim Settings dialog box each time.
- If you prefer the larger monitors and controls of Big Trim mode, select this as the default. When you need to use the Monitor menus to switch between sequences, or have occasion to edit source material into the sequence, you can click the Trim Mode button to enable Small Trim mode, which includes the Source monitor controls.

Selecting Between Trim Sides

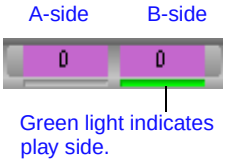
There are three ways to select sides of a transition to trim:

- In Big or Small Trim mode, click the outgoing (A-side) or incoming (B-side) monitor to define which side of the transition to trim. The pointer changes to a single-roller A-side, single-roller B-side, or double-roller icon depending on position.



- You can also use the Trim-side keys on the default keyboard (or map them onto one of the monitor palettes while in Trim mode) to select the A-side, B-side, or both.

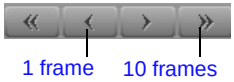
- You can use the Cycle Trim Sides button to cycle between selection of the A-side, B-side, or both.



The selected parts of the transition are highlighted, and the corresponding rollers appear in the Timeline. Also, one or both of the frame-counter indicators under the monitors are highlighted to reflect the active trim sides: A-side, B-side, or both. The number indicates how many frames have been added or subtracted (–) from the transition.

Performing a Basic Trim

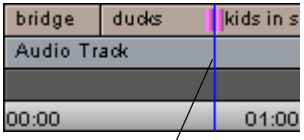
With your transitions and trim sides selected, you can perform a basic trim using one of the following procedures:



- Use the Trim buttons to trim forward or backward by 1-frame or 10-frame increments.
- Use the numeric keypad at the right side of the keyboard, as follows:
  - To move the transition a specific number of frames, type a plus sign (**+**) or minus sign (**–**) and the number of frames (from 1 to 99) you want to move forward or backward. Then press the Enter key. If the number of frames is larger than 99, type an F after the number to indicate frame count. For example, to enter 200 frames, type **200F** and press the Enter key.

- To move the transition to an exact timecode, type a timecode number larger than 99, including frames. For example, type **102** to enter 1 second and 2 frames.

- Use controls in the Timeline by clicking a roller at the selected transition and dragging it forward or backward in the sequence.



Click a transition and drag it in the Timeline.

- For greater control:

  - Press and hold the Alt key (Windows) or the Option key (Macintosh) as you drag the roller to move one frame at a time.

  - Press and hold the Ctrl key (Windows) or the ⌘ key (Macintosh) to snap to other transition points.

As you trim, all selected transitions in the Timeline move in unison. The Frame counter displays the frame count backward or forward for one or both trim sides, and the monitors display the new incoming or outgoing frames.

Using the Command Palette

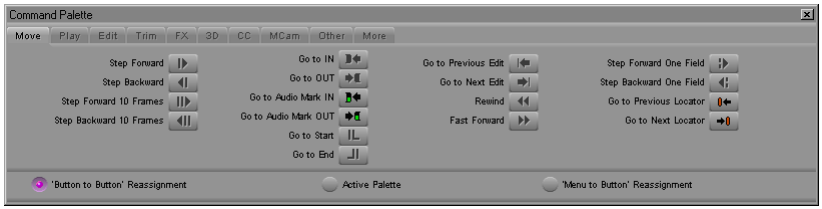
The Command palette provides a central location for all *user-selectable buttons (USBs)* that you can map to various locations for ease of use. User-selectable buttons allow you to perform a wide range of commands with a single click.

Select	To
'Button to Button' Reassignment	Map buttons to the Tool palette or any Command palette in a pop-up, Source, or Record monitor, and to reconfigure the keyboard.
'Menu to Button' Reassignment	Map menu commands to various buttons and keys.
Active Palette	Use buttons directly from the Command palette without mapping them.

The Command palette groups buttons by editing function. Tabs are displayed for each function and the buttons that perform those functions are displayed within each tab. The functions are: Move, Play, Edit, Trim, FX, 3D, Color Correction (CC), MCam, Other, and Workspace and Locator. See Figure 1 for Command palette tabs.

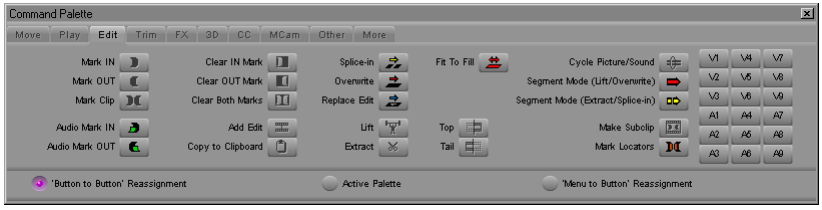
All buttons are displayed in the Command palette. If you cannot find a particular button, select Tools > Command palette and search for it there. For procedures on mapping user-selectable buttons and menu commands, see "User-selectable buttons:mapping" in the Help index.

Move buttons

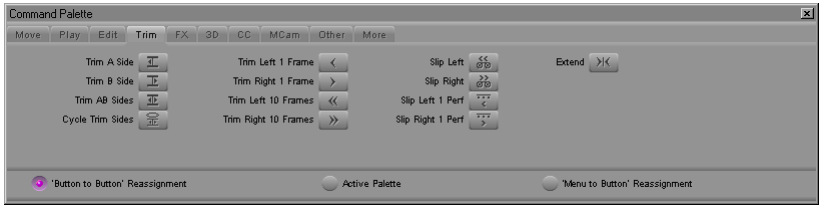


Play buttons

Edit buttons



Trim buttons



Effects (FX) buttons

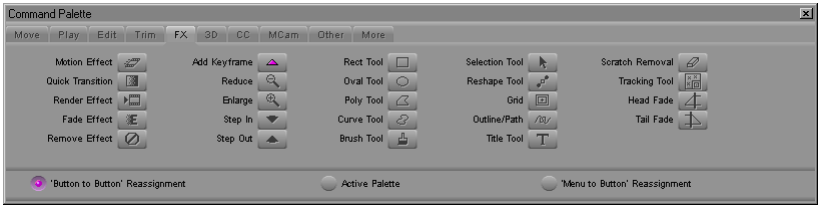
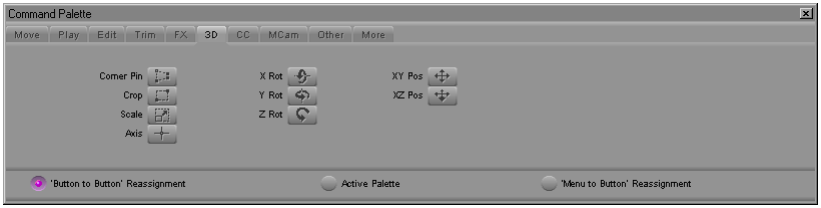
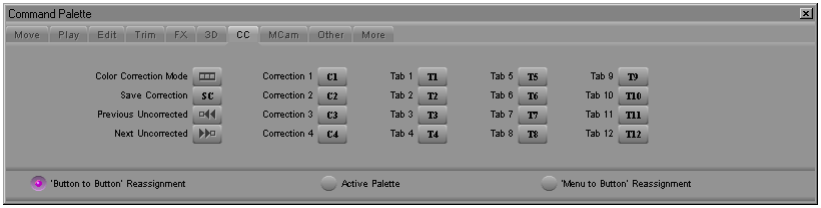


Figure 1 Command Palette Tabs

3D buttons

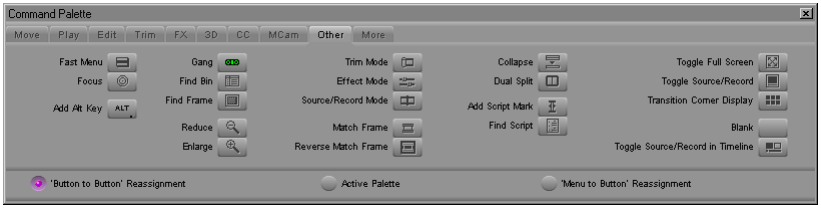


Color Correction buttons



MCam buttons

Other buttons



Workspace and Locator buttons

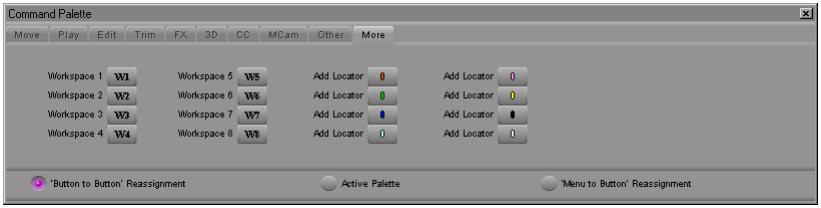


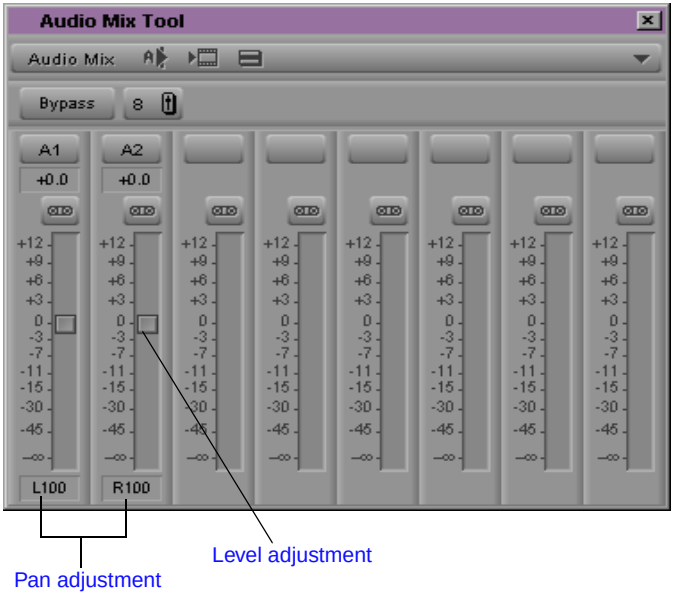
Figure 1 Command Palette Tabs (Continued)

Audio Editing

The Avid system provides audio scrub features and waveform plots specifically designed for frame-accurate cueing, marking, and editing of audio. You can use these features at any time during editing or while making adjustments with the audio tools.

Adjusting Volume

You can use the Audio Mix tool to adjust volume (level) and balance (pan).



Tutorial: Refining Edits

In this tutorial, you refine and trim edits and adjust audio levels.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

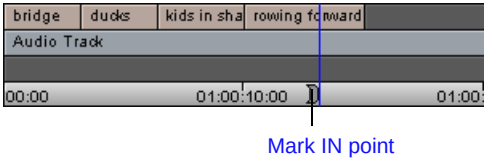
   The clips are displayed in the bin.

Overwriting Clips into a Sequence

In addition to splicing, you can overwrite clips into a sequence. An overwrite edit replaces a section of a sequence with other source footage. An overwrite edit does not affect the length of the sequence.

The **rowing forward** clip is too long. In this section, you will edit the next clip into the sequence before the end of the **rowing forward** clip.

1. Make sure the Record monitor is active.
2. Place the position indicator in the Timeline on the first frame of **rowing forward**.
3. Advance 3 seconds by typing **+229** (**+224** PAL) on the numeric keypad and pressing the Enter key on the numeric keypad.
4. Mark an IN point.



5. Open the **dories passing** clip.
6. Mark an IN point in the first half of the clip, 18 frames (4 frames PAL) after the tips of the two boats seem to touch in the middle of the screen.
7. Mark an OUT point a few frames less than 7 seconds later, when the girl's oars are both out of the water, and her left oar just catches the light.

8. Click the red Overwrite button or press the B key on the keyboard.

   The clip overwrites the end of the **rowing forward** clip and extends beyond it, thus lengthening the video portion of the sequence.

You should now be at about 19:20 into the sequence, with five video clips in it.

Storyboarding

Storyboarding allows you to set up a group of clips in a sequence of events and then load them into the Record monitor all at once.

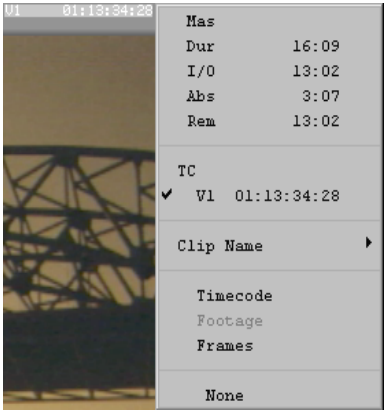
In this section, you will mark a group of clips using the instructions in Table 1. The table provides a timecode to set the IN point, and based on the duration, you can use the numeric keypad to determine the OUT point.

Marking Clips for Storyboarding

Use the following procedure to set your IN and OUT points for each clip in the table:

1. Load a clip listed in Table 1 into the Source monitor.

2. Above the Source monitor, click the Timecode Display pop-up menu, and select V1.



   You use the V1 numbers to go to the IN point.

3. Mark your IN point based on the Mark IN timecode in Table 1.

   You might have set the IN and OUT points for these clips in the previous tutorial. Check them to see whether or not they need to be reset.

4. To set the OUT point, type the duration (from Table 1) on the numeric keypad and press the Enter key on the numeric keypad.

5. Mark the OUT point.

6. Continue marking IN and OUT points for the remaining clips — but do not edit the clips into the sequence yet.

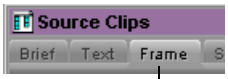
Table 1 Mark Points for Tutorial Clips

Clip Name	Mark IN Point	Duration
draw knife cu	05:02:08:09	1:16 (NTSC) 1:13 (PAL)
chiseling	04:11:34:22 (NTSC) 04:11:36:21 (PAL)	00:16 (NTSC) 00:13 (PAL)

Table 1 Mark Points for Tutorial Clips (Continued)

Clip Name	Mark IN Point	Duration
hammering	04:05:10:08	1:00
drilling	04:04:47:25 (NTSC) 04:04:48:21 (PAL)	1:00
planing cu	04:10:05:17 (NTSC) 04:10:07:04 (PAL)	2:00
planing ms	04:09:24:00 (NTSC) 04:09:25:14 (PAL)	3:19 (NTSC) 3:16 (PAL)
sanding	04:06:52:03	3:12 (NTSC) 3:10 (PAL)
wood burning	04:14:24:02	6:15 (NTSC) 6:12 (PAL)
two dories	01:11:03:03 (NTSC) 01:11:04:10 (PAL)	1:22 (NTSC) 1:18 (PAL)
rowing in mist	01:02:38:29	1:22 (NTSC) 1:18 (PAL)
dories ws	01:06:38:26	4:00
dories to models	04:25:22:28	3:23 (NTSC) 3:19 (PAL)
sign	05:06:52:01 (NTSC) 05:06:44:07 (PAL)	10:00 (NTSC) 10:00 (PAL)

Storyboard Editing the Clips



Frame View tab

To add multiple clips into your sequence all at once:

1. Display the **Source Clips** bin in Frame view and click the Maximize button (Windows) or the Zoom button (Macintosh) so the bin fills the screen, or click the lower right corner of the bin and drag it to enlarge the window.
2. Select Bin > Fill Window to arrange the clips in the bin.
3. Click the **draw knife cu** clip and drag it to a clear space in the lower left area of the bin.
4. Arrange the following clips (after **draw knife cu)** in two or three rows, from left to right, and top to bottom, to form the storyboard. Make sure you maintain the order of clips:
   - **chiseling**
   - **hammering**
   - **drilling**
   - **planing cu**
   - **planing ms**
   - **sanding**
   - **wood burning**
   - **two dories**
   - **rowing in mist**
   - **dories ws**
   - **dories to models**
   - **sign**

Now you're ready to load the marked clips into the sequence.

5. Press and hold the Ctrl key (Windows) or the ⌘ key (Macintosh) while clicking in the Timeline near the end of the **dories passing** clip.
6. Click the V1 Record Track button and deselect the A1 Record Track button in the Timeline.
7. Select the storyboarded clips all at once:
   a. Position the mouse pointer in the bin in the blank area just to the left of the **draw knife cu** clip.
   b. Lasso the clips by dragging the pointer to the right and down, making sure to select all of the storyboarded clips.

      A box forms as you move the mouse, starting next to the **draw knife cu** clip and ending at the last pointer position. All the names are highlighted in pink.
8. Press and hold the Alt key (Windows) or the Option key (Macintosh), click one of the clips (on the image, not the name), and drag the group into the Record monitor. Release the mouse when a yellow arrow appears in the Record monitor.

   The clips are spliced into the sequence in the order you specified.
9. To play the sequence:
   a. Move the position indicator to the head of the sequence.

Audio Track Monitor buttons

   b. Activate the Speaker icons for tracks A1 and A2 by clicking the A1 and A2 Record Track Monitor buttons (only one Record Track Monitor button can be activated at a time).

      Track A2 contains sound for several clips.

   c. Click the Play button under the Record monitor.

Rearranging Clips

You can rearrange clips by overwriting material, lifting material, or removing material. Overwriting material doesn't change the length of the sequence. Lifting material leaves filler and doesn't affect the length of the sequence. Removing material shortens the length of the sequence.

Overwriting with the Three-Point Edit

The three-point edit is an excellent way to replace a clip in a sequence. Use the Mark Clip button to select the clip in the sequence (or mark an IN and OUT point for a segment that's not a single clip), and mark either the IN or OUT point in the source clip. The system calculates the exact duration of the source clip to insert.

Let's replace the **chiseling** clip with **draw knife ms** to create a smoother movement across the cut.

1. To enlarge this area, in the Timeline:
   a. Press the Home key.
   b. Click the scale bar and drag it to enlarge the Timeline.

      The Timeline wraps onto another line, displaying multiple Timelines.
   c. Click the scroll bar and drag it to the right until you see the entire **chiseling** clip.

      The Timeline splits in half (or thirds) as it wraps through the sequence.
2. Move the position indicator to the **chiseling** clip.
3. Select only record tracks V1 and A2.
4. Click the Mark Clip button in the row of buttons under the Record monitor, or press the T key on the keyboard.

   The IN and OUT points appear at the head and tail of the clip in the TC1 track of the Timeline; the marked segment changes to purple.

The IN and OUT points also appear in the Record monitor's position bar.

5. Open the **draw knife ms** clip in the Source monitor and mark an IN point around 2.5 seconds (7.5 seconds for PAL) into the clip, when the boatbuilder's motions become smooth.
6. Clear any OUT marks.

7. Click the red Overwrite button or press the B key on the keyboard to make the three-point edit.

   The clip **draw knife ms** replaces the **chiseling** clip.
8. Return to the previous Timeline view by doing the following:
   a. Click the scale bar and drag it to the left.
   b. Move the position indicator in the Record monitor to the head of the sequence.

Changing the Order of Clips in a Sequence

Extract/Splice-in is a great tool for changing the order of clips in a sequence. Let's see what it looks like if we reverse the position of two clips in the sequence, **rowing in mist** and **two dories**.

1. Expand the Timeline again, using the scale bar. Click the scale bar and drag it toward the end of the sequence until you reach the **rowing in mist** clip.

2. Click the yellow Segment Mode (Extract/Splice-in) button under the Timeline.

   When the button is activated, its background changes to light gray.

Don't confuse the Extract/Splice-in and Splice-in buttons. The Extract/Splice-in button is located under the Timeline; the Splice-in button is located on the keyboard and between the Source and Record monitors (see "Distinguishing Between Two Types of Editing Buttons" on page 134).

3. Select only track V1. Deselect all audio tracks.

4. Press and hold the Alt key (Windows) or the ⌘ key (Macintosh), click the **rowing in mist** clip, drag it to the left (so it is completely over the **two dories** clip), and release the mouse.

   Two dories should now follow **rowing in mist**.

5. Click the Extract/Splice-in button again to deselect it.
6. Click the Timeline in front of the two clips and play the clips.

   The edit works.

Removing Footage from a Sequence

You can remove footage from your sequence, and either close or retain the gap that results. Extract/Splice-in closes the gap, and Lift retains the gap.

Removing Footage and Closing the Resulting Gap

The **planing ms** clip breaks up the feeling of being close to the action. Let's remove it from the sequence and close the gap that results.

1. Use the scroll bar to locate the **planing ms** clip.
2. 
   Click the yellow Segment Mode (Extract/Splice-in) button under the Timeline.

To eliminate footage that does not start and end at a transition, use IN and OUT points to delimit the segment that you want to extract.

3. Click anywhere in the **planing ms** clip on V1, then Shift+click the audio portion of the clip in track A2.

   The clip is highlighted in both tracks.

4. Press the Delete key on the keyboard.

   The selected clip is eliminated and the surrounding clips close the gap.

5. Click the Extract/Splice-in button again to deselect it.

Removing Footage and Retaining the Resulting Gap

Lift retains the gap after lifting footage from the sequence. Use Lift if you want to maintain the rhythm of a sequence or the synchronization of the video and audio tracks.

