Avid® Media Composer®

Editing Guide

Release 9.0

for the Windows NT® Operating System

Avid
tools for storytellers™

RØDE Exhibit 1033
RØDE Microphones, LLC, et. al v. Zaxcom, Inc.

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CHAPTER 1

Editing Overview

This chapter provides an overview of the editing workflow. The editing process begins after you transfer your source material to the Avid system. For information about planning a project, digitizing your source material, and outputting your final sequence, see the *Avid Media Composer and Film Composer Input and Output Guide.*

For a complete overview of the capabilities of your Avid system, see the getting started guide for your Avid product.

The following sections provide an outline of the editing workflow:

- **Editing Workflow**
- **Starting a Project**
- **Preparing to Edit**
- **Editing a Sequence**

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Editing Workflow

The editing workflow varies depending on your project. For example, you can log your clips before you digitize to eliminate creating and organizing bins during editing.

The following procedure lists the basic steps to edit a sequence and refers you to other resources for more information:

1. Open a project containing the digitized material.
2. Set the appropriate project settings from the Settings scroll list. See **"Using the Settings Display" on page 86**.
3. Create bins to organize the project items. See **Chapter 6**.
4. Use the bins to create a storyboard.
5. Customize the Composer window to meet your needs. See **Chapter 9**.
6. View your clips in advance and mark IN points and OUT points, or create subclips based on selected portions of your master clips. See **Chapter 9**.
7. Build your sequence in Source/Record mode and in the Timeline. See **Chapter 10**.
8. Customize the Timeline view as appropriate for your needs. See **Chapter 11**.
9. Fine-tune your edits and effects by using functions of the various edit modes, such as Segment mode (see **Chapter 11**), Trim mode (see **Chapter 12**), and Effects mode (see the *Avid Media Composer and Film Composer Effects Guide*).
10. Adjust and mix multiple audio tracks and prepare for final playback or output, using the Audio tool and Audio Mix tool. See **Chapter 13**.
11. Play the new sequence. See **"Playing the New Sequence" on page 349**.
12. Use the Media tool to manage the media files. See **Chapter 7**.

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Starting a Project

1. Turn on your equipment in a prescribed order and start the Media Composer application (**Chapter 2**).

2. Select or create a new project: the job that will result in one or more finished *sequences* (**Chapter 3**).

3. Set the project settings from the Settings scroll list (**Chapter 4**).

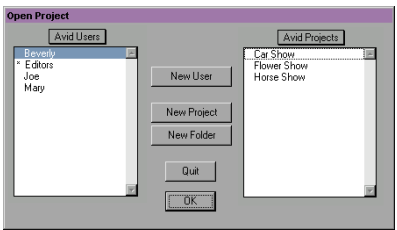
4. Create and organize bins (**Chapter 6**).

5. Back up your project on a regular basis (**Chapter 3**).

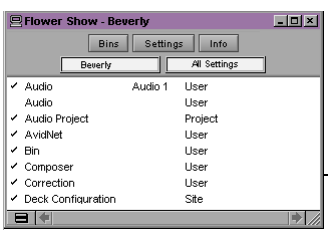
1. Turn on and start your Avid system.



2. Select or create a project.

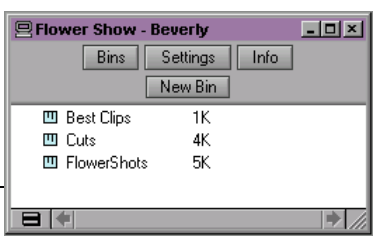


3. Set the project settings.



Settings scroll list

4