The **dories passing** clip plays for too long, but we want the next clip, **draw knife cu**, to remain in sync with the audio. We will use Lift to shorten **dories passing**, but will maintain the same entrance point for the next clip. Later, we'll determine what to put in its place.

1. Display the master timecode in the Record monitor's timecode display by clicking the Timecode pop-up menu, and selecting Mas.
2. Deselect the A2 Record Track button.
3. Mark an IN point in the sequence at master timecode 01:00:17:29 (01:00:17:24 PAL) by using the Mark IN button below the Record monitor.
4. Go to the last frame of the **dories passing** segment by placing the position indicator in the next clip beyond **dories passing**. Press and hold Ctrl+Alt (Windows) or ⌘+Option (Macintosh) and click the mouse.
5. Mark an OUT point.

   You must mark an IN and OUT point in the sequence.

6. Click the Lift button or press the Lift key (Z) on the keyboard to remove the segment.

   The selected segment lifts out and leaves black filler in its place.
7. Play the entire sequence in the Record monitor.

Trimming

Trimming allows you to adjust incoming and outgoing frames of your clip. There are two types of trims: dual-roller and single-roller.

Adjusting Both Sides of a Transition (Dual-Roller Trimming)

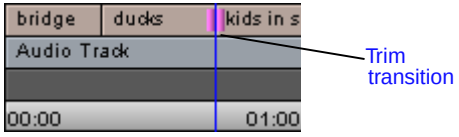
Use a dual-roller trim to adjust both sides of a transition *simultaneously*, adding frames to one clip while subtracting frames from the adjacent clip. The total duration of the sequence does not change.

Let's cut the **kids in shadow** clip right on the beat of the music.

1. Click the V1 Record Track button and deselect the Audio Tracks buttons. Make sure the A1 Audio Track Monitor button is activated.

2. Place the position indicator near the **ducks**/**kids in shadow** transition, and click the Trim Mode button under the Timeline.

   The position indicator snaps to the transition.



   The Record monitor shows the last (tail) frame of the **ducks** clip on the left, and the Source monitor shows the first (head) frame of the **kids in shadow** clip on the right.

New buttons appear below the trim windows. During dual-roller trim mode, both frame counters are purple.

To see the second row of buttons, click the Settings tab in the Project window, then select Composer. In the Composer Settings dialog box, click the Second Row of Buttons option, and then click OK.

3. Play the transition by clicking the Play Loop button.

   If this button does not appear:

   a. Select Tools > Command palette.

   b. Click the Play tab.

   c. Select Active Palette at the bottom of the tab.

   d. Click the Play Loop button.

   The transition plays repeatedly.

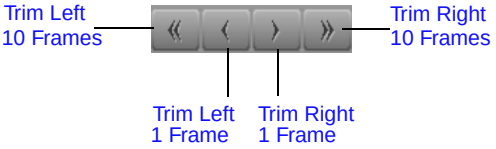
4. To stop the playback loop, click the Play Loop button again.

5. Press the Caps Lock key on the keyboard so you can hear the audio as you trim.

   To use digital audio scrub, make sure the Speaker icon on the Audio Track Monitor button is gold. Also, increase the speaker volume, if necessary.

   If the Speaker icon is not gold, press and hold the Alt key (Windows) or the Option key (Macintosh), and click the A1 Audio Track Monitor button.

6. Click the Trim Right 1 Frame button under the Source monitor until you hear a change in loudness around the seventh frame (third frame PAL).



   This adds frames to the tail of the outgoing clip and removes them from the head of the incoming one. The duration of the video track remains unchanged.

7. Play the transition again using the Play Loop button.
8. Do one of the following to exit Trim mode:

   - Click the Trim Mode button in the Tool palette.
   - Press the Left Arrow key on the keyboard.

Using Dual Rollers to Trim the Outgoing Clip

Let's insert a clip to take the place of the filler we left in the sequence. You replace the filler with **pan lumber** because this clip provides continuity of movement from the previous clip. Once you overwrite the clip into the sequence, you trim it.

1. Place the position indicator within the filler between the **dories passing** and the **draw knife cu** clips.
2. Select record tracks V1 and A2 in the Timeline, and deselect A1.

3. Click the Mark Clip button under the Record monitor or press the T key on the keyboard.
4. Open the **pan lumber** clip and mark an OUT point where the lumber is in sunlight and the camera stops panning. Do not mark an IN point.
5. Select record tracks V1 and A2.

6. Click the red Overwrite button between the Record monitor and Source monitor.

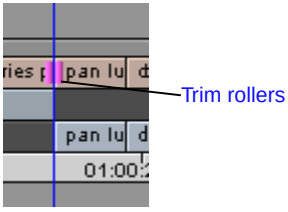
Don’t confuse the Lift/Overwrite and Overwrite buttons. The Lift/Overwrite button is located under the Timeline; the Overwrite button is located on the keyboard and between the Source and Record monitors.

Trimming the pan lumber Clip

In the next steps, you will trim the **pan lumber** clip so it enters a little earlier.

1. Enter Trim mode by lassoing the Timeline tracks:
   a. Click the pointer above all the Timeline tracks just to the left of the **dories passing**/**pan lumber** transition.
   b. Drag the mouse down and to the right to surround the transition.

      The trim rollers appear.



2. Move the transition 74 frames earlier by clicking the Trim Left 10 Frames button 7 times and the Trim Left 1 Frame button 4 times.

   You see the numbers change in the purple frame counters.

Single-Roller Trimming

In the trims you made so far, you trimmed both the head and the tail clips an equal number of frames, adding to one side and subtracting from the other. Now let's trim the tail of the **pan lumber** clip without affecting the head of the **draw knife cu** clip.

1. While still in Trim mode, advance to the **pan lumber / draw knife cu** transition by pressing the S key on the keyboard.
2. Click the A2 Record Track button in addition to the V1 Record Track button because you will trim both the audio and video of the clip.

Left frame counter

3. Click the left frame counter (A-Side Trim counter).

   Your trim will only affect the outgoing clip, which is in the left Trim monitor. The left frame counter remains purple, while the right one is deselected.
4. Type **`-10`** and press the Enter key on the numeric keypad to subtract 10 frames from the outgoing clip.

   This moves the transition 10 frames to the left.
5. Exit Trim mode by pressing the Left Arrow key on the keyboard or by clicking the Source/Record Mode button under the Timeline.

Adding Synced Audio

Now we'll add some synced audio to the sequence.

1. Open the **intervu: Lowell's Boat Shop** clip.

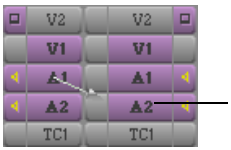
   Be sure the volume on the speakers is turned up.
2. Mark the IN point at the start of the first phrase, "Lowell's Boat Shop isn't quite the same as it always has been..." and mark the OUT point at the end of the last phrase, "...a great symbol of New England."

3. Press the Play IN to OUT (6) key on the keyboard to play the clip from the IN to OUT points.

   The audio is on track A1 in the source clip, but we want to add it to the end of track A2 in the Timeline.

   First we'll patch from source track A1 to record track A2.

4. To patch the track, quickly drag the pointer from the A1 Source Track button to the A2 Record Track button.



5. Display the master timecode (Mas) in the timecode display above the Record monitor.
6. In the sequence, place the Mark IN point at master timecode 01:00:41:00 (01:00:40:25 PAL), in the middle of the **dories ws** clip.
7. Make sure the A1 Source Track button and V1 and A2 Record Track buttons are selected.

8. Click the yellow Splice-in button between the Source and Record monitors.

   The audio is patched into the sequence.

Working with Audio

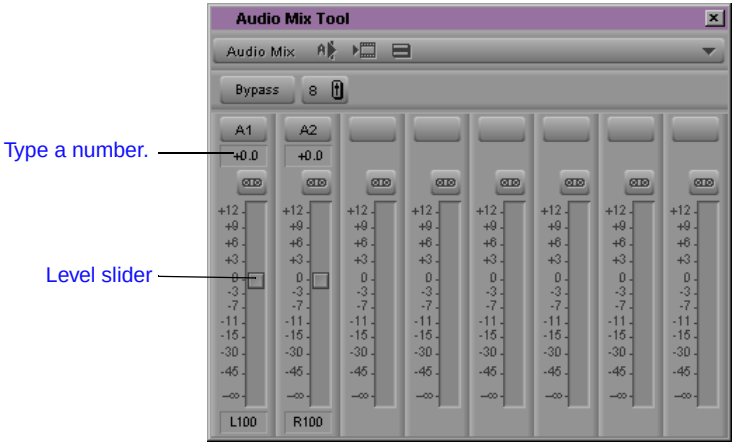
In this section, you adjust audio levels to the already placed **intervu: Lowell's Boat Shop** clip.

Adjusting Audio Level

The volume in the **intervu: Lowell's Boat Shop** clip is noticeably lower than in the rest of the sequence. Let's make this clip louder.

1. Click the A2 Record Track button and deselect the A1 Record Track button.
2. Place the position indicator anywhere within the **intervu: Lowell's Boat Shop** clip.
3. Select Tools > Audio Mix.

4. In the A2 area, move the A2 Audio Level slider to level +6 by doing one of the following:
   - Click the slider and drag it to level +6.
   - Type **6**.
   - Press the Up Arrow or Down Arrow key on the keyboard to reach level +6.



5. Play a portion of the clip.

   The volume is still too low.

6. Activate the Audio Mix tool by clicking in it, and move the slider to level +10.

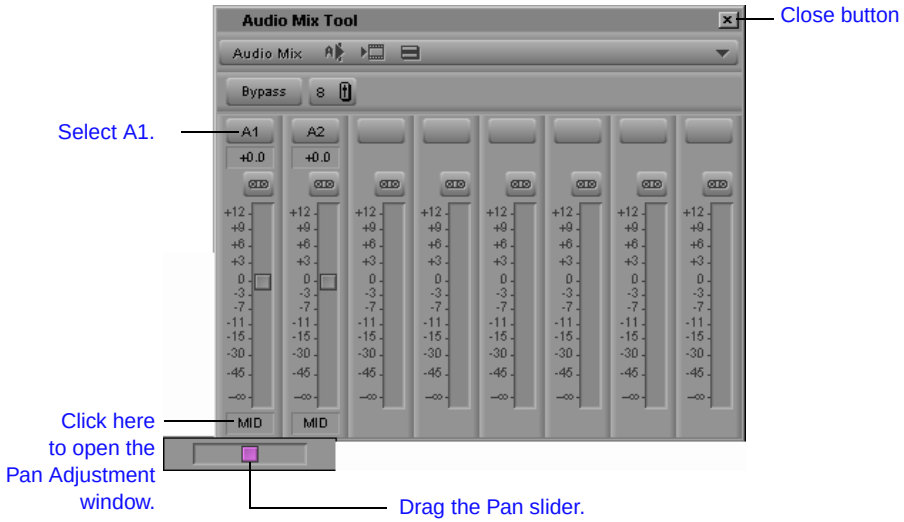
Adjusting Audio Pan (Balance)

Most of the audio for the sequence plays only out of the left speaker; the **intervu: Lowell's Boat Shop** clip plays only out of the right speaker. You can adjust the audio pan (balance) so the sound plays equally from both speakers.

1. Clear any IN or OUT points from the sequence by pressing the G key on the keyboard.
2. Select record tracks A1 and A2.

3. Activate the Audio Mix tool by clicking anywhere in it.
4. Click the Timeline's position indicator at a point that has audio on track A1.
5. From the Audio Mix tool in the first Pan Adjustment window, click the Track Selection pop-up menu, and select A1.
6. Open the Pan Adjustment window for track A1.

   The Pan slider appears.



7. Drag the Pan slider to the middle of the scale until it reads MID.
8. Open the Pan Adjustment window for track A2 and click the Pan slider and drag it until it reads MID.
9. Play a portion of the sequence to check the speaker balance.
10. Click the Close button to close the Audio Mix tool.
11. Play your sequence through and save it.

To snap the slider to MID, press and hold the Alt key (Windows) or the Option key (Macintosh), and click the Pan slider.

You've finished this tutorial. You can go on to "Tutorial: Adding Effects" on page 169, or quit the Avid system.

Chapter 8

Adding Effects

Adding effects to a clip enhances your sequence by fading in or out of a scene or adding video or a graphic on top of a clip.

Adding effects is described in the following sections:

- Effects Editing
- Displaying the Effect Palette
- Effect Categories
- Effect Types
- Applying Effects to a Sequence
- Working in Effect Mode
- Rendering an Effect

Tutorial: Adding Effects contains the following sections:

- Adding Transition Effects
- Adding a Picture-in-Picture Effect
- Screening the Sequence

Effects Editing

The Avid system offers many effects you can apply to your sequences. You can also use third-party plug-in effects that are compatible with Adobe Photoshop®. The effects that are available on your Avid system depend on the model and options you purchased. For the list of effects available for your model, see the appropriate release notes.

This chapter explains how to apply effects to transitions or segments (clips) in your sequence. After you have selected the effect and have applied it to a transition or segment, you can adjust the effect parameters to meet your requirements.

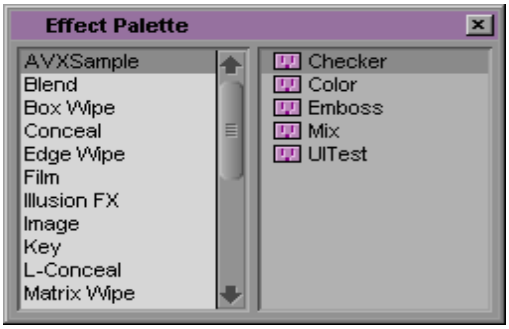
Many effects are *real time*, which means you do not have to render them before you play them. You can preview effects that are not real time before rendering. Rendering an effect creates a media file that plays with the sequence.

After you create an effect, you can save it as an effect template and reapply the template to other transitions or segments in your sequence. Some effects can be applied only to transitions, other effects can be applied only to segments, and some effects can be applied to both transitions and segments. In addition, some effects can be applied to a single video layer, and others to multiple video layers.

For an explanation of particular effects and the effect parameters, see the appropriate effects guide.

Displaying the Effect Palette

You select most effects from Tools > Effect Palette. The exceptions are motion effects that you access from the Fast menu above the Source monitor, the Freeze Frame effect that you access from the Clip menu, and titles that you create with the Title tool.



Effect Categories

The effects available through the Effect Palette are grouped by effect category:

- Blend
- Box Wipe
- Conceal
- Edge Wipe
- Film
- Image
- Key
- L-Conceal
- Matrix Wipe
- Peel
- Push

- Sawtooth Wipe
- Shape Wipe
- Spin
- Squeeze

Each of these effect categories contains multiple effects.

Effect Types

There are two primary effect types that are defined by where you use them in a sequence:

- Transition effects
- Segment effects (single-layer and multilayer)

Transition Effects

A transition is the point where two clips meet. You apply a transition effect to the cut point between two clips on the same video track. After you apply a transition effect, you can adjust its relative position and duration. Depending on the specific effect, other effect parameters might apply.

Transition effects are included in all effect categories on the Effect Palette, except the Image effect category.

For an explanation of the transition effects in each effect category, see the appropriate effects guide.

Segment Effects

You apply a segment effect to an entire clip or a group of clips. There are two types of segment effects:

- A single-layer segment effect, such as a mask, is applied to a segment on one video track.
- A multilayer segment effect, such as a Picture-in-Picture effect, is applied to the top layer of segments that contain two or more video tracks that will be played simultaneously.

All of the Avid effects and their effect types are listed in the appropriate effects guide.

Applying Effects to a Sequence

This section explains how to apply an effect to a sequence in the Record monitor. You can apply an effect:

- To one transition or segment on a single video layer
- To multiple transitions or segments on a single video layer
- To multiple transitions or segments on multiple video layers

The effect type (transition or segment) determines where you can place the effect in the sequence. For an explanation of the effect types, see “Effects:types of” in the Help index.

After you apply an effect, the next step is to adjust the effect’s parameters. To understand how to adjust the effect’s parameters, see “Effect Mode:adjusting parameters in” in the Help index.

Working in Effect Mode

After you have created an effect and have applied it to a transition or segment in your sequence, you can adjust its appearance and operation by changing its effect parameters in Effect mode.

Not all effect parameters apply to all effects. Parameters that do not apply to an effect are disabled in the Effect Editor window. To determine which parameters pertain to an effect, see the effect's description in the appropriate effects guide.

Rendering an Effect

You must render a non-real-time effect before it can be played. When an effect is rendered, the system stores the effect and its media file as a precomputed master clip (often referred to as a precompute). The system uses the precompute to play the effect at its normal speed.

Tutorial: Adding Effects

In this tutorial, you add dissolves and a Picture-in-Picture effect.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

   The clips are displayed in the bin.

Adding Transition Effects

Transition effects are added in between two clips. Effects you can use include: Blend, Box Wipe, Conceal, Edge Wipe, Film, Image, Key, L-Conceal, Matrix Wipe, Peel, Push, Sawtooth Wipe, Shape Wipe, Spin, and Squeeze.

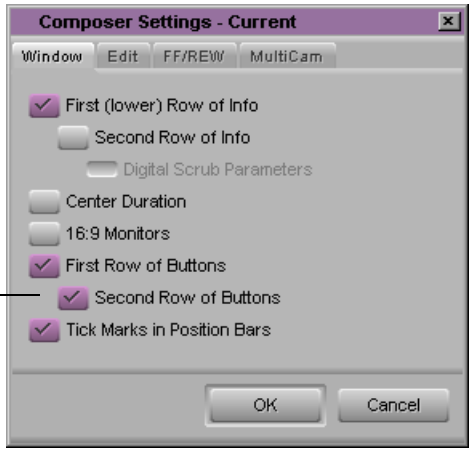
Displaying Editing Buttons

Before you add effects to the tutorial sequence, you need access to some effects editing buttons.

1. Click the Settings tab in the Project window.
2. Double-click Composer Settings.

   The Composer Settings dialog box opens.
3. Click the Window tab.

4. Make sure the Second Row of Buttons option is selected.



5. Click OK.

   A second row of buttons appears under the Source and Record monitors.

Adding a Dissolve Effect (Fade-In)

Now we'll add a Dissolve effect (fade-in) to a transition.

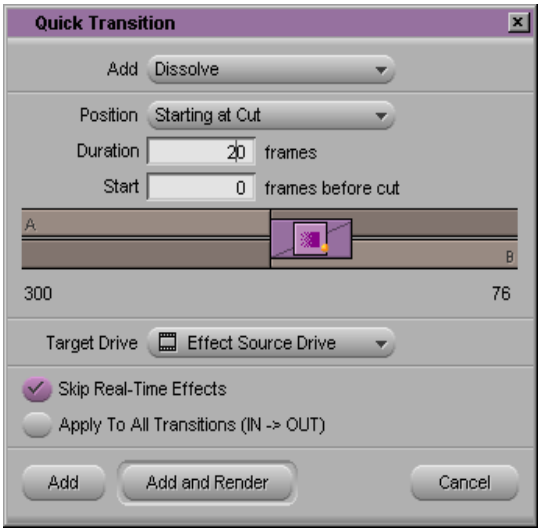
1. If you don't see any video in the Record monitor, click the box to the right of V1 so a square (tiny monitor) appears.

   The video appears in the Record monitor.

2. Click the V1 Record Track button and then click the head of the sequence.

3. Click the Quick Transition button in the Tool palette.

The Quick Transition dialog box opens.



4. Create a 20-frame dissolve (fade-in), starting at the cut, by doing the following:

   a. Click the Add pop-up menu, and select Dissolve.

   b. Type **20** in the Duration text box.

   c. Click the Position pop-up menu, and select Starting at Cut.

5. Click the Target Drive pop-up menu, and select the drive on which the effect media file should be stored.

   The default drive is Effect Source Drive.

Make sure the Skip Real-Time Effects check box is not selected.

6. Click the Add and Render button to render the effect.

   The system creates the media file of the video effect during the rendering process. It also places a Rendered icon in the Timeline where you added the effect.

7. Play the effect. Press the space bar to stop playback.

Dissolving Between Clips

You can create a nice effect by adding a dissolve between the first two clips of the sequence.

1. Click the V1 Record Track button and then click the first frame of the **ducks** clip.
2. Click the Quick Transition button in the Tool palette.

   The Quick Transition dialog box opens.
3. Create a 20-frame dissolve, centered on the cut, by doing the following:

   a. Click the Add pop-up menu, and select Dissolve.

   b. Type **20** in the Duration text box.

   c. Click the Position pop-up menu, and select Centered on Cut.
4. Click the Target Drive pop-up menu, and select the drive on which the effect media file should be stored.

   The default drive is Effect Source Drive.
5. Click the Add and Render button to render the effect.
6. Play the effect. Press the space bar to stop playback.

Creating a Series of Dissolves

After you create one dissolve, you can quickly add it to other transitions in a sequence. In this section, you add a series of dissolves in the middle of the sequence to smooth the transition between several short clips.

1. Place the position indicator at the transition between **dories passing** and **pan lumber**.
2. Create a 10-frame dissolve, centered on the cut.
3. Repeat steps 1 and 2 for all transitions through **sanding**/**wood burning**.

   If you can't see the clips in the Timeline, use the scale bar to expand the Timeline.

You do not have to change any dissolve parameters when you make these dissolves.

4. Play the sequence through to see your work.

Creating Audio Dissolves

It's just as easy to add audio dissolves, and the procedure is the same as adding video dissolves.

As an exercise, create audio dissolves for every audio transition on track A2 up through **sanding/wood burning**, except the beginning and the end of the sequence.

Use 10-frame dissolves, centered on the cut. Be sure to click the A2 Record Track button and deselect the other Track buttons.

Adding a Fade-to-Black Effect Within the Sequence

Now we'll create a fade-to-black effect within the sequence after the **dories passing** clip, to cut more forcefully on the words, "wooden boat building." The transition already has a 10-frame dissolve.

1. Place the position indicator on the last frame of the **dories passing** clip.
2. Click the V1 Record Track button only.

3. Click the Remove Effect button in the Fast menu.

   The dissolve is removed from the transition.
4. Without moving the position indicator, mark both an IN and an OUT point on that frame.

Use the Mark IN and Mark OUT buttons, not the Mark Clip button.

5. Click the red Segment Mode (Lift/Overwrite) button under the Timeline.

6. Press Ctrl+X (Windows) or ⌘+X (Macintosh).

   A single frame is lifted from the sequence, leaving one frame of black filler.

7. Click the Lift/Overwrite button again to deselect it.
8. Add a 20-frame dissolve, ending at the cut.
9. Click the Target Drive pop-up menu, and select the drive on which the effect media file should be stored.
10. Click the Add and Render button to add and render the dissolve.

Adding a Picture-in-Picture Effect

We'll make one final change to increase the impact of the last part of the sequence. Using a Picture-in-Picture effect, you'll squeeze the image of the boat shop owner into the lower left corner of the screen, and lay some other images behind him.

Using the Second Video Track

This effect takes up two video tracks: V1 for the clips of boats and boating and V2 for the interview. First, you have to move the interview clip from track V1 to V2.

1. Click the V1 Record Track button only.

2. On the V1 track, place the position indicator within the **intervu: Lowell's Boat Shop** clip in the Timeline and click the Mark Clip button under the Record monitor.

   The **intervu: Lowell's Boat Shop** clip is highlighted.

3. To add a new video track, select Clip > New Video Track.

4. Click the red Segment Mode (Lift/Overwrite) button under the Timeline.
5. Press and hold the Ctrl key, click the **intervu: Lowell's Boat Shop** clip, and drag it to the track above (V2).

   The clip opens on track V2.

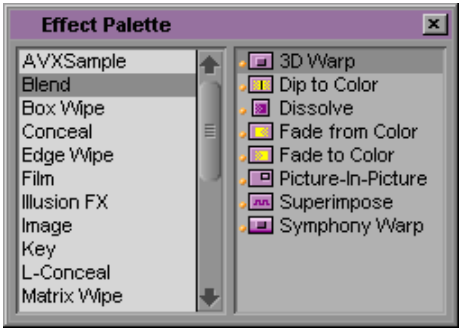
6. Click the Lift/Overwrite button again to deselect it.
7. Click the V2 Record Track button and the V2 Video Track Monitor button.

Creating the Picture-in-Picture Effect

To create the Picture-in-Picture effect:

1. Click the V2 Record Track button and the V2 Video Track Monitor button.
2. Select Tools > Effect Palette.

   The Blend effects, including the Picture-in-Picture effect, are displayed in the right window.

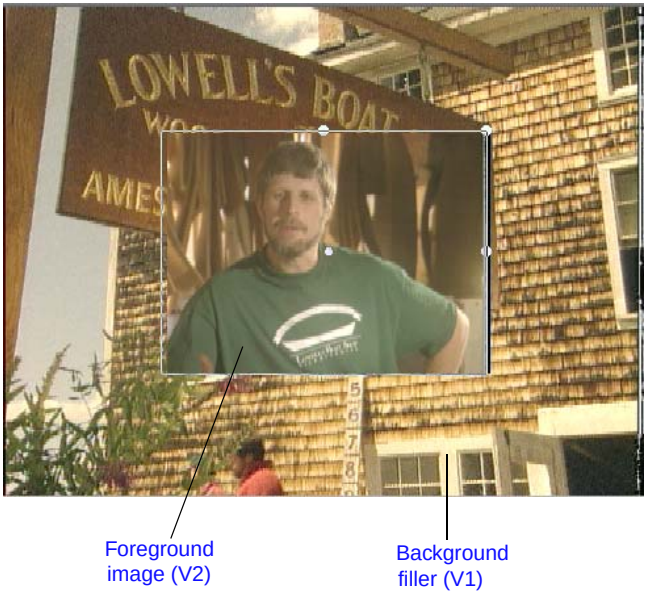


3. Place the position indicator anywhere in the **intervu: Lowell's Boat Shop** clip on track V2.

4. Click the Picture-In-Picture Effect icon from the Effect Palette and drag it to the **intervu: Lowell's Boat Shop** clip on track V2.

   The Effect icon appears in the Timeline.

The boat shop owner appears in a box midscreen.



Repositioning the Image

Let’s move the image to the lower left corner of the screen.

1. In the Timeline, move the position indicator directly over the Effect icon.

2. Click the Effect Mode button in the Tool palette to enter Effect mode.

   Parameters for the Picture-in-Picture effect appear in the Effect Editor.

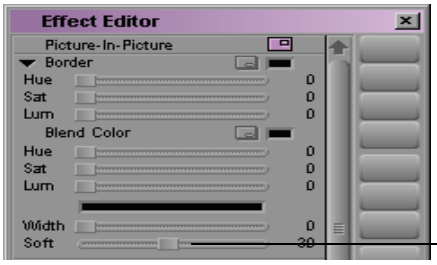
3. Click the image of the boat shop owner. Drag handles (the dots at the edges and in the middle of the box) appear, and a white hand appears when the pointer is over a handle.
4. Click the drag handle in the middle of the picture and drag the image to the lower left corner of the screen.

Adjusting a Parameter

Now let's use one of the Picture-in-Picture effect parameters to soften the edge of the image.

1. Click the Soft slider in the Effect Editor.
2. Drag the Soft slider to the right to a value of 30.

You can also type **30** on the numeric keypad.



3. Click the Play Preview button in the Effect Editor to view an outline of the effect.

You can click the mouse button or press the space bar at any time to stop the preview.

Adding Keyframes

To add dissolves within the Picture-in-Picture effect, you need to add keyframes. These let the system know this is the location in the Picture-in-Picture effect where you want to start the dissolve.

To add keyframes:

1. Click the V1 Record Track button.
2. Click the first keyframe in the Record monitor.
3. Click the Level slider and drag it all the way to the left to display 0.

4. Click in the Record monitor, then type **+1:00** on the numeric keypad. Press Enter on the numeric keypad to move the position indicator 1 second after the first keyframe.

5. Click the Add Keyframe button in the Effect Editor.
6. Click the Level slider and drag it all the way to the right to display 100.
7. Click the mouse button on the last keyframe.
8. Click the Level slider and drag it all the way to the left to display 0.
9. Click in the Record monitor, then type **-15** on the numeric keypad. Press Enter on the numeric keypad to move the position indicator 15 frames before the last keyframe.
10. Click the Add Keyframe button.
11. Click the Level slider and drag it all the way to the right to display 100.

12. Click the Close button to close the Effect Editor.

Adding Background Images

In this section you add a background image on track V1, below the **intervu: Lowell's Boat Shop** clip.

1. Click the V1 Record Track button and the V1 Video Track Monitor button. Deselect the V2 Record Track button.
2. Place the position indicator in the filler just above and below the **intervu: Lowell's Boat Shop** clip in the V1 track.

3. Click the yellow Segment Mode (Extract/Splice-in) button under the Timeline.
4. Press Ctrl+X (Windows) or ⌘+X (Macintosh).

   This removes the filler and adds the three clips at the end of the sequence as your background for the Picture-in-Picture effect.
5. Click the V2 Record Track button.

6. Click the **dories to model** and Shift+click the **sign** clips on the A2 audio track.
7. Press Ctrl+X (Windows) or ⌘+X (Macintosh) to delete the excess audio.
8. Click the Extract/Splice-in button again to deselect it.
9. Play your sequence.

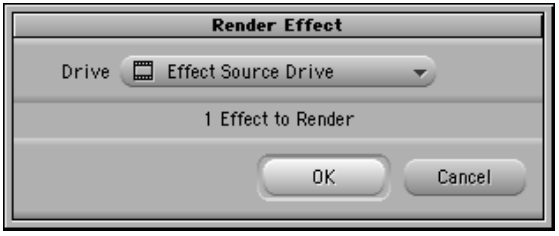
Rendering the Effect

You must render the Picture-in-Picture effect to play it at full speed.

1. Place the position indicator on the Effect icon in the **intervu: Lowell's Boat Shop** clip.
2. Click the V2 Record Track button.

3. Click the Render Effect button in the Fast menu under the Record monitor.

   The Render Effect dialog box opens.



4. Click the Drive pop-up menu, and select a target drive for the rendered media.

   The Effect Source Drive is the default drive for storing the rendered effect.
5. Click OK.
6. After the effect is rendered, close the Effect Palette.
7. To save your work, select File > Save All Bins.

You can have the system notify you when rendering is complete. This is helpful when rendering multiple effects. You have two Render Completion Sounds to select from: Avid Sound or System Beep. Enable the Render Completion Sound option in the Render Settings window.

Screening the Sequence

You've done a lot of work. Now take a look at the sequence.

1. Move the position indicator to the beginning of the sequence.
2. Click the V2 Video Track Monitor button.
3. Click the Play button.

You've finished this tutorial. You can go on to "Tutorial: Creating Titles" on page 189, or quit the Avid system.

Chapter 9

Creating Titles

You can create a new title with the Title tool and save the title in a bin, or add a new video track to the Timeline if you want the title to appear over video.

Creating titles is described in the following sections:

Tutorial: Creating Titles contains the following sections:

Creating New Titles

You can create a new title with or without a sequence in the Timeline. However, if you want to create a title with a video background, you can load a video clip into the Record monitor to use as a *video reference frame* while you create the title. The video reference frame you select appears in the background of the Title tool while you create the title. The video reference frame makes it easier to position text and objects exactly where you want them and to select colors from the frame to use in the text and objects.

Because the Avid system automatically loads the new title into the Source monitor, you can immediately use the standard editing procedures to edit the title into your sequence. If you create multiple titles in the same Title tool session, the system loads the last title you create into the Source monitor.

After you create a title with a particular video format (PAL or NTSC), if you want to create a title for a project that uses the other video format, you must shut down and restart the Avid system.

The Avid system saves into a bin each title you create. You can load a title into the Source monitor at any time or click the Title Effect icon and drag it from the bin to a segment in the Timeline. You can also click a title and drag it from the bin onto an existing title in the Timeline; this causes the existing title to be replaced.

The procedures described in this section use a video reference frame to create a title.

Understanding the Title Tool

The Title tool has several major components:

- The toolbar at the bottom of the screen
- A video or color background
- The title that you create

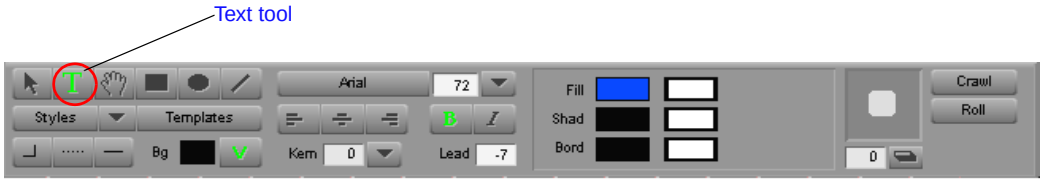
For more information, see “Safe Title/Action Area” in the Help index.

- The safe title and safe action area guidelines.

The following illustration shows a title over a video background.

Working with Text

By default, the Text tool is active when you open the Title tool. Click in the window at the position where you want to begin entering text.

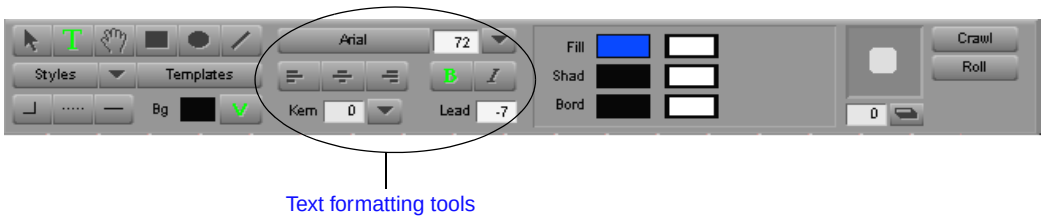


To use the Text tool at any other time, click the Text Tool icon, click anywhere within the title frame, and begin typing. A blinking vertical bar indicates your cursor position in the frame.

The Text tool remains selected until you select another tool.

Text Formatting Tools

The text formatting tools control the appearance of text. If a text object is selected when you change an attribute, the Avid system automatically applies the attribute to the object.



The text formatting tools allow you to change the following text characteristics:

- Current font
- Bold and italic
- Point size
- Justification
- Kerning
- Leading

This section describes how to change these characteristics on a text-string basis. You can also change these attributes on a character-by-character basis by editing the text string.

For more information, see “Title tool:working with” in the Help index.

You can also modify the following text attributes on a text-string basis:

- Color
- Transparency
- Drop and depth shadows
- Outlines surrounding text

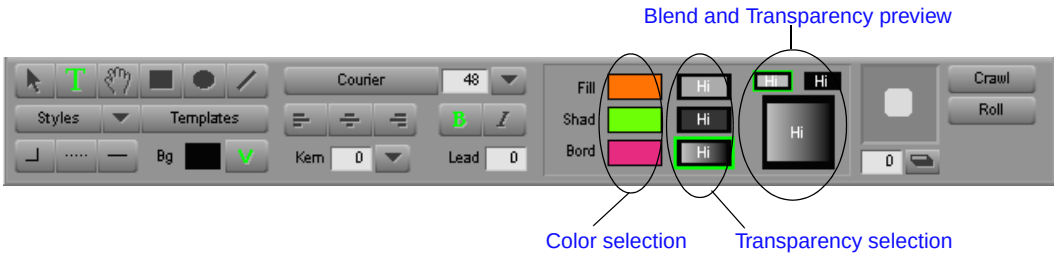
While you type text, only the text color is apparent. Shadows, outlines, and other color attributes appear when you finish typing the text and click the Selection tool.

If you have multiple text elements in a title, and you want to give each element a different appearance, create separate text strings.

Selecting Colors and Setting Transparency

You can select the color and transparency for objects, shadows, and borders.

The following illustration shows the boxes associated with color and transparency:



- The Color selection boxes control the fill (Fill), shadow (Shad), and border (Bord) color selection.
- The Transparency selection boxes control the fill, shadow, and border transparency selection.
- The Blend and Transparency preview windows open when you select the fill, border color, or border transparency selection box.

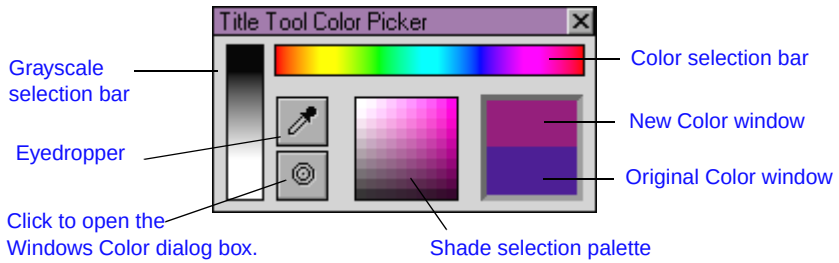
  If you select a Color selection box, the top windows show the two colors that are used to create the blend. The bottom window shows the blended color and allows you to control the direction of the blend.

  If you select a Transparency selection box, the top windows show the two transparency values that are used to create the blend. The bottom window allows you to control the direction of the transparency blend.

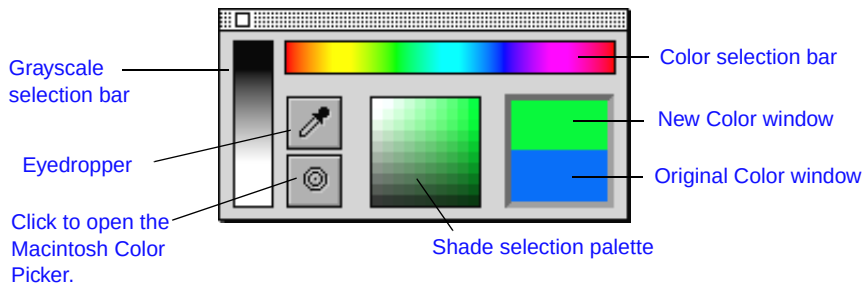
Adjusting the Color

To select a color for the title, use an eyedropper to select a color from any running application on your computer, or use the Windows Color dialog box or the Macintosh Color Picker to select a color. All of these features are available through the Title Tool Color Picker.

Windows



Macintosh



The Title Tool Color Picker allows you to select object, shadow, or outline color. The box you use controls whether the color applies to an object, creates a colored shadow, or places a colored outline around the selected object.

Editing a Title into a Sequence

After you have created a title with the Title tool, you can use one of the following two methods to edit the title into your sequence:

- **Method 1:** Add a new video track, load the title into the Source monitor, mark an IN point and an OUT point, and splice or overwrite the title into the sequence.
- **Method 2:** In Segment mode, click the Title Effect clip and drag it from the bin to an existing segment in the Timeline between the edit points.

You edit titles into a sequence using the same editing procedures you use for video. The only difference is that if you want to key the title over video, you must add a new video track.

Tutorial: Creating Titles

In this tutorial, you create a title, and edit and add a rolling credit to the end of the sequence.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

   The clips are displayed in the bin.

Adding a Title

Once you create and add a title to your sequence, you can reposition it, change the text color, adjust the font and point size, add a shadow or border, adjust levels and kerning, and make it **bold** or *italicize* it.

Creating a New Title

To create a new title:

1. In the Timeline, place the blue position indicator on the **bridge** clip in the sequence.
2. Select Clip > New Title.

   The Title tool opens.

3. Click the Text Tool button. If it is already selected on the toolbar, the pointer changes to an I-beam when you click in the Title tool.
4. Click in the water below the bridge.

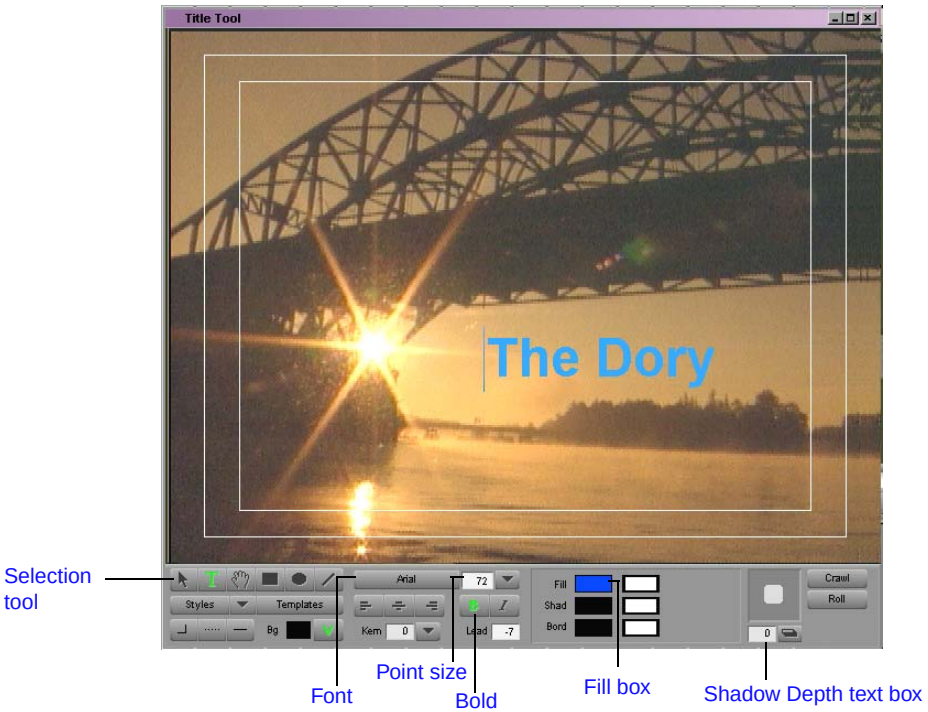
   A blinking insertion point appears.

5. Type **`The Dory`**.

6. Click the Selection Tool button on the toolbar.

   Object selection handles surround the title.

7. Click the Point Size pop-up menu, and select 72.
8. Click the Font pop-up menu, and select Palatino.
9. Click the B button for bold if it's not already selected.



You might want to click the right side of the text selection box and drag it to eliminate any unused space, especially if you want to use the Alignment menu commands. To drag the right side, click the middle handle on the right side of the text selection box, and drag it to the left until it is closer to the text.

Repositioning Text

Alt+click (Windows) or Option+click (Macintosh) anywhere in the Title tool to switch between the Selection tool and the Text tool.

To reposition the title text:

1. With the Selection tool selected, click the title and drag it so it appears across the water.
2. Use the arrow keys to move the title more precisely.

Changing Color

To change the color of the title text:

1. Click and hold the Fill box.

   The Title Tool Color Picker opens.
2. Click a blue color.

   The color is applied to the title.

Adding a Shadow

To add a shadow to the title text, do one of the following:

- Type a value in the Shadow Depth text box.
- Click the Shadow icon and drag it in the direction you want the shadow to fall.

Saving a Title

To save your title:

1. Select File > Save Title.

   The Save Title dialog box opens.
2. Type **`The Dory`** in the Title Name text box.
3. Select the **Source Clips** bin and a target drive to store your title.
4. Click Save.

   The title appears in the **Source Clips** bin.
5. Click the Close button to close the Title tool.

Editing the Title into the Sequence

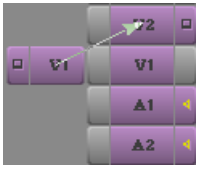
To add your title to your sequence:

1. Double-click the title in the bin.

   The title opens in a Source pop-up monitor.

2. Click the V2 Video Track Monitor button to activate it and deselect the V1, A1, and A2 Track Monitor buttons.

3. Click the V1 Source Track button and drag it to the V2 Record Track button.



4. With the title clip loaded in the Source monitor, set an IN point at the beginning of the clip and an OUT point at 1:00:02:15.

5. In the Timeline, move the position indicator to 1:00:00:06.

6. Click the red Overwrite button.

   This adds the title to the V2 video track.

7. Play the sequence to see your title.

Adding Rolling Credits

You can create a title in the Title tool and then make it scroll vertically; this is known as a *rolling* title.

Editing an Existing Title

To edit the existing title:

1. In the bin, press and hold the Ctrl key, and double-click the **Rolling Title: Credits** clip to open it in the Title tool.
2. Click the pointer and drag it over the entire ***Your Name*** text to select it.
3. Type in your name.
4. Click the Close button.

   A dialog box opens.

5. Click Save.

   Two titles appear in the bin (the old title and the new title you just edited).

Adding a Video Background

To add video background to your title:

1. Double-click the **rowing in mist** clip to load it into the Source monitor.
2. Clear any IN and OUT points.
3. Click the V1 Record Track button and deselect all other Record Track buttons.
4. Click the V1 Source Track button and drag it to the V1 Record Track button.
5. In the Timeline, move the position indicator to the end of the **sign** clip.

6. Click the yellow Splice-in button.

   The **rowing in mist** clip is added to the sequence.

Viewing the Creation Date

Your edited title has the same name as the version originally in the bin. To distinguish the two, you can look at the creation date.

To view the creation date:

1. Click the **Source Clips** bin to select it.
2. Select Bin > Headings.
3. Select creation date and click OK.

   The clips now appear with their creation dates. The new credits clip you created has the later creation date.

Splicing the Title into a Sequence

To splice the title into your sequence:

1. Double-click the new **Rolling Title: Credits** title clip to load it into the Source monitor. The new credits clip (you created) will have a new creation date.
2. From the Source monitor, click the Play button to play through the rolling credit.

   The screen shows black at first, then eventually the credits appear.
3. Set an IN point at 00:00:02:12 (NTSC) or at the beginning of the clip (PAL).
4. From the numeric keypad type **`+33:09`** and press the Enter key on the numeric keypad, and then click the Mark OUT button.
5. In the Timeline, click the position indicator and drag it to the end of the **intervu: Lowell's Boat Shop** clip on the V2 record track.
6. Click the V2 Record Track button and deselect all other Record Track buttons.

7. Click the V1 Source Track button and drag it to the V2 Record Track button.

8. Click the yellow Splice-in button.

   The **Rolling Title: Credits** clip appears over the **rowing in mist** clip.

9. Click the Play button to view the rolling title over video.

Deleting Excess Footage

There is excess footage continuing beyond the rolling title. To delete the excess:

1. Click the V1 Record Track button.
2. In the Timeline, move the position indicator to the end of the **Credits** clip.
3. Press the Add Edit key (P) on the keyboard.

   This creates a transition.

4. Click the red Segment Mode (Lift/Overwrite) button under the Timeline.
5. On the V1 track, click the last clip (the second **rowing in mist** clip) in the Timeline to select it.
6. Press the Delete key.

   The clip is deleted.

7. Save your project and bins and play the sequence.

Closing the Title Tool

To close the Title tool after creating a new title, click the Close button. The title appears in the Source monitor and in the bin where you chose to save it.

You've finished this tutorial. You can go on to "Tutorial: Finishing Mode" on page 202 (Symphony only), or "Tutorial: Output" on page 212, or quit the Avid system.

Chapter 10

Finishing Your Sequence (Symphony Only)

Correcting color and adding a blurred effect are special effects you can add to finish a sequence.

Finishing is described in the following sections:

- Finishing Mode
- Selecting and Correcting Color
- About the Paint and AniMatte Effect
- About the 3D Effects Option
- About Nesting Effects

Tutorial: Finishing Mode contains the following sections:

- Removing Red from a Clip
- Adding a Blurred Effect

Finishing Mode

Avid Symphony allows you to add the features you would normally add in an offline suite. These include: audio finishing, color correction, keying, scratch removal, and matte creation.

Using Finishing Mode

Finishing mode lets you view a sequence in a large window called the Playback monitor. When you first open Symphony, the Source and Record monitors appear.

To display the Playback monitor in Finishing mode, click the Alt+Source/Record Mode button (Windows) or the Option+Source/Record Mode button (Macintosh).

To go back to Source/Record mode, click the Alt+Source/Record Mode button (Windows) or the Option+Source/Record Mode button (Macintosh) again.

Real-Time Effects

A *real-time* effect is an effect you can apply to a sequence and play without rendering, which takes time and disk space. A real-time effect has a small orange dot within the Effect icon in the Timeline. Effects that must be rendered have a small green or blue dot within the Effect icon in the Timeline. The effects you will be adding in this chapter will be real-time effects. See the *Avid Symphony Effects Guide* for more information on rendering.

Selecting and Correcting Color

You can select and correct color and the transparency for objects, shadows, and borders. The option in the Effect Palette to make changes to color is the Color Effect feature.

Color Effect

The Color Effect is a segment effect you can use to modify the luminance, chroma, style (posterized or solarized), and color gain of the segment. You can adjust the following parameters:

For an explanation of these parameters, see "Color Effect" in the Avid Symphony Effects Guide.

- **Luma Adjust:** Brightness, contrast, and invert
- **Luma Range:** White point, black point, and gamma
- **Luma Clip:** High and low
- **Chroma Adjust:** Hue, saturation, and invert
- **Color Style:** Posterization and solarization
- **Color Gain:** Red, green, and blue

About the Paint and AniMatte Effect

The Paint Effect enhances the creative and corrective powers of Avid Symphony by providing the following features:

- Customizable paint brushes with preset templates and parameters for adjustable softness and rotation
- Creation of vector-based objects you can animate and edit
- A variety of paint modes including Erase, Clone, Colorize, Darken, Lighten, Blur, Unsharp Mask, Emboss, and more
- Object selection with rescale, lock/unlock, and group/ungroup capabilities
- Z-rotation of painted objects
- Outline feathering with bias control
- Magic Mask™ for quick and easy colorization

The AniMatte™ effect enables you to generate custom matte effects you can apply to a segment or transition in a sequence. You can use a variety of brushes and painting tools to create matte effects that you can animate. The AniMatte effect includes the following features:

- Modes for keying in and keying out images
- Keyframeable animation of matte effects
- Creation of mattes as vector-based objects that allow you to move, rescale, and reshape the mattes during a segment or transition
- Freehand painting ability to create organic matte wipes
- Magic Mask, brush shapes, Z-rotation, and feathering
- Export of mattes to create keys in third-party applications

For more information on these effects and how to use them, see the *Avid Symphony Effects Guide.*

About the 3D Effects Option

The 3D effects option delivers a wide range of digital video effects, including the following:

- Image effects such as blur (defocus) and resize with rotation and perspective
- Two-channel segment effects including smooth motion picture-in-picture
- Shapes, including 3D spheres and four-way page curls
- Positioning, scaling, skewing, and rotation, with perspective
- Source cropping
- Internal borders including beveled and rounded edges
- Soft borders
- Trails and drop shadows with varying opacity
- Highlights, wipe generator, chroma keys, and luma keys

About Nesting Effects

You can use the Avid Symphony system to place effect tracks inside one another to better combine multiple images and digital video effects. This involves a process known as *nesting*, which allows you to use the Timeline to *step into* a track's edit, perform a series of editing operations, and then *step out* to view and render the effect as one segment on the track. For more information on nesting effects, see the *Avid Symphony Effects Guide*.

Tutorial: Finishing Mode

In this tutorial, you finish the sequence with some special effects.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

   The clips are displayed in the bin.

Removing Red from a Clip

There seems to be too much red in the **intervu: Lowell's Boat Shop** clip. Let's try to remove some of the red.

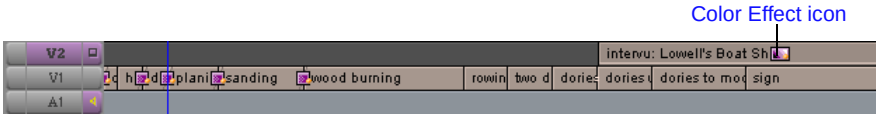
1. In Finishing mode, double-click the **Boat Shop** sequence to open it in the Playback monitor.
2. Select the V2 track.
3. Move the position indicator over the **intervu: Lowell's Boat Shop** clip.

4. Click the Step In button at the bottom of the Timeline to step into the nested Picture-In-Picture effect.

   The Timeline displays the Picture-In-Picture effect only.
5. Select Tools > Effect Palette.

   The Effect Palette opens.
6. Click Image from the Effect Categories list.
7. Click the Color Effect icon and drag it to the **intervu: Lowell's Boat Shop** clip in the Timeline.

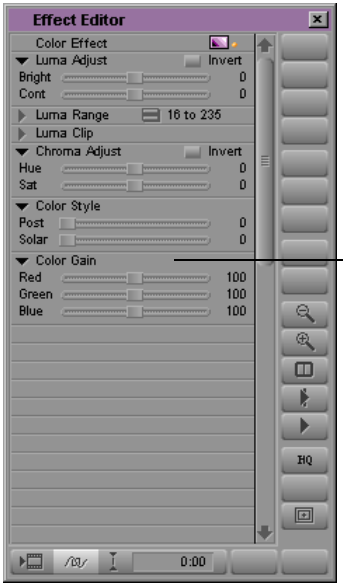
The V2 track becomes highlighted and the Color Effect icon appears on the clip.



8. Move the position indicator over the Color Effect icon in the Timeline.

9. Click the Effect Mode button.

   The Effect Editor opens.



10. Click the Color Gain button to expand it.
11. Click the Red slider and drag it, or press the Left Arrow key on the keyboard, until you display 95.

12. Click the Step Out button at the bottom of the Timeline.
13. Click the Source/Record Mode button to exit Effect mode.
14. Play the sequence through.

Adding a Blurred Effect

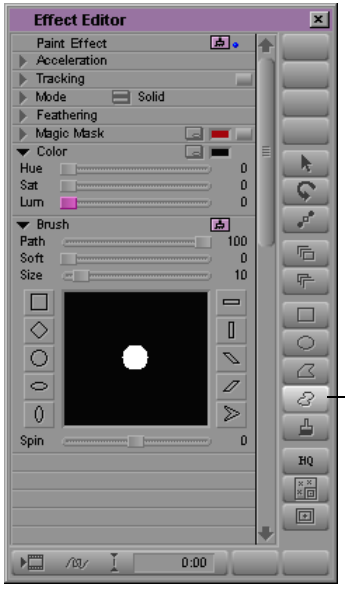
To add a blurred effect:

1. With the **Boat Shop** sequence loaded into the Playback monitor, turn on the V1 track.
2. Select Tools > Effect Palette.

   The Effect Palette opens.
3. Click Image from the Effect Categories list.
4. Click the Paint Effect icon and drag it to the **bridge** clip in the Timeline.
5. Move the position indicator over the Paint Effect icon in the Timeline.
6. Click the Effect Mode button.

   The Effect Editor opens.

7. Click the Reduce button from the Effect Editor to reduce the image in the Playback monitor.
8. Click the Curve Tool button.



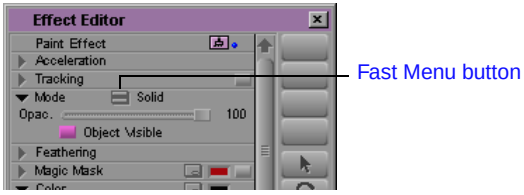
For more information on using the Curve tool, see the Avid Symphony Effects Guide.

9. In the Playback monitor, click and drag to trace a freehand outline under the bridge (around the water and sky).

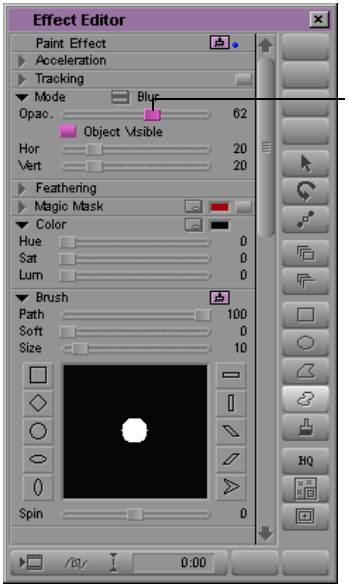
10. Release the mouse button when you are finished with the outline.

    A wire-frame outline appears around the area you have selected.

11. From the Effect Editor, click the Mode button to expand it.
12. Within the Mode options, click the Fast Menu button and select Blur.



13. Click the Opacity slider and drag it to 62.



14. Click the Source/Record Mode button to exit Effect mode.
15. Play the sequence through.

You've finished this tutorial. You can go on to "Tutorial: Output" on page 212, or quit the Avid system.

Chapter 11

Generating Output

The Avid system provides tools for generating output for individual tracks or entire sequences to various videotape or audiotape formats. In addition, you can generate an edit decision list (EDL) to be used by editors in a videotape suite for preparing a master tape.

Preparing for output and export is described in the following sections:

- Output Options
- Preparing for Output
- Digital Cut
- About Exporting Files
- Preparing to Export a Sequence

Tutorial: Output contains the following section:

- Recording a Digital Cut to Tape

Output Options

The Avid system provides tools for generating output for individual tracks or entire sequences to various videotape or audiotape formats.

Preparing for Output

For more information on calibrating and adjusting video and audio output levels, see "Video:calibrating (advanced) output" and "Audio output:calibration tone" in the Help index.

Preparing for video output involves the following procedures:

- Render all non-real-time effects, as described in the appropriate effects guide.
- Establish a sync source for output, as described in the appropriate input and output guide.
- Calibrate and adjust video output levels.
- Calibrate and adjust audio output levels.
- Decide whether you want to generate stereo or mono audio.
- Mix down multiple audio tracks if necessary. Systems equipped with an eight-channel audio board can generate a maximum of eight channels. Systems equipped with the Digidesign® audio interface can generate a maximum of four channels.

For more information on mixing down audio tracks, see "Audio tracks:mixing down" in the Help index.

- Prepare the record tapes, as described in the appropriate input and output guide.
- (Option) Record reference bars and tone to tape.

Digital Cut

The Digital Cut tool provides frame-accurate control when recording a sequence to tape. You can also use the Digital Cut tool to preview the sequence with a computer-generated countdown.

The Digital Cut tool provides several options for managing the recording of your sequence. For example, you can:

- Record using either assemble or insert edits.
- Record a selected portion of the sequence or selected tracks.
- Record an entire sequence.
- Record according to different timecode parameters.
- Select the sequence video and audio tracks to record.

- Select the tracks to record to on the tape.
- Add black at the end of a digital cut.

The Digital Cut tool has the following operating modes:

- Remote mode allows you to control the decks using the deck controller in the Digital Cut tool. This mode provides frame-accurate control when you record a sequence to tape.
- Local mode allows you to manually control the decks using the controls on the decks. This mode is useful when you need to use non-Avid-controlled decks, such as consumer-grade VHS or Hi8™. Local mode also allows you to preview the output of a digital cut before recording it to tape.

  You can manually record a digital cut including countdown, but the recording will not be frame-accurate.

About Exporting Files

You can export material directly from your Avid system to many supported file types. You can export an individual frame, a selected region of footage, or an entire clip or sequence.

There are several reasons why you might want to export video, audio, or both from your Avid system:

- You can export files to be viewed as an AVI or QuickTime® movie.
- You can export files in RealMedia™, ASF, and MPEG-2 formats.
- You can export audio files for audio sweetening in a digital audio workstation (DAW), such as a Pro Tools® system.
- You can export video files for touching up or creating special effects in third-party applications or other Avid applications.
- You can export files compatible with CD-ROM for use in multimedia projects.
- You can use the export process to convert audio media files from one supported audio format to another. Your Avid system supports the AIFF-C, SD2 (Macintosh only), and WAVE formats.

If you plan to transfer the exported files to another Avid system or third-party application, see the appropriate section in this chapter.

The following sections describe general procedures for preparing to export a sequence and for exporting frames, clips, and sequences.

Preparing to Export a Sequence

If you are exporting part or all of a sequence — to create an OMFI file, an AAF file, a QuickTime file, an AVI, or a graphic sequence, for example — you can speed the export process by preparing the sequence in advance, as follows:

- Make sure all media for the sequence is online.
- If you want to archive the source sequence before making any alterations you must duplicate the sequence, place the duplicate in another bin, and prepare the duplicate for export. The original sequence will be unaffected.
- Consider rendering all effects in advance. Although any unrendered effects are rendered on export (except for an OMFI export), rendering effects in advance saves time during the export process.
- Always render fast-saved titles before using OMFI to export a sequence, or before creating an EDL from the sequence. In addition, make sure all rolling titles are rendered before using OMFI to export a sequence.
- If your sequence contains numerous video tracks, consider mixing down the tracks in advance for faster export, unless you need to preserve the multiple-track information.
- If your sequence contains numerous audio tracks with various audio effects and level adjustments, consider mixing down the tracks in advance for faster export, unless you need to preserve the multiple-track information.
- Check and adjust all pan and audio levels in advance. All current pan and level settings in the sequence are carried to the exported media.
- For OMFI files, consider consolidating the sequence to create smaller source clips, thereby saving time and disk space.

- OMFI files with very complex sequences can fail during import into some applications due to memory limitations. Try one of the following solutions:
  - Break the sequence into smaller sequences and export the new sequences.
  - Add more physical memory.
- To export multiple clips in a single OMFI file, create a sequence from them. For example, you can select all the clips, Alt+drag (Windows) or Option+drag (Macintosh) them into the Timeline to create an instant sequence, and then export it.

Tutorial: Output

In this tutorial, you create a digital cut.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

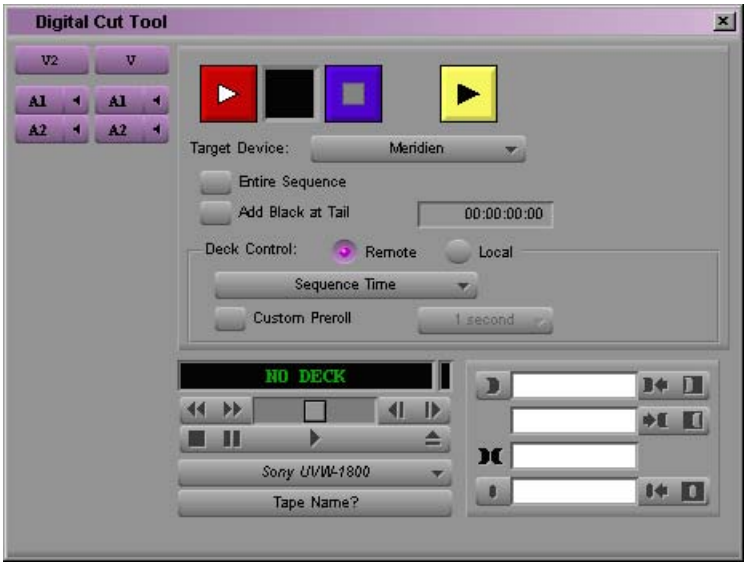
   The clips are displayed in the bin.

Recording a Digital Cut to Tape

To record a digital cut to tape:

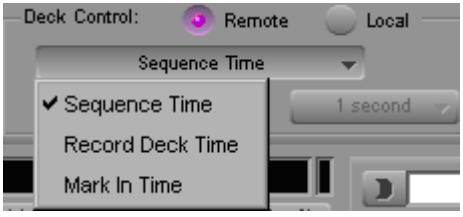
1. Select Tools > New Deck Controller. Use the deck controller to cue and record tape during Digital Cut recording.
2. Load the **Boat Shop** sequence into the Record monitor. (You cannot access digital cut options without a sequence loaded.)
3. Select Output > Digital Cut.

The Digital Cut tool opens.



4. Select or deselect the Entire Sequence option based upon the following:
   - Select the Entire Sequence option if you want the system to ignore any IN or OUT points and play the entire sequence from start to finish.
   - Deselect the Entire Sequence option if you have established IN points, OUT points, or both for recording a portion of the sequence.
5. (Option) Select the Add Black at Tail option and enter a timecode duration to add black at the end of the digital cut.
6. Select Remote in the Deck Control option area.

7. Click the pop-up menu, and select an option from the Deck Control option area to indicate where to start recording on the tape:
   - Click the pop-up menu, and select Sequence Time to start the recording at a timecode existing on tape that matches the start timecode of the sequence. If you intend to record several sequences to tape one after another, this option requires resetting the start timecode on each sequence to match the appropriate IN points on the tape.
   - Click the pop-up menu, and select Record Deck Time to ignore the timecode of the sequence and start the recording wherever the record deck is currently cued.
   - Click the pop-up menu, and Select Mark In Time to ignore the sequence timecode. Establish a specific IN point on the record tape by cueing and marking with the deck controls.



8. (Option) Click the pop-up menu, and select the Custom Preroll option and select the number of seconds to indicate how many seconds the tape rolls before the digital cut starts. This option overrides the preroll setting in the Deck Settings dialog box.

9. Select the audio and video tracks you want represented in the digital cut from the Sequence Track buttons. Only those tracks beside and beneath the selected Audio Track Monitor button and the Video Track Monitor button are included in the digital cut.

   The display of tracks in the Digital Cut tool varies according to the tracks existing in the sequence.

10. Select the video and audio tracks to record to on the tape using the Enable Track buttons.

11. Click the Play Digital Cut button.

    The system cues the record deck, and then plays and records the sequence. The playback appears in the Record monitor and in the Client monitor.

Depending on the system configuration, you might need to use the Deck controls on the Digitize tool to review a digital cut.

12. To stop the recording at any time, press the space bar.

After assemble-edit recording, a freeze frame is usually added after the OUT point for 1 second or more, depending upon the record deck model. This provides several frames of overlap for the next IN point before control track and timecode break up.

You've finished this tutorial. You can go on to "Tutorial: Backing Up" on page 225, or quit the Avid system.

Chapter 12

Backing Up

When you digitize footage, the system creates digital media files for the video and audio tracks on the media drives attached to your system. The Avid system provides useful tools and features for directly managing media files for storage, for playback, for backup, and for transfer between systems.

Backing up is described in the following sections:

Tutorial: Backing Up contains the following sections:

About Media Files

The system stores the media files created during digitizing in folders on your media drives labeled OMFI MediaFiles.

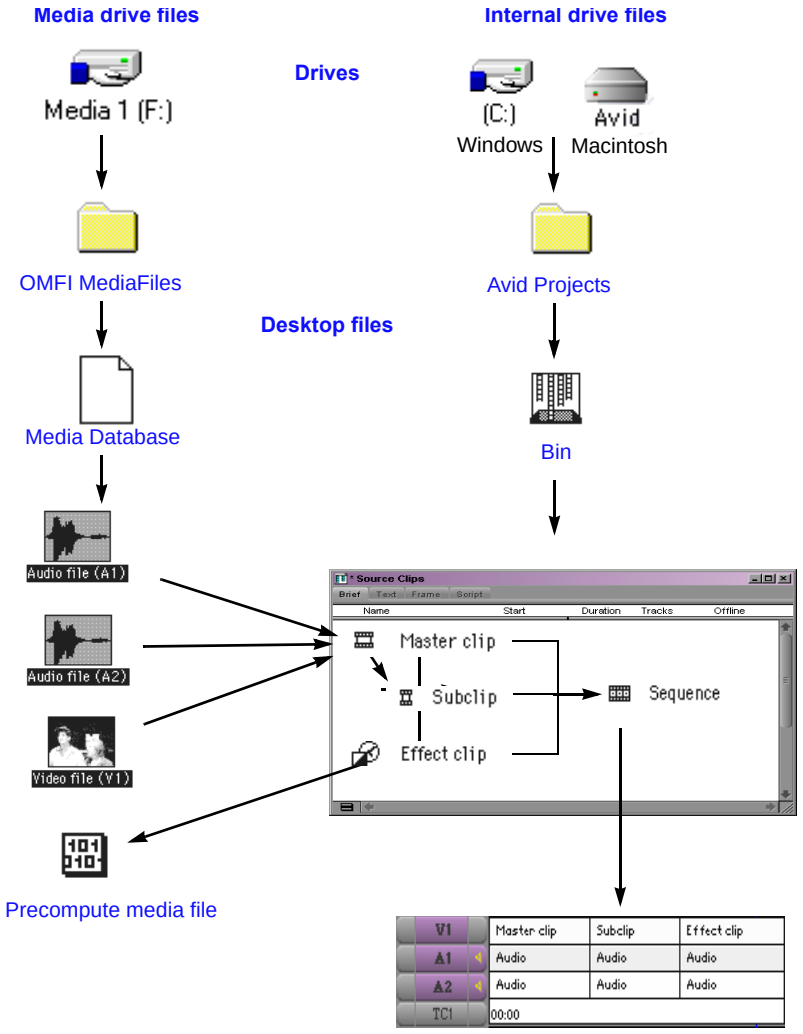
Media files are created in the following circumstances:

- During digitizing, a media file is created for each selected track (for example; V1, A1, A2), and they all are linked to the master clip.
- When you render effects, the system creates effect media files, otherwise known as *precomputes*, that are linked to the effect clip.
- When you create subclips and sequences, you do not create new media files. These refer to the media files for the source master clips.
- When you import graphics or audio files.

To manage media files, the system also creates a *Database file* that is stored in each MediaFiles folder. The system updates the Database file each time you make a change to a media file.

The following illustration shows the links among media files (stored on the media drives), the various clips (stored in the bin files in the Avid Projects folders on the internal hard drive [Windows] or the Macintosh HD drive [Macintosh]), and an edited sequence (shown in the Timeline and stored in the bin).

Media Objects and Files



Media Relationships

Table 2 displays the Media File icons and a description of each icon.

Table 2 Media Objects and Files

Object Icon	Object Description
 Source clip	A clip that references the original videotape source footage for master clips.
 Master clip	A clip that references audio and video media files formed from digitized footage or imported files.
 Subclip	A clip that references a selected portion of a master clip.
 Sequence	A clip that represents an edited program, partial or complete, you create from other clips.
 Group clip	A file in the bin that combines two or more clips based on marks or tracking information synchronization points.
 Motion effect	A file in the bin that references effect media files generated when you create motion effects.
 Rendered effect (precompute)	A clip that references an effect media file generated when you render an effect.
 Effect and Title	A clip that references an unrendered effect you create.
 Multigroup clip	(For multicamera editing) A clip containing two or more grouped clips, strung together sequentially according to common timecodes.
 Media file	A file on the media drive containing digital audio or video material. Media files are formed when you digitize footage or import files, mix down audio or video tracks, create an effect (precompute media file), or render an effect.

Basic Media Tool Features

The Media tool provides many of the same controls for viewing and managing information you use with bins, including the following:

- Four views in the Media Tool function like those in bins: Brief view, Text view, Script view, and Frame view.
- The Media Tool Fast menu gives you quick access to all the same commands available in the Bin Fast menu.
- You can highlight, move, copy, duplicate, delete, and sift clips. You can also select media relatives, sources, and unreferenced clips.
- You can use Text view headings and display options for columns of clip and media file data. You can also use procedures such as customizing the display of columns, moving within columns, and sorting information as described in “Media Tool:using” in the Help index.
- You can use the same Frame view options described in “Using Frame View (Windows)” on page 98 or “Using Frame View (Macintosh)” on page 98.
- You can use the same Script view options described in “About Bin Views” on page 82.
- Media Tool database and display options are saved as user settings. When you close the Media tool, the view you are in (Frame, Script, Text, or Brief) is saved and any customization of columns are saved.
- You can print Media Tool data using the same procedures for printing bins, described in “Bins:printing” in the Help index.

The Media tool also has a number of unique functions:

- Unlike bins, the Media tool displays all the tracks digitized for each clip as separate media files. Therefore, when you view, delete, and manipulate files, you have the added option of specifying individual video and audio tracks.
- Unlike a bin, the Media tool does not display sequences and subclips. Only master clips, precompute (rendered effect) clips, and associated media files are available for display.
- The following menu commands do not apply to the Media tool—Batch Digitize, Batch Import, Relink, Modify, AutoSync, and AutoSequence. You must perform these functions from the bin.

Freeing Storage Space

Unlike the bin files stored in project folders on the internal hard drive (Windows) or the Macintosh HD drive (Macintosh), media files require considerable storage space. To maximize your use of storage during larger projects, delete unreferenced media files for a finished sequence. This procedure is performed on clips selected in bins only.

Consolidating Media

When you consolidate media files, the system finds the media files or portions of media files associated with selected clips, subclips, or sequences. It then makes copies of them, and saves the copies on a target drive you specify. Because the Media tool displays only master clips, you cannot consolidate subclips or sequences with the Media tool. You can consolidate master clips, subclips, and sequences in the bin.

About the Consolidate Feature

The Consolidate feature operates differently depending upon whether you are consolidating master clips, subclips, or sequences. There are also different advantages in each case, as follows:

- **Master clips:** When you consolidate a master clip, the system creates exact copies of the media files. If you link the original master clip to the new files, the system creates a master clip with the file name extension *.old* that remains linked to the old files. If you choose to maintain the link between the original master clip and the old media files, the system creates a new master clip with the file name extension *.new* that is linked to the new files. The new clips are also numbered incrementally beginning with *.01*. Consolidating master clips does not save storage space because the system copies the same amount of media for each clip.
- **Subclips:** When you consolidate a subclip or group of subclips, the system copies only the portion of the media files represented in the subclip, and creates a copy of both the master clips and the subclips. The file name extension *.new* is attached, along with incremental numbering beginning with *.01*.
- **Sequences:** When you consolidate a sequence, the system copies only the portions of media files edited into the sequence, and creates new master clips for each clip in the sequence. The file name extension *.new* is attached to the master clips, along with incremental numbering beginning with *.01*. The sequence is not renamed, but is automatically relinked to the new media files.

Because a consolidated sequence is linked to the new files by default, consider duplicating the sequence each time you consolidate if you need to maintain links to the original files.

Backing Up Media Files

The MediaFiles folders on your external media drives contain the individual media files created when you digitize source material. Unlike the smaller Avid Projects and Avid Users folders, these folders are too large to back up onto floppy disks.

The following are the options for backing up media files:

- You can use the Consolidate feature, described in "Consolidating Media" on page 222, to make copies of selected media files on a target hard drive connected to the system.
- You can consolidate or make copies of media files for transfer to another system. For more information, see "Consolidating:media" in the Help index.

Backing Up Project Folders

To back up the larger media files that are created when you digitize footage, you must use a mass-storage device.

Although the Avid system automatically saves your bins, projects, and settings, you should back up these items frequently to avoid losing any of your work in case of a hard drive crash or corruption of the files. Because the storage requirements are minimal, you can back up these files easily to a variety of storage devices, such as:

- Floppy disk
- Network storage device (such as a file server)
- Mass-storage device

Tutorial: Backing Up

In this tutorial, you learn to back up and free up space on your media drive.

If you need more information, be sure to read the preceding overview sections of this chapter before you start this tutorial.

1. If your Avid system is not already running, start it by double-clicking the Avid application icon.
2. Select your user name and your Boat Shop NTSC or Boat Shop PAL project and click OK.
3. From the Project window, double-click the **Source Clips** bin.

   The clips are displayed in the bin.

Consolidating the Boat Shop Sequence

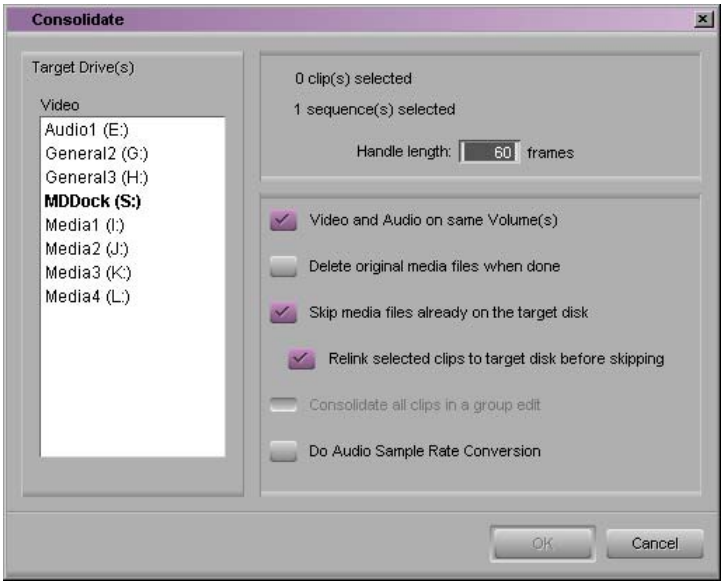
To consolidate the **Boat Shop** sequence:

For more information on rendering effects, see the appropriate effects guide.

1. Select the **Boat Shop** sequence**.**
2. Select Edit > Duplicate.

   This allows you to maintain links to the original files, if necessary, and render any unrendered effects.
3. Select Clip > Consolidate.

The Consolidate dialog box opens.



4. Select one of the following:
   - "Delete original media files when done" to delete original media files automatically.
   - "Skip media files already on the target disk" if some related media files are already located on the target drive.
   - "Relink selected clips to target disk before skipping" to ensure that all selected clips are linked to media on the target drive. This option appears when you select "Skip media files already on the target disk."
5. Select a target drive from the Target Drive(s) list. To select additional target drives, Ctrl+click (Windows) or Shift+click (Macintosh) the drive name in the list.

   Make sure you select a target drive with enough storage space for all the consolidated media files.
6. Enter a handle length for the new clips in the Handle length text box, or leave it at 60 frames to accept the default.
7. Click OK.

Another way to back up media files is to copy them directly onto another hard drive using the Windows or Macintosh desktop. You cannot, however, take advantage of the storage-saving features of the Consolidate command, and it is more difficult to identify particular media files when searching directly through folders

Do not make copies of media files from the Windows or Macintosh desktop while the Avid application is running. Also, do not keep duplicate copies of media files online; either delete the originals, take the backups offline, or store the backups in a folder with a different name.

Saving Your Work on a Drive or Floppy Disk

To save your project on a drive or floppy disk:

1. Mount the drive or insert the floppy disk as appropriate.
2. Double-click the icon for the targeted storage drive or floppy disk to open it. Double-click any additional folders to target the appropriate storage location.
3. (Macintosh only) Double-click the Macintosh HD drive to open it.
4. Click a project folder, user folder, or settings file and drag it to the targeted storage location.
5. When the system finishes copying the files, remove the floppy disk or drive and store it.

Restoring from a Backup

If you are restoring an individual bin or bins, you must relink them to the project from within the Project window. For more information, see “Media files:relinking” in the Help index.

To restore a project, user profile, or settings from a backup storage device:

1. Mount the drive or insert the floppy disk as appropriate.
2. Open the drive or floppy disk and the internal hard drive (Windows) or the Macintosh HD drive (Macintosh).
3. Click the copies from the storage device and drag them to the appropriate folder on the internal hard drive (Windows) or the Macintosh HD drive (Macintosh).

Folder	Contains
Avid Projects	Project folders and settings files
Avid Users	User folders and settings files
Symphony or Media Composer	Site settings

4. Start the Symphony or Media Composer application. The restored project/user profile/settings appear in the Select User and Project dialog box.

Quitting and Shutting Down

To quit and shut down:

1. Click Quit in the Select User and Project dialog box.
2. Select Leave when the system prompts you.
3. (Windows) Press and hold Ctrl+Alt+Delete and click Shut Down to shut down your system.

   (Macintosh) Select Apple menu > Shut Down.
4. After a few seconds, turn off the rest of your hardware.

Summary

Congratulations on completing the Avid Tutorial! We hope you've enjoyed this introduction to the Avid editing process. After mastering these skills, you can proceed to learn more advanced techniques for inputting media, adding other effects and titles, and outputting work for digital cuts or EDLs.

For further information about any Avid system techniques or features, see the Help system or the appropriate editing guide.

Avid also recommends you consult the latest Avid Training Catalog for complete descriptions and schedules of Avid's course offerings. All classes are led by trained, experienced professionals. A variety of hands-on student activities encourage participant learning. For more information, call 800-867-2843 or check the www.avid.com/education Web site.

Glossary

This Glossary defines terms used in Avid documentation. Some entries might not apply to your particular system.

24p 24-fps progressive media. The Avid system creates 24p media by combining (deinterlacing) two video fields into a single full, reconstructed frame. For NTSC film-to-tape transfers, the system creates 24p media by undoing the 2:3 pulldown inserted by the telecine process, removing the extra fields, and creating progressive frames.

25p 25-fps progressive media. The Avid system creates 25p media by combining (deinterlacing) two video fields into a single full, reconstructed progressive frame.

1394 See *IEEE Standard 1394*.

2:3 pulldown See *pulldown.*

3/4-inch U-matic One of the first composite videocassette formats, in which the composite signal is recorded onto 3/4-inch tape. Used for many years, particularly in field recording, the U-matic format is slowly being replaced by more advanced and lightweight systems.

4:2:2 digital video A digital video system defined by the ITU-R 601 (CCIR-601) technical documentation. 4:2:2 refers to the comparative ratio of sampling of the three components of the video signal: luminance and two color channels.

A-roll

A method of conforming that requires the compositing of all multilayer effects into a single layer (including laboratory-standard dissolves and fades) before assembly. Also called single-strand editing.

A/B-roll

1. A method of conforming that limits the amount of optical work by managing most standard dissolves and fades using two strands of film. Also called double-strand editing.
2. Alternating scenes, recorded on separate source tapes or film rolls, to perform dissolves, wipes, or other types of transitions.

A/D converter

Analog-to-digital converter. A device that transforms a continuously variable (analog) signal to discrete binary bits that represent digital samples of the original signal.

academy

Pertaining to specifications that meet the Academy of Motion Picture Arts and Sciences standards, such as academy leader, academy format (for film stock), academy countdown, and so forth.

add edit

An edit added between consecutive frames in a sequence segment within the Timeline. An add edit separates segment sections so the user can modify or add effects to a subsection of the segment.

ADR

1. Automatic display replacement. The process of looping playback of a selected region in a sequence and automatically recording multiple replacement takes.
2. Automatic dialog replacement in film. Also called dubbing.

AES

Audio Engineering Society. The primary international organization of users and producers of professional audio. The AES maintains a standards committee that supervises the work of several subcommittees and working groups covering various fields of sound reinforcements.

AES/EBU

Audio Engineering Society/European Broadcasting Union. A standards-setting organization that defined a digital signal format for professional audio input to the Avid video-based editing systems using the SA 4 board. This signal format is typically used when you input sound directly to Avid video-based editing systems with a digital audiotape (DAT) machine, thereby bypassing the videotape recording or digitizing process.

AIFF-C Audio Interchange File Format-Condensed. A sampled-sound file format that allows for the storage of audio data. This format is primarily used as data interchange format but can be used as a storage format as well. OMF Interchange includes AIFF-C as a common interchange format for uncompressed audio data.

alpha channel An 8-bit, grayscale representation of an image used to create a mask for keying images.

A-mode A linear method of assembling edited footage. In A-mode, the editing system performs edits in the order in which they will appear on the master, stopping whenever the edit decision list (EDL) calls for a tape that is not presently in the deck.

See also *B-mode, C-mode, D-mode, E-mode*, *source mode.*

analog recording The common form of magnetic recording where the recorded waveform signal maintains the shape of the original waveform signal. All videotape source footage is analog. When recorded or digitized (via telecine transfer), footage is converted from the analog format to a digital format.

answer print A print made of the final cut for review before the final release print is created.

See also *work print.*

anti-aliasing A computerized process of digitally smoothing the jagged lines around graphic objects or titles.

ASCII American Standard Code for Information Interchange. The standard that governs the recording of characters by a sequence of binary digits. Most computers use ASCII code to represent text, which makes it possible to transfer data from one computer to another.

aspect ratio The numerical ratio of a viewing area's width to its height. In video and television, the standard aspect ratio is 4:3, which can be reduced to 1.33:1 or simply 1.33. HDTV video format has an aspect ratio of 16:9. In film, some aspect ratios include: 1.33:1, 1.85:1, and 2.35:1.

assemble edit An edit where all existing signals on a tape (if any) are replaced with new signals. Assemble editing sequentially adds new information to a tape and a control track might be created during the edit. The edit is made linearly and is added to the end of previously recorded material.

See also *overwrite*.

ATM Asynchronous transfer mode. A network technology based on transferring data in packets of a fixed size. The packet used with ATM is relatively small compared to units used with older technologies. The small, constant packet size allows ATM equipment to transmit video, audio, and computer data over the same network and ensures that no single type of data ties up the line.

Current implementations of ATM support data transfer rates of 25 to 622 Mb/s (megabits per second). This compares to a maximum of 100 Mb/s for Ethernet, the current technology used for most local area networks (LANs).

ATR Audiotape recorder. A device for recording and reproducing sound on magnetic recording tape.

Attic folder See *Avid Attic folder*.

attribute clip A mechanism that applications can use to store supplemental information in a special track that is synchronized to the other tracks in a track group.

audio scrub See *scrubbing*.

audio sweetening The mixing of sound effects, music, and announcer audio tracks with the audio track of the edited master tape, usually during the mixing stages of a production. Also called audio postproduction for video.

audio timecode Longitudinal timecode (LTC) recorded on an audio track.

AudioVision A registered trademark of Avid Technology, Inc. A digital, nonlinear audio editing system that locks digital video in sync with audio for audio editing and sweetening.

AutoSave A feature that saves your work at intervals you specify. Backups are placed in the Avid Attic folder.

AUX Auxiliary track. In a video editing system, a channel reserved for connecting an external audio device, a video device, or both.

Avid Attic folder The folder containing backups of your files or bins. Every time you save or the system automatically saves your work, copies of your files or bins are placed in the Avid Attic folder, until the folder reaches the specified maximum. The Avid Attic folder copies have the file name extension .bak and a number added to the file name. The number of backup files for one project can be changed (increased or decreased) in the Bin Settings dialog box.

Avid Projects folder The folder containing your projects.

AVR Avid Video Resolution. The compression level at which visual media is stored by the Avid system. The system creates media in a particular AVR using proprietary conversion algorithms to convert analog video to digital form.

backtiming A method of calculating the IN point by subtracting the duration from a known OUT point so that, for example, music and video or film end on the same note.

backup A duplicate copy of a file or disk in another location if the original file or disk becomes corrupted.

See also *Avid Attic folder*.

bandwidth The difference between the upper and lower frequency limits of an audio sample component.

bar code A pattern of vertical stripes of varying width and spacing that encodes information. Bar codes can be used to encode timecode on film.

batch digitize The automated process in which groups of clips, sequences, or both are digitized (recorded digitally).

batch record The automated process in which groups of clips, sequences, or both are recorded (recorded digitally).

baud The number of electrical oscillations that occur each second. Baud was the prevalent measure for bandwidth or data transmission capacity, but bps (bits per second) is used most often now and is more accurate.

Bento A registered trademark of Apple Computer, Inc. A general container format and software API (application programming interface). Bento is used by OMF Interchange as a storage and access system for the information in an OMF Interchange file.

best light A telecine transfer performed with optimum settings of the color grade controls but without precise scene-by-scene color correction.

Betacam, Betacam SP Trademarks of Sony Electronics, Inc. Two component videotape and video recording standards. Sony Betacam was the first high-end cassette-based system, recording video onto 1/2-inch magnetic tape. The SP version arrived 3 years after the first Betacam, improving on signal-to-noise ratios, frequency responses, the number of audio channels, and the amount of tape available on cassettes. SP is now the only type sold.

Bézier A type of curve that you can use for curve segments on Intraframe shapes or in some kinds of graphs such as keyframe graphs. A Bézier point on a curve allows you to control the smoothness or sharpness of the curve at the point.

bin A database in which master clips, subclips, effects, and sequences are organized for a project. Bins provide database functions to simplify organizing and manipulating material for recording, digitizing, and editing.

black and code Video black, timecode, and control track that are prerecorded onto videotape stock. Tapes with black and code are referred to as striped or blacked tapes.

black burst A video signal that has no luminance or chrominance components (except burst) but contains all the other elements of a video signal. Black burst is the reference signal commonly used for timing audio and video samples.

black burst generator An electronic device that emits a signal that registers as pure black when recorded on videotape.

blacked tapes See *black and code*.

black edits

1. A video source with no image.
2. A special source you can fade into, out of, or use for other effects.

black level

See *setup*.

black point

The luminance value in a video image that you set to be equal to reference black when making a color adjustment.

Compare with *white point*.

blue screen

A special effects procedure in which a subject is photographed in front of a uniformly illuminated blue or green background. A new background image can be substituted for the blue or green during the shoot or in postproduction through the use of chroma key.

B-mode

A "checkerboard" or nonsequential method of assembly. In B-mode, the edit decision list (EDL) is arranged by source tape number. The edit system performs all edits from the tapes currently assigned to decks, leaving gaps that will be filled by material from subsequent reels.

See also *A-mode, C-mode, D-mode, E-mode*, *source mode*.

bps

Bits per second. The standard measure of data transmission speeds.

B-roll

An exact copy of the A-roll original material, or new original material on a separate reel, for use in A/B-roll editing.

brightness

See *luminance*.

bumping up

The transfer of a program recorded on a lower quality videotape to a higher quality videotape (such as from 3/4-inch to 1-inch videotape, or from S-VHS to MII).

burn-in

A visible timecode permanently superimposed (burned in) on footage, usually in the form of white numbers in a black rectangle. Burned-in timecode is normally used for tracking timecode during previews or offline editing. A videotape with burn-in is also called a burn-in dub or a window dub.

BVB

Black-Video-Black. A preview mode that displays black, newly inserted video, and then black again.

B–Y

One of the color difference signals in the component color system of the NTSC video standard. The signal formula is:

B–Y = 0.299R (red) – 0.587G (green) + 0.886B (blue)

See also *R–Y, Y*.

calibrate

To fine-tune video levels for maximum clarity during recording or digitizing (from videotape).

Capture Mask effect

An effect that converts the format of source data during playback. For example, it could convert video frame data between PAL (25 fps) and NTSC (29.97 fps) formats.

CCIR

Comité Consultatif International des Radio Communications. A mainly European organization similar to SMPTE (Society of Motion Picture and Television Engineers) in the United States that includes user and vendor representatives. Now called ITU (International Telecommunication Union).

See also *ITU-R 601*.

CCIR-601

See *ITU-R 601*.

change list

A list of instructions produced by Film Composer that is used to track and compare the differences between two versions of a digital sequence. A change list is used to update a work print cutting with specified new edits and revisions.

channel

1. A physical audio input or output.
2. One of several color components that combine to define a color image. An RGB image is made up of red, green, and blue color channels. In color correction, you can redefine color channels by blending color components in different proportions.
3. See *track*.

character generator An electronic device, or a computer device and software combination, that creates letters and numbers that can be superimposed on video footage as titles.

chassis The housing for removable disk modules. The chassis contains a power supply, drives, and connectors for each module.

chroma Video color.

See also *chrominance*.

ChromaCurve A trademark of Avid Technology, Inc. ChromaCurve graphs appear in the Color Correction tool and are used to adjust the color values in a sequence. The graphs plot input values on the horizontal axis and output values on the vertical axis. The background color in the graph represents the color adjustment in the corrected sequence, and the curve on the graph (created by the user) increases or decreases the amount of that color in the corrected sequence.

chroma key A method of combining images or parts of images from two different sources by replacing a solid color in one source with a picture from the second source.

ChromaWheel A trademark of Avid Technology, Inc. ChromaWheel controls appear in the Color Correction tool and are used to adjust hue and saturation in a sequence. ChromaWheel controls provide an adjustment method that is similar to the physical controllers on traditional color correction equipment, with the addition of a color background that graphically represents the hue and saturation values being adjusted.

chrominance The saturation and hue characteristics of a composite video signal; the portion of the video signal that contains color information. Adjust chrominance and other video levels before recording or digitizing.

See also *chroma*.

chunking The transfer of media files in segments so other workgroup users can access and use the media before complete files have been sent.

cinching Videotape damage due to creasing or folding.

circle take A take from a film shoot that has been marked for use or printing by a circled number on the camera report.

clip

1. A segment of source material recorded or digitized into your system at selected IN and OUT points and referenced in a project bin. The clip contains pointers to the media files in which the actual digital video and audio data is stored.
2. In a record in a log, which stands for one shot, the clip includes information about the start and end timecode for the shot, the source tape name, and the tracks selected for editing.
3. In OMFI, a general class of objects in the OMF Interchange class hierarchy representing shared properties of source clips, filler clips, attribute clips, track references, timecode clips, and edge code clips. A clip is a subclass of a component.

See also *master clip*, *media files*, *subclip*.

clock timecode See *drop-frame timecode*.

C-mode A nonsequential method of assembly in which the edit decision list (EDL) is arranged by source tape number and ascending source timecode.

See also *A-mode*, *B-mode*, *D-mode*, *E-mode*, *source mode*.

codec *Co*mpressor/*dec*ompressor. Any technology for compressing and decompressing data. Codecs can be implemented in both software and hardware. Some examples of codecs are: Cinepak, MPEG, and QuickTime.

color balance The adjustment of the relative levels of color signals to produce the best quality image or effect.

color bars A standard color test signal, displayed as a video pattern of eight equal width columns (that is, “bars”) of colors. SMPTE color bars are a common standard. You adjust video levels against the color bars on your source videotape before recording or digitizing.

color correction The process of adjusting the color characteristics of video material to achieve an accurate representation of color and consistency of color from one clip in a sequence to another. The term generally refers to adjustments made across all the video in a program rather than to individual color changes made as part of a single effect.

color frame A sequence of video fields required to produce a complete pattern of both field and frame synchronization and color subcarrier synchronization. The NTSC system requires four fields; PAL requires eight.

color reference burst The color synchronizing signal included as part of the overall composite video signal. When compared with the color subcarrier signal, the color reference burst determines the hue of the video image.

color timing The process of selecting color and density values for a film before film printing.

color wheel A circular graph that maps hue values around the circumference and saturation values along the radius. Used in the Color Correction tool as a control for making hue offset and secondary color correction adjustments.

component video The structuring of the video signal whereby color and luminance signals are kept separate from one another using the color-subtraction method Y (luminance), B–Y (blue minus luminance) and R–Y (red minus luminance), with green derived from a combination. Two other component formats are *RGB* and *YUV*.

composite print A film print containing both picture and sound.

composite sound track A sound track containing all required sound elements — usually dialog, music, and effects mixed in correct proportions.

composite video A video signal in which the luminance and chrominance components have been combined (encoded) as in standard PAL, NTSC, or SECAM formats.

compositing The process of layering two or more images on top of one another. Examples include titles, keys, and picture-in-pictures.

composition The standard term used by OMF Interchange to refer to an edited sequence made up of a number of clips. The OMF equivalent of a sequence in an Avid system.

compression

1. In audio, the process of reducing the dynamic range of the audio signal.
2. In video, a lack of detail in either the black or the white areas of the video picture due to improper separation of the signal level.
3. A reduction of audio signal detail, video signal detail, or both to reduce storage requirements during transformation from analog to Avid digital format. In JPEG compression, for example, algorithms for variable frame length analyze the information in each frame and perform reductions that maximize the information retained. Compression does not remove any frames from the original material.

See also *lossless compression, lossy compression*.

confidence value

A measurement, expressed as a percentage, of the probability that the pattern the system finds during a motion tracking operation is identical to the pattern for which the system is searching. During a motion tracking operation, Avid Symphony calculates a confidence value for each tracking data point it creates.

conform

To prepare a complete version of your project for viewing. The version produced might be an intermediate working version or the final cut.

conforming a film negative

The mathematical process that the editing system uses to ensure that the edits made on a videotape version of a film project (30 fps) are frame accurate when they are made to the final film version (24 fps).

Console window

A display that lists the current system information and chronicles recently performed functions. It also contains information about particular items you are editing, such as the shots in your sequence or clips selected from bins.

consolidate

To make copies of media files or portions of media files, and then save them on a drive. The Consolidate feature operates differently for master clips, subclips, and sequences.

contrast

The range of light-to-dark values present in a film or a video image.

control point

A location on a Bézier curve that controls its direction. Each control point has two direction handles that can extend from it.

control track — The portion of the video recording used to control longitudinal motion of the tape during playback. Control track can be thought of as electronic sprocket holes on the videotape.

CPU — Central processing unit. The main computational section of a computer that interprets and executes instructions.

crash edit — An edit that is electronically unstable, such as one made using the pause control on a deck, or using a noncapstan served deck.

crash recording — See *hard recording*.

crawling text — Text that moves horizontally over time. Examples include stock and sports score tickers that appear along the bottom of a television screen.

cropping — The redefining of image boundaries, usually by electronically removing the top, bottom, left, or right sides of the image.

crossfade — An audio transition in which the outgoing sound gradually becomes less audible as the incoming sound becomes more distinct. Also called an audio dissolve.

See also *dissolve, fade*.

crushing the blacks — The reduction of detail in the black regions of a film or a video image by compressing the lower end of the contrast range.

CU — Close-up.

See also *ECU*.

cue — To shuttle a videotape to a predetermined location.

Curves graph — An X, Y graph that plots input color values on the horizontal axis and output color values on the vertical axis. Used in the Color Correction tool as a control for changing the relationship between input and output color values.

cut

1. An instantaneous transition from one video source to another.
2. A section of source or record tape.

cut list — A series of output lists containing specifications used to conform the film work print or negative.

See also *dupe list*.

D1, D5 — Two digital videotape recording formats that conform to the ITU-R 601 (CCIR-601) standard for uncompressed 4:2:2 digital component video. D5 is very similar to D1 in that it is a component digital recorder. However, D1 records with 8-bit accuracy; D5 records with 10-bit accuracy.

See also *D2, D3*.

D2, D3 — Two digital videotape recording formats for composite video. The main difference between D2 and D3 is that D2 uses 3/4-inch digital videotape, and D3 uses 1/2-inch digital videotape.

See also *D1, D5*.

DAE, Digidesign Audio Engine — Trademarks of Avid Technology, Inc. The application that manages the AudioSuite plug-ins.

dailies — Film prints or video transfers of recently shot film material, prepared quickly so that production personnel can view and evaluate the previous day's shooting before proceeding. Also called rushes, primarily in the United Kingdom.

DAT — Digital audiotape. A digital audio recording format that uses 3.8mm-wide magnetic tape in a plastic cassette.

decibel (dB) — A unit of measurement for audio volume level.

deck controller — A tool that allows the user to control a deck using standard functions such as shuttle, play, fast forward, rewind, stop, and eject.

decompose — To create new, shorter master clips based on only the material you have edited and included in your sequence.

degauss — To demagnetize (erase) all recorded material on a magnetic videotape, an audiotape, or the screen of a color monitor.

delay edit See *overlap edit*.

depth shadow A shadow that extends solidly from the edges of a title or shape to make it appear three-dimensional.

See also *drop shadow*.

digital cut The output of a sequence, which is usually recorded to tape.

digital recording A method of recording in which the recorded signal is encoded on the tape in pulses and then is decoded during playback.

digitally record To convert analog video and audio signals to digital signals.

digitize To convert analog video and audio signals to an Avid compressed digital signal format.

dip An adjustment to an audio track in which the volume gain level decreases or "dips" to a lower level, rather than fading completely.

direct digital interface The interconnection of compatible pieces of digital audio or video equipment without conversion of the signal to an analog form.

direction handle A line extending from a control point that controls the direction of a Bézier curve. Each control point has two direction handles. These two handles together affect how the curve passes through the control point, with one handle controlling how the curve appears before the control point, and the other handle controlling how the curve appears after the control point.

disk The medium used to store data in computer-readable form.

dissolve A video or an audio transition in which an image from one source gradually becomes less distinct as an image from a second source replaces it. An audio dissolve is also called a segue.

See also *crossfade*, *fade*.

dithering The process of adjusting adjacent pixels of different colors to give the illusion of a third color, which simulates the display of colors that are not in the current Color palette.

D-mode

An A-mode edit decision list (EDL) in which all effects (dissolves, wipes, graphic overlays) are performed at the end.

See also *A-mode, B-mode, C-mode, E-mode*, *source mode*.

dongle

A hardware device used as a key to control the use of licensed software. The software can be installed on any system but will run only on the system that has a dongle installed. The dongle connects to the Apple Desktop Bus on Macintosh systems or to the parallel (printer) port on PC systems.

double-perf film

Film stock with perforations along both edges of the film.

double-strand editing

See *A/B-roll*.

double system

Any film system in which picture and sound are recorded on separate media. A double system requires the resyncing of picture and sound during postproduction.

drop-frame timecode

A type of SMPTE timecode designed to match clock time exactly. Two frames of code are dropped every minute on the minute except the tenth minute, to correct for the fact that color frames occur at a rate of 29.97 fps, rather than an exact 30 fps. Drop-frame timecode is recorded with semicolons between the digits; for example, 1;00;10;02.

Compare with *non-drop-frame timecode*.

drop shadow

A shadow that is offset from a title or shape to give the feeling of spatial dimension.

See also *depth shadow*.

DTV

Digital television. The technology enabling the terrestrial transmission of television programs as data.

See also *HDTV*.

dubbing

1. In videotape production, the process of copying video or audio from one tape to another.
2. In film production, the process of replacing dialog on a sound track.

See also *ADR*, *foley*.

dubmaster

A second-generation copy of a program master used for making additional preview or distribution copies, thereby protecting the master from overuse.

dupe

Duplicate. A section of film or video source footage that has been repeated (duplicated) one or more times in an edited program.

dupe list

A sublist of duplicated clips of film requiring additional prints or copies of negative for film finishing.

See also *cut list*.

dupe reel

A reel designated for the recording and playback of dupes (duplicate shots) during videotape editing.

duration

The length of time (in hours, minutes, and seconds or in feet and frames) that a particular effect or section of audio or video material lasts.

DV

Digital video that is transferred through equipment conforming to IEEE Standard 1394. This equipment is sometimes called FireWire or i.LINK.

DVE

Digital video effect.

dynamic range

An audio term that refers to the range between the softest and loudest levels a source can produce without distortion.

EBU

European Broadcasting Union. A standards-setting organization in which only users (not vendors) have a voice.

See also *AES/EBU*.

ECU

Extreme close-up.

edgecode

See *edge numbers, key numbers*.

edge filter A filter that applies anti-aliasing to graphics created in the Title tool.

See also *anti-aliasing*.

edge numbers Sequential numbers mechanically printed or optically exposed along the edge of a strip of film to assist in matching negatives to work prints.

edit To assemble film or video, audio, effects, titles, and graphics to create a sequence.

edit controller An electronic device, often computer-based, that allows an editor to precisely control, play, and record to various videotape machines.

edit rate In compositions, a measure of the number of editable units per second in a piece of media data (for example, 30 fps for NTSC, 25 fps for PAL, and 24 fps for film).

EDL Edit decision list. A list of edits made during offline editing and used to direct the online editing of the master.

See also *cut list.*

effects The manipulation of an audio or a video signal. Types of film or video effects include special effects (F/X) such as morphing; simple effects such as dissolves, fades, superimpositions, and wipes; complex effects such as keys and DVEs; motion effects such as freeze frame and slow motion; and title and character generation. Effects usually have to be rendered because most systems cannot accommodate multiple video streams in real time.

See also *rendering*.

EIA Electronic Industries Association. The largest trade organization that covers the television and audio fields. EIA publishes a catalog of standards; the most important standards to the television and audio industries are the ones developed by its Parts Division and its Consumer Electronics Group.

electronic editing The assembly of a finished video program in which scenes are joined without physically splicing the tape. Electronic editing requires at least two decks: one for playback and the other for recording.

E-mode

A C-mode edit decision list (EDL) in which all effects (dissolves, wipes, and graphic overlays) are performed at the end.

See also *A-mode, B-mode, C-mode, D-mode, source mode.*

encoding

1. The addition of technical data such as timecode, cues, or closed-captioned information to a video recording.
2. The conversion of RGB S-Video to composite video.

energy plot

The display of audio waveforms as a graph of the relative loudness of an audio signal.

equalization

The balancing of various frequencies to create a pleasing sound by attenuating or boosting specific frequencies within the sound.

event

A number assigned by the editing system to each performed edit. In most computer editing systems, an event defines an action or a sequence of actions performed by the computer in a single pass of the record tape.

extract

To remove a selected area from an edited sequence and to close the resulting gap in the sequence.

eyedropper

A tool for taking a color from a screen image and using that color for text or graphics.

fade

A dissolve from full video to black video or from full audio to no audio, or vice versa.

FAT

File Allocation Table. A file system used on MS-DOS and Windows computers.

FCC

Federal Communications Commission. The United States governing body for radio and television broadcasting.

feedback

A loud squeal or howl caused when the sound from a loudspeaker is picked up by a nearby microphone and reamplified. Also caused when the output of a tape recorder is fed back into the record circuit.

field One-half of the scan lines in an interlaced video frame. In most systems, the odd-numbered lines form one field, and the even-numbered lines form the second. NTSC video contains approximately 60 fields (30 frames) per second, and PAL video contains 50 fields (25 frames) per second.

file system A way of organizing directories and files on a disk drive, such as FAT or NTFS for Windows computers.

See also *format*.

filler clip A segment of a sequence that contains no audio or video information. Filler can be added to the Source monitor (or pop-up monitor) and edited into a sequence.

See also *filler proxy*.

filler proxy The result of a composition specifying media to be played for the filler clips in each track.

film timecode Timecode added to the film negative during the film shoot via a film timecode generator. Film timecode numbers are synced to the film key numbers on the dailies during the telecine transfer process. A special key link reader is required for viewing the film timecode.

flash frame After a long, complex piece is edited, small bits of video might be accidentally left in a sequence. When the Timeline is zoomed to 100 percent, these small, unwanted pieces might not be visible. An editor can use the Find Flash Frame command to find these bits.

foley The background sounds added during audio sweetening to increase realism.

format To prepare a disk drive or floppy disk for use. For Windows computers, you format a disk drive by copying a file system (either FAT or NTFS) to the drive.

formatting The transfer and editing of material to form a complete program, including any of the following: countdown, test patterns, bars and tone, titles, credits, logos, space for commercial, and so forth.

fps

Frames per second. A measure of the film or video display rates (NTSC = 30 fps; PAL = 25 fps; SECAM = 25 fps; Film = 24 fps).

frame

One complete video picture. A frame contains two video fields, scanned at the NTSC rate of approximately 30 fps or the PAL rate of 25 fps.

frame offset

A way of indicating a particular frame within the group of frames identified by the edge number on a piece of film. For example, a frame offset of +12 indicates the twelfth frame from the frame marked by the *edgecode*.

frame pulse

A pulse superimposed on the control track signal. Frame pulses are used to identify video track locations containing vertical sync pulses.

frame synchronizer

A device that allows a nonsynchronous video source, such as a satellite or microwave feed, to be used in a timed-video environment by capturing entire frames.

freeze frame

A video effect that appears to stop the action. Freeze frames can be created during recording, digitizing, or during an editing session. Compositions can create this effect using a track repeat object that can specify the display of a single frame for a period of time.

front porch

The portion of the composite video signal that starts at the trailing of the picture information and ends at the leading edge of the horizontal sync.

gain

1. A measurement of the amount of white in a video picture.
2. Audio levels or loudness.

See also *waveform*, *white point*.

gamma

A measurement of the midpoint in the luminance range of an image. Used in color adjustments to control the proportions of brighter and darker areas in an image. Also called the gray point.

gang

Any combination of multiple tracks that are grouped. An edit that is performed on one track is also performed on tracks that are ganged together.

generation The number of times material has been rerecorded. The original videotaped material is the first generation. A copy of the original is a second-generation tape, and so on. Each generation shows a gradual loss of image quality. With digital copies, there is little or no loss in quality.

genlock In Broadcast, a system whereby the internal sync generator in a device (such as a camera) locks onto and synchronizes itself with an incoming signal.

gigabyte (GB) Approximately one billion bytes (1,073,741,824 bytes) of information.

GPI General-purpose interface. In computerized editing systems, GPIs allow the computer to control various remote components.

gray point See *gamma*.

green screen See *blue screen*.

GUI Graphical user interface. The graphic image on the screen containing representations of buttons, sliders, and dials; used to control the editing process.

handles Material outside the IN and OUT points of a clip in a sequence. The Avid system creates handles when you decompose or consolidate material. The Decompose and Consolidate features can create new master clips that are shorter versions of the original master clip. The handles are used for dissolves and trims with the new, shorter master clips.

hard disk A magnetic data recording disk that is permanently mounted within a disk drive.

hard recording The immediate recording of all audio, video, timecode, and control tracks on a magnetic recorder. Because hard recording creates breaks in any existing timecode or control track on the tape, this procedure is often performed on blank tape when an edit is not required or in emergency circumstances. Also called crash recording.

HDTV High-definition television. A digital video image having at least two times the resolution of standard NTSC or PAL video. The HDTV aspect ratio is 16:9. (Analog TV has a ratio of 4:3.)

head frame The first frame in a clip of film or in a segment of video.

headroom
1. In video, the room that should be left between the top of a person's head and the top of the frame when composing a clip.
2. In audio, the amount of available gain boost remaining before distortion is encountered.

heads out Film or tape wound on a reel with the tail on the inside next to the hub and the head end on the outside.

hertz (Hz) The SI unit of frequency equal to one cycle per second.

See also *kilohertz (kHz)*, *megahertz (MHz)*.

Hi Con A high-contrast image used for creating matte keys.

HIIP Host Image Independence Protocol. A registered trademark of Avid Technology, Inc. HIIP allows the Avid system to import and export files in various standard formats. Also called Image Independence.

HIIP folder The folder containing files that support the Host Image Independence Protocol.

See also *HIIP*.

histogram In color correction, a graph that plots the distribution of pixels in an image based on their brightness. Provides a visual guide to the makeup of a video image in terms of relative luminance.

H phase Horizontal phase. The horizontal blanking interval used to synchronize the timing of two or more video signals.

hue An attribute of color perception. Red, green, blue form the color model used, in varying proportions, to produce all the colors displayed in video and on computer screens. Also called a color phase.

See also *vectorscope*.

IEEE Standard 1394 The international hardware and software standard for transporting data at 100, 200, or 300 megabits per second (Mb/s).

Image Independence

A registered trademark of Avid Technology, Inc.

See also *HIIP*.

I/O device

Input/output equipment used to send information or data signals to and from an editing computer.

initializing

The setting of the computer edit program to proper operating conditions at the start of the editing session.

ink numbers

The frame identification numbers used to conform a film work print. Film Composer cut lists and change lists reference ink numbers.

IN point

The starting point of an edit. Also called a mark IN.

See also *mark IN/OUT, OUT point*.

insert edit

An electronic edit in which the control track is not replaced during the editing process. The new segment is inserted in program material already recorded on the videotape.

See also *overwrite*.

interface

1. The computer software or hardware used to connect two functions or devices.
2. The program access level at which a user makes selections and navigates a given system.

   See also *GUI*.

IRE

A unit of measurement of the video waveform scale for the measurement of video levels, originally established by the Institute of Radio Engineers. The scale is divided into 140 IRE units, 100 above the blanking reference line and 40 below it.

ISO

1. Isolation reel. In multicamera production, the source reel for the separate (isolated) recording of a single camera, alongside simultaneous recordings of the other cameras and a switched line feed.
2. International Organization for Standardization.

ITU-R 601 The standard for standard-definition component digital video, published by the International Telecommunication Union as ITU-R BT.601-5 (formerly CCIR-601). This standard defines digital component video as it is derived from NTSC and PAL. It forms the basis for HDTV formats as well.

jaggies The rough edges around computer-generated graphic objects and titles.

jam syncing The process of synchronizing a secondary timecode generator with a selected master timecode.

JFIF JPEG File Interchange Format. A file format that contains JPEG-encoded image data, which can be shared among various applications. JFIF resolutions store data at a constant rate; for example, JFIF 300 uses 300 KB for each frame it stores. JFIF resolutions comply with the ISO-JPEG interchange format and the ITU-R 601 standard.

jogging See *stepping*.

JPEG Joint Photographic Experts Group. Also, a form of compression developed by Avid Technology, Inc.

KEM roll The roll of film used on a KEM flatbed editing system. A KEM roll combines multiple takes onto a single roll (a work print, not a negative). The maximum length of a KEM roll is 1000 feet (35mm).

kerning The spacing between text characters in print media, such as titles.

key To combine a selected image from one source with an image from another source.

See also *chroma key*.

key color The solid color used to key.

keyframes Points in time where you have set effect parameter values (or, in Marquee, object property values). The system uses the values set at keyframes to interpolate changes to effects and animated titles.

Keykode — A trademark of Eastman Kodak Company. A film-marking system that applies optical information identifying the film stock and footage at the edge of the film during manufacture.

key numbers — The original frame identification numbers applied by the film manufacturers to the film stock. Key numbers are used by the negative cutter to conform the film negative. Film Composer cut lists and change lists reference key numbers.

kilobyte (KB) — Approximately one thousand bytes (1024 bytes) of information.

kilohertz (kHz) — One thousand cycles per second.

See also *hertz (Hz)*, *megahertz (MHz)*.

layback — The process of transferring a finished audio track back to the master videotape.

See also *audio sweetening*.

layered tracks — The elements of an effect created by combining two or more tracks in a specified way, such as nesting one track as a layer within another.

L-cut — See *overlap edit*.

leader — A length of film, tape, or a digital clip placed at the beginning of a roll, reel, or sequence to facilitate the cueing and syncing of material.

level — A quantitative measure of a video or an audio signal. A low level indicates the darker portions in video and the soft or quieter portions in audio; conversely, a high level indicates a brighter video image or a louder audio signal. The level of audio signal correlates directly with the volume of reproduced sound.

lift — To remove selected frames from a sequence and to leave black or silence in the place of the frames.

linear editing A type of tape editing in which you assemble the program from beginning to end. If you require changes, you must rerecord everything downstream of the change. The physical nature of the medium (for example, analog videotape) dictates how you place material on the medium.

See also *nonlinear editing*.

line feed A recording or live feed of a program that switches between multiple cameras and image sources. Also known in sitcom production as the director's cut.

load

1. A roll of film stock ready to be placed in the camera for photography. A 1000-foot load is a common standard.
2. A group of multicamera reels shot at the same time, sharing the same timecode, and numbered accordingly.

locator A mark added to a selected frame to qualify a particular location within a sequence. User-defined comments can be added to locators.

log

1. To enter information about your media into bins at the beginning of the editing process. Logging can be done automatically or manually.
2. See *shot log*.

looping The recording of multiple takes of dialog or sound effects.

lossless compression A compression scheme in which no data is lost. In video compression, lossless data files are usually very large.

lossy compression A compression scheme in which data is thrown away, resulting in loss of image quality. The degree of loss depends on the specific compression algorithm used.

LS Long shot.

LTC Longitudinal timecode. A type of SMPTE timecode that is recorded on the audio track of a videotape.

Compare with *VITC*. See also *timecode*.

luminance The measure of the intensity of the combined color (white) portion of a video signal.

M & E track The common designation for a single sound track containing music and sound effects but not dialog.

magnetic track A sound track recorded on magnetic sound recording film.

mark IN/OUT

1. The process of entering the start and end timecodes for a clip to be edited into a sequence.
2. The process of marking or logging timecode numbers to define clips during a logging, recording, or digitizing session.

See also *IN point, OUT point.*

mask

1. In film, a border placed over an image with a 3:4 aspect ratio to create the look of an another aspect ratio, such as wide-screen.
2. See *alpha channel.*

master The tape resulting from editing. The finished program.

master clip In the bin, the media object that refers to the media files recorded or digitized from tape or other sources.

See also *clip, subclip.*

master shot The shot that serves as the basic scene, and into which all cutaways and close-ups will be inserted during editing. A master shot is often a wide shot showing all characters and action in the scene.

master/slave A video-editing process in which one or more decks (the slaves) are set to imitate the actions of another deck (the master).

matchback The process allowing you to generate a film cut list from a 30-fps video project that uses film as the source material.

matchback conversion The conversion from film to video frame rates.

match-frame edit An edit in which the last frame of the outgoing clip is in sync with the first frame of the incoming clip, such that the incoming clip is an extension of the outgoing clip.

matte key A video effect comprised of three components: the background video, the foreground video, and the matte or alpha channel (black and white or grayscale silhouette) that allows one portion of the image to be superimposed on the other.

media The video, audio, graphics, and rendered effects that can be combined to form a sequence or presentation.

media data Data from a media source. Media data can be:

1. Analog data: film frames, Nagra tape audio, or videotape video and audio.
2. Digital data: either data that was recorded or digitized such as video frame data and audio samples, or data created in digital form such as title graphics, DAT recordings, or animation frames.

media files Files containing the compressed digital audio and video data needed to play Avid clips and sequences.

See also *clip, compression*.

media sample data See *safe color limiting*.

megahertz (MHz) One million cycles per second.

See also *hertz (Hz)*, *kilohertz (kHz)*.

MIDI Musical Instrument Digital Interface. A standard protocol that allows a user to control electronic music equipment from a PC.

MII format A component videotape format created by Panasonic in an effort to compete with Sony Betacam. MII is an extension of the VHS consumer format as Sony Betacam is an extension of the Betamax home video technology.

mix

1. A transition from one video source to another in a switcher.
2. The product of a recording session in which several separate sound tracks are combined through a mixing console in mono or stereo.

mixdown audio

The process that allows the user to combine several tracks of audio onto a single track.

monitor

1. In video, a picture tube and associated circuitry without tuner or audio sections. The monitor includes the display of source media, clips, and sequences.

   In Avid products, virtual monitors are displayed on the screen in which source media, clips, and sequences can be edited.
2. In audio, to monitor specific audio tracks and channels, or another name for the speakers through which sound is heard.

MOS

The term used for silent shooting. From the pseudo-German, “Mit Out Sprechen”— without talking.

motion effect

An effect that speeds up or slows down the presentation of media in a track.

motion tracking

The process of generating position information that describes motion in a clip, for example, the changing position of a moving vehicle. You use motion tracking data to control the movement of effects.

See also *stabilization*.

MU/FX or MUFX

See *M & E track*.

multicamera

A production or scene that is shot and recorded from more than one camera simultaneously.

multiple B-roll

A duplicate of the original source tape, created so that overlays can be merged onto one source tape.

multitrack

A magnetic tape or film recorder capable of recording more than one track at a time.

NAB

National Association of Broadcasters.

Nagra A brand of audiotape recorder widely used in the film production and postproduction industries.

negative
1. A film element in which the light and dark areas are reversed compared to the original scene; the opposite of a positive.
2. A film stock designed to capture an image in the form of a negative.

noise
1. In video, an aberration that appears as very fine white specks (snow) and that increases over multiple generations.
2. In audio, a sound that is usually heard as a hiss.

noncomposite video A video signal that does not contain horizontal and vertical sync pulses.

non-drop-frame timecode An SMPTE timecode format that continuously tracks NTSC video at a rate of 30 fps without dropping frames to compensate for the actual 29.97-fps rate of NTSC video. As a result, non-drop-frame timecode does not coincide with real time. Non-drop-frame timecode is recorded with colons between the digits; for example, 1:00:10:02.

Compare with *drop-frame timecode*.

nonlinear Pertaining to instantaneous random access and manipulation of any frame of material on any track and on any layer of an edit sequence.

nonlinear editing A type of editing in which you do not need to assemble the program from beginning to end. The nature of the medium and the technical process of manipulating that medium do not dictate how the material must be physically ordered. You can use nonlinear editing for traditional film cutting and splicing, and for recorded or digitized video images. You can make changes at the beginning, middle, or end of the sequence.

See also *linear editing*.

NTFS New Technology File System. A file system used on Windows computers.

NTSC

National Television Standards Committee. The group that established the color television transmission system used in the United States, using 525 lines of information scanned at a rate of approximately 30 fps.

See also *PAL*, *SECAM*.

offline

Pertaining to items that are unavailable to the computer, such as offline disks or media files.

offline edit

The preliminary or rough-cut editing that produces an *EDL* (edit decision list).

OMFI

Open Media Framework Interchange. A standard format for the interchange of digital media data among heterogeneous platforms. The format is designed to encapsulate all the information required to interchange a variety of digital media, such as audio, video, graphics, and still images as well as the rules for combining and presenting the media. The format includes rules for identifying the original sources of the digital media, and it can encapsulate both compressed and uncompressed digital media data.

one light

A telecine transfer or film print produced with a single setting of color correction values. One light is the simplest, fastest, and least costly type of transfer.

online edit

The final edit using the master tapes and an edit decision list (EDL) to produce a finished program ready for distribution; usually associated with high-quality computer editing and digital effects.

opticals

The effects created in a film lab through a process called A-roll and B-roll printing. This process involves a specified manipulation of the film negative to create a new negative containing an effect. The most common opticals used in film editing are fades, dissolves, and superimpositions.

origin

A reference point for measuring sections of recorded or digitized sample data. A file mob value for the start position in the media is expressed in relation to the origin. Although the same sample data can be rerecorded or redigitized, and more sample data might be added, the origin remains the same so that composition source clips referencing it remain valid.

original negative The actual film stock used in the camera to photograph a scene.

OUT point The end point of an edit, or a mark on a clip indicating a transition point. Also called a mark OUT.

See also *IN point, mark IN/OUT*.

outtake A take that is not selected for inclusion in the finished product.

overlap edit An edit in which the audio and video signals are given separate IN points or OUT points, so the edit takes place with one signal preceding the other. This does not affect the audio and video synchronization. Also called L-cut, delay edit, or split edit.

overwrite An edit in which existing video, audio, or both is replaced by new material.

See also *splice*.

oxide A metallic coating on videotape or magnetic film that is magnetized during the recording process.

PAL Phase Alternating Line. A color television standard used in many countries. PAL consists of 625 lines of information scanned at a rate of 25 fps.

See also *NTSC, SECAM*.

palette A central location for user-selectable buttons, which you can map to various functions for ease of use. The Command palette houses all the user-selectable buttons that allow you to perform a wide range of commands with a single click of the mouse.

partition A method of assigning disk space that creates two or more virtual disks from a single physical disk (similar to creating a directory).

patching The routing of audio or video from one channel or track in the sequence to another.

pedestal See *setup*.

points The mark IN and mark OUT entered in the Timeline.

pop-up monitor An ancillary monitor used to view and mark clips and sequences.

position bar The horizontal rectangular area beneath the Source monitor, Record monitor, Playback monitor, Composer monitor, and Source pop-up monitor that contains the position indicator.

position indicator A vertical blue line that moves in the position bar and in the Timeline to indicate the location of the frame displayed in the monitor.

postroll A preset period of time during a preview when a clip will continue to play past the OUT point before stopping or rewinding.

precomputed media A computed effect stored in a file and referenced by a composition or sequence. Applications can precompute effects that they cannot create during playback.

prelay The phase of audio postproduction during which music, sound effects, dialog replacement, and announce tracks are added to the master multitrack before the final mix.

preroll The process of rewinding videotapes to a predetermined cue point (for example, 6 seconds) so the tapes are stabilized and up to speed when they reach the selected edit point (during recording or digitizing of source material from a video deck).

preview To rehearse an edit without actually performing (recording) it.

preview code An additional reference numbering system, like key numbers, supported by Film Composer for comparing digital sequences with evolving work print versions using change lists.

primary color correction Color correction that applies to every part of a video image, or to every part of a video image that falls within a defined luminance range.

See also *secondary color correction*.

print A positive copy of the film negative produced in the laboratory.

See also *answer print*, *release print, work print*.

process shot A shot photographed specifically to be part of a special effects composite.

Program side — In color correction, the second of two available levels of color adjustment. Corrections made on the Program side typically apply a final look to a finished sequence, for example, by fine-tuning the color values to enhance the mood of a dramatic program.

See also *Source side*.

progressive media — Media composed of single frames, each of which is vertically scanned as one pass.

project — A data device used to organize the work done on a program or series of programs. Bins, rundowns, and settings are organized in the Project window. The project bins contain all your clips, sequences, effects, and media file pointers.

Protection master — A copy (dub) of a master tape, usually made immediately after the master has been recorded. It is used as a backup if the master is damaged.

pulldown — A process in which extra fields are added or "pulled down" during the conversion of 24-fps material to 30-fps NTSC or 25-fps PAL videotape. This conversion can be a telecine film-to-tape transfer or a 24p high-definition (HD) downconversion. Special procedures are required when recording or digitizing to eliminate the extra pulldown fields and to achieve true 24-fps editing. (PAL video with pulldown is not currently supported in Avid editing systems.)

pulldown phase — In a project based on an NTSC 24-fps to 30-fps transfer, the video frame at which a master clip starts: A, B, X, C, or D. The pulldown phase represents the pulldown-to-timecode relationship. Also called pullin frame.

pullin — An Avid term that combines two words — pulldown and IN point. The pullin is the column where the user logs the pulldown phase of the start timecode as either A, B, X, C, or D. The user can modify this field before or after recording or digitizing.

pullout — An Avid term that combines two words — pulldown and OUT point. The pullout is the column where the user logs the pulldown relationship at the sync point of the OUT point (end timecode) as either A, B, C, or D. This field cannot be modified by the user and is calculated by the system based on the pullin and the duration of the clip.

radio frequency (RF) The high-frequency portion of the electromagnetic spectrum used for transmitting television and radio signals.

See also *UHF, VHF*.

RAID Redundant Array of Independent Disks. The storage device standards that provide fault tolerance, which helps to recover a system if a drive malfunctions. RAID is also used to enhance throughput of stored data.

RAM Random-access memory. Computer memory that is volatile and unsaved — information in RAM clears when the computer is turned off.

random access The ability to move to a video point instantly, without having to shuttle.

real time The actual clock time in which events occur.

record To convert analog video and audio signals to an Avid compressed digital signal format.

reel A spool with a center hub and flat sides on which magnetic tape is wound. Generally, a spool of tape is referred to as a reel, and a spool of film is referred to as a roll.

region of interest The part of an image that the user identifies as the target for a motion tracking operation. Also called the search pattern.

rehearse To play a sequence in the Timeline from the preroll through the postroll.

rehearse postroll To play a sequence in the Timeline from the current position to the postroll.

rehearse preroll To play a sequence in the Timeline from the preroll to the current position.

release print A film print ready for presentation to an audience. Release prints generally include both picture and sound tracks.

See also *answer print, work print, YUV*.

rendering The merging of effect layers to create one stream of digital video for playback in real time.

repeat effect A type of effect for repeating a frame so that it appears to "freeze" or stop the frame, or for repeating a series of frames, such as a series of animation frames.

replace edit An edit in which a segment in the sequence is overwritten or replaced with source material of matching duration.

resolution The amount and degree of detail in the video image, measured along both the horizontal and vertical axes. Usually, the number of available dots or lines contained in the horizontal and vertical dimensions of a video image. Also, the number of color or grayscale values that can be added, usually stated in bits, such as 8-bit or 24-bit. Sometimes dots per inch (dpi) is referred to as the resolution, although it is more properly called the screen density.

RF See *radio frequency (RF)*.

RGB Red, green, and blue. In computer systems, the additive primary colors used to create all other colors on a computer monitor.

RIFF wave See *WAVE*.

ripple The process in edit decision list management of adjusting the times of all edits following a length-altered edit.

RMAG Removable magnetic disk. RMAGs are used in conjunction with chassis; each chassis can hold two of these removable disk modules.

roll A length of film wound on a spool or core. Generally, a spool of film is referred to as a roll, and a spool of tape is referred to as a reel.

rolling text Text that moves vertically across an area over time. The most common example of rolling text is credits at the end of feature films and television programs.

rough cut A preliminary edit of a program, usually the result of an offline edit.

See also *work print*.

RS-170A The Electronic Industries Association timing specification for NTSC broadcast video equipment. RS-170A specifies the timing of scans and blanking required to decode color signals.

RS-232C The Electronic Industries Association standard interface for connecting serial devices. Usually referred to by the original standard name of RS-232. The standard supports two types of connectors: a 25-pin D-type connector and a 9-pin D-type connector. The maximum permissible line length under the specification is approximately 15 meters.

RS-422 The Electronic Industries Association standard interface for connecting serial devices. The RS-422 is an enhancement of the RS-232C standard. It allows for higher data rates and an extended line length to approximately 1200 meters.

rushes See *dailies*.

R–Y One of the color difference signals in the component color system of the NTSC video standard. The signal formula is:

R–Y = 0.701R (red) – 0.587G (green) – 0.114B (blue)

See also *B–Y, Y*.

safe action area, safe title area The regions of the video image considered safe from cropping for either the action or on-screen titles, taking into account variations in adjustments for video monitors or television receivers. Safe action is 90 percent of the screen measured from the center, and safe title is 80 percent.

safe color limiting The process of adjusting color values in a finished program so that they meet broadcast standards for luminance, composite signal, or RGB gamut.

sample data The media data created by recording or digitizing from a physical source. A sample is a unit of data that the recording or digitizing device can measure. Applications can play digital sample data from files on disk.

sample plot The representation of audio as a sample waveform.

sample rate The frequency of the sample units.

sample unit A unit of measure used in recording or digitizing media data from a physical source, such as a videotape. Media data contains its own sample rate and the size of each sample in bytes.

sampling The process of measuring the value of an analog signal at regular intervals during recording or digitizing. These measurements (“samples”) are used to construct a digital representation of the signal.

satellite mode Recording using LTC timecode of live events, multicamera shows, and video material coming in on routers. Allows you to record to the NewsCutter system from multiple external sources at the same time they are recording to tape.

saturation A measurement of chrominance. Saturation is the intensity of color in the video signal.

See also *vectorscope*.

scale bar A control in the Timeline window that allows you to expand and contract the Timeline area centered around the blue position indicator.

SC phase Subcarrier phase. The method used to calibrate the colorburst portion of a composite video signal.

SC/H phase Subcarrier to horizontal phase. The phase relationship between the burst and the horizontal blanking reference point for a video signal. Used to synchronize the timing of two or more video signals.

screening A showing of a film program, a video program, or raw footage.

scroll bar A rectangular bar located along the right side or the bottom of a window. Clicking or dragging in the scroll bar allows the user to move or pan through the file.

scrubbing The process of shuttling through audio at various speeds as the audio pitch changes.

search pattern See *region of interest*.

SECAM Séquential Couleur à Memoire. A color television standard developed in France and used throughout Europe.

See also *NTSC, PAL*.

secondary color correction Color correction that applies to specific parts of an image defined by hue and saturation values. A secondary color correction can change the green parts of an image to yellow without altering other colors in the image.

See also *primary color correction*.

SEG Special effects generator. A section of a switcher that provides the capability to perform wipes of various patterns.

segment A section of a track or clip within a sequence in the Timeline that can be edited.

sequence An edited composition that often includes audio and video clips and rendered effects connected by applied transitions. The Avid system contains a Timeline that graphically represents the edited sequence.

serial timecode See *LTC*.

setup A reference point in the video signal that is the blackest point in the visible picture. Also called black level or pedestal.

See also *waveform*.

shared volume segmentation See *chunking*.

shelf The effect produced by a shelving equalizer in which the response curve for a certain range of the frequency spectrum (high or low frequency, for example) flattens out or “shelves” at the limits of the audio spectrum. In audio equalization, adjustments to the shelf affect all frequencies within the range of the response curve.

shot log A listing of information about a roll of film or a reel of videotape, usually in chronological order.

shuttling The viewing of footage at speeds greater than real time.

SI — Système International d'Unites. The French version of the International System of Units. SI is roughly equivalent to the metric system.

sifting — The displaying of clips that meet specific criteria in a bin.

signal-to-noise ratio — The ratio of a wanted signal to an unwanted signal.

silence — Blank (black) space in the audio tracks in a Timeline that contains no audio material.

single-perf film — Film stock that is perforated along one edge only.

single-strand editing — See *A-roll*.

slate — An identification board held briefly in front of the camera at the beginning of a take that displays information about the take. A smart slate also includes a timecode display that is fed from the sound recorder for synchronization purposes.

slewing — The synchronizing of decks in computerized editing systems.

slide trimming — The outgoing (A-side) and incoming (B-side) frames change because the clip remains fixed while the footage before and after it is trimmed.

slip trimming — The head and tail frames of the clip change because only the contents of the clip are adjusted. The frames that precede and follow the clip are not affected.

smart slate — See *slate*.

SMPTE — Society of Motion Picture and Television Engineers. One of the principal standards organizations for the film and video industry.

See also *SMPTE timecode*, *timecode*.

SMPTE timecode A frame-numbering system developed by the Society of Motion Picture and Television Engineers that is used primarily for electronic editing and timing of video programs. It assigns a number to each frame of video, telling the elapsed number of hours, minutes, seconds, and frames; for example, 01:42:13:26.

See also *time-of-day timecode*.

soft wipe A wipe effect from one image to another that has a soft, diffused edge.

sorting The arranging of clips in a bin column in numerical or alphabetical order, depending on the column the user selects.

Sound Designer II A trademark of Avid Technology, Inc. An audio file format used for the import and export of digital audio tracks.

source clip One of the lowest level building blocks of a sequence composition.

See also *clip, master clip, subclip.*

source mode A method of assembly that determines in what order the edit controller reads the edit decision list (EDL) and assembles the final tape. There are five different types of source mode: *A-mode*, *B-mode*, *C-mode*, *D-mode*, and *E-mode*.

Source side In color correction, the first of two available levels of color adjustment. Corrections made on the Source side typically seek to restore the original color characteristics of a clip or to achieve basic clip-to-clip color consistency among the clips in a sequence.

See also *Program side*.

specular An intense highlight caused when light reflects off an object in an image. A specular is not used as the basis for determining the true white point for an image.

speed The point at which videotape playback reaches a stable speed, all servos are locked, and there is enough preroll time for editing, recording, or digitizing.

splice

An edit in which the material already on the video or audio track is lengthened by the addition of new material spliced in at any point in the sequence.

See also *overwrite*.

split edit

See *overlap edit*.

split-screen

The video special effect that displays two images separated by a horizontal or vertical wipe line.

spot color correction

A color adjustment made to a specific part of a video image that is identified using drawing tools.

See also *secondary color correction*.

stabilization

A specialized form of motion tracking used to eliminate unwanted motion such as camera movement from a clip. Stabilization works by tracking an inherently unmoving object in the clip and by repositioning each frame or field of video to keep that object stationary.

startup disk

The disk that contains the operating system files. The computer needs operating system information in order to run.

stepping

The movement forward or backward one frame at a time. Also called jogging.

story

The Avid term for an edited piece. A story is created by editing clips and sequences together.

storyboard

A series of pictures (traditionally sketches) designed to show how a production will look. Comic books are essentially storyboards. Storyboards and subsequent sequences can be created by manipulating images from the recorded or digitized footage in a bin.

streaming

A technology that allows users to watch a video clip or movie over the Internet while the video is being copied to their computers.

See also *video stream*.

striped stock

1. Film stock to which a narrow stripe of magnetic recording material has been applied for the recording of a sound track.
2. See *black and code*.

subcarrier (SC)

The sine wave used as a color reference signal.

subclip

1. An edited part of a clip. In a sequence, a subclip can be bound by any variation of clip beginnings, endings, and mark points.
2. A subclip created by marking IN and OUT points in a clip and by saving the frames between the points. The subclip does not contain pointers to media files. The subclip references the master clip, which alone contains pointers to the media files.

Super 16

The 16mm film stock produced for a special format with an enlarged picture area. Super 16 is designed to be printed to 35mm film for release.

sweetening

See *audio sweetening*.

sync (synchronization)

1. The pulses contained within a composite video signal to provide a synchronization reference for signal sampling. Also, a separate signal that can be fed to various pieces of equipment.
2. The sound recorded on a separate audiotape but synchronized with videotape or film shot simultaneously.

sync word

The portion of SMPTE timecode that indicates the end of each frame and the direction of tape travel.

See also *timecode, time-of-day timecode*.

tail frame

The last frame in a clip of film or a segment of video.

tail slate

The slate information recorded at the end of the take instead of at the beginning; usually recorded upside down.

tails out

Film or videotape wound on a reel with the head next to the hub and the tail on the outside of the reel.

TBC Time-base corrector. An electronic device that improves video signal stability by correcting time-base errors inherent in mechanical videotape recorders.

telecine A device that transfers motion picture film images onto videotape.

text file See *ASCII*.

three-button play See *value*.

three-perf film Film stock generated via a modified camera gate that creates a frame size three perforations in height rather than the standard four perforations. Therefore, the same roll of film lasts 25 percent longer. Three-perf format is popular with multicamera film-based shows because the extra 25 percent of negative stock is similar to having a free camera.

three-point editing The basic principle that an edit event requires only three marks between the source and record sides to automatically calculate the fourth mark and complete the edit.

three-stripe Magnetic film stock containing three rows of magnetic oxide coating.

TIFF Tag Image File Format. A tag-based system developed by Aldus Corporation for storing and interchanging raster images. The OMF Interchange standard includes TIFF as a common format for graphic interchange, and it includes TIFF with extensions as a common format for video frame data.

time-base error A variation in the stable relation of picture information, color information, and video sync pulse during the VTR playback process.

See also *sync (synchronization)*.

timecode

An electronic indexing method used for editing and timing video programs. Timecode denotes hours, minutes, seconds, and frames (00:00:00:00) elapsed on a videotape. Address track timecode is recorded simultaneously with the video picture. Longitudinal timecode (LTC) is recorded on an audio track. Vertical interval timecode (VITC) is recorded in the vertical blanking interval of the video track. SMPTE timecode is the prevalent standard.

Other timecodes exist that include film timecode and audio timecode used during film projects. During editing, the Avid system can display and track several types of timecode.

See also *SMPTE timecode, time-of-day timecode*.

timecode window

See *burn-in*.

Timeline

The graphical representation of every macroscopic and microscopic edit made to a sequence, including all nested effects and layered tracks.

time-of-day timecode

The timecode that approximately matches the actual time of day (clock time).

See also *SMPTE timecode*.

title bar

The name given to a project or bin, located at the top of a window.

tone

A constant audio frequency signal recorded at the start of a tape at 0 VU (volume units) to provide a reference for later use. Usually recorded in conjunction with color bars.

track

1. The section of tape on which a signal is recorded. Also called a channel.
2. The sound portion of a video program.
3. A region of a clip or sequence on which audio or video is placed.
4. A playback channel represented in a sequence as either a video track or an audio track. Tracks are composed of one or more segments connected by transitions.

tracker In motion tracking, a structure associated with a specific region of interest and containing one set of data points. You can use multiple trackers on the same clip to define complex motion.

tracking The positioning of video heads during playback of a tape so that the heads reproduce the strongest possible signal. Tracking is adjusted on the deck before recording or digitizing.

tracking edit A zero duration edit used as a reference during transition edits (dissolves, wipes, and so forth) on computerized editing systems.

track reference A way of making one track play another track's data. The referencing track points to the source clip in the referenced track.

See also *layered tracks*.

track selector A method of selecting one of the tracks from a track group; only the selected track is to be played. For example, a track selector can indicate which of four alternate views of the same scene is to be played.

TransferManager An Avid application that allows you to transfer media from one workgroup to another. A Fibre Channel network connects the Avid systems and the TransferManager to the Avid Unity MediaNetwork environment.

transition A representation of what is to take place as one segment ends and the next one begins. The simplest transition is a cut, which occurs in video when the first frame of the starting segment directly follows the last frame of the segment that is ending.

transition effect A wipe, dissolve, or digital video effect (DVE) applied to an edit transition.

See also *effects*.

transition play loop The loop that plays in Trim mode. You can use the Trim Settings dialog box to adjust the lengths of preroll, postroll, and intermission.

trim The process of adjusting transitions in a sequence from the Timeline.

turnover point In audio equalization, the point at which the parametric curve for a particular shelf starts to return to zero.

UHF Ultrahigh frequency. One of the television signals for broadcasting in the United States per FCC standards. UHF is the frequency between very high frequency (VHF) and super high frequency (SHF).

U-matic See *3/4-inch U-matic*.

uncompressed video A recorded or digitized video stream that is not processed by a data compression scheme. The video signal remains uncompressed at all stages of the process: input, storage, and output. Uncompressed video conforms to the ITU-R 601 standard.

Undo/Redo The process that allows a return to the state of the edit immediately preceding the last edit or a repeat of an "undo" edit.

up cut In editing, to cut the end of the previous scene, often by mistake. In general, to cut short.

user bits The portion of the timecode data available for encoding data chosen by the user; for example, footage count or Keykode numbers.

U-type VTR A recorder format that uses 3/4-inch videotape.

value The actual data associated with a particular property in an OMF Interchange object.

variable-speed play A process — or an editing-system feature that enables the process — of shifting easily between the playing, stepping (jogging), and shuttling of footage.

VBV Video-Black-Video. A preview mode that shows a previously recorded scene, a black segment, and then the previously recorded scene again.

VCR Videocassette recorder. A video recorder that uses consumer-grade videotape formats such as VHS, Betamax, and Hi8.

vector In color correction, a subdivision of the full color spectrum defined by hue and saturation values. Secondary color correction uses vectors to define specific areas of an image to receive color adjustments.

vectorscope A visual display that shows the electronic pattern of the color portion of the video signal. It is used to adjust the color saturation and hue using a stable color reference such as color bars. The Avid Vectorscope monitor uses a single-line display.

See also *waveform*.

vertical blanking interval The period during which the television picture goes blank as the electron beam returns (retraces) from scanning one field of video to begin scanning the next. The vertical blanking interval is sometimes used for inserting timecode, for automatic color tuning, or for captioning information into the video signal.

vertical sync Sync pulses that control the vertical field-by-field scanning of the video picture by the electron beam.

VHF Very high frequency. One of the television signals for broadcasting in the United States per FCC standards. VHF is the frequency between high frequency (HF) and ultrahigh frequency (UHF).

VHS Video Home System. The 1/2-inch videocassette format developed by JVC for consumer and industrial use.

video

1. The visual portion of a program or sequence.
2. All television other than broadcast television.

videocassette A plastic shell containing two reels and a length of videotape.

Video Slave Driver A trademark of Avid Technology, Inc. A hardware component that synchronizes signal inputs, outputs, and conversions; selects audio frame rates; and selects pulldown of video frames.

video stream

1. In analog editing systems, also called a video playback source.
2. In digital editing systems, a stream of data making up a digital video image.

videotape Oxide-coated, plastic-based magnetic tape used for recording video and audio signals.

VITC Vertical interval timecode. The timecode inserted in the vertical blanking interval.

Compare with *LTC*. See also *timecode*.

V-LAN A registered trademark of Videomedia, Inc. An industry-standard software protocol for video device control. The V-LAN network allows a computer application to control and synchronize all connected VTRs, switchers, DATs, mixers, and DVEs.

VLX*i* A registered trademark of Videomedia, Inc. A series of controllers that control and synchronize professional video equipment for animation, video editing, HDTV, and broadcast television production.

VTR Videotape recorder.

VU meter Volume unit meter. An instrument used to measure audio levels.

VVV Video-Video-Video. A preview mode that shows a previously recorded scene, the new insert video, and then the previously recorded scene again.

WAVE RIFF Waveform Audio File Format. A widely used format for audio data. OMF Interchange includes it as a common interchange format for audio data.

waveform

1. In video, a visual display that shows the electronic pattern of the video signal. It is used to adjust the setup and gain using a stable reference such as color bars. The Avid waveform uses a single-line display.

   See also *vectorscope*.

2. In audio, a visual representation of changing frequencies.

   See also *energy plot, sample plot*.

whip A horizontal picture disturbance at an edit point, usually caused by timing misadjustments in the edit system.

white point The luminance value in a video image that you set to be equal to reference white when making a color adjustment.

Compare with *black point*.

wild sound, wild track — A recording of sound on either videotape or audiotape made without an accompanying picture.

window dub — See *burn-in*.

wipe — A shaped transition between video sources in which a margin or border moves across the screen, wiping out the image of one scene and replacing it with another.

work print — A film print made from the original negative that is used during the editing process to produce a cut list or an edit decision list for final program assembly. Work prints are typically low-cost, one-light prints that receive heavy wear through repeated handling.

See also *answer print*, *print*, *release print*.

X axis — The horizontal axis in a three-dimensional system.

See also *Y axis, Z axis*.

Y — The luminance signal of the component color system in the NTSC video standard. The signal is composed of the following proportions of red, green, and blue:

0.299R + 0.587G + 0.114B

See also *B–Y, R–Y*.

Y axis — The vertical axis in a three-dimensional system.

See also *X axis, Z axis*.

Y, B–Y, R–Y — The luminance and color difference signals of the component color system in the NTSC video standard. Also called YCrCb.

YCrCb — See *Y, B–Y, R–Y*, *YUV*.

YUV — The letter designations for luminance, luminance minus red, and luminance minus blue. YUV are the luminance and color difference signals of the component video standard for PAL. Also called YCrCb.

Z axis The axis that is perpendicular to the X and Y axes in a three-dimensional system.

zero duration dissolve The method of editing two scenes end-to-end simultaneously; also called a cut.

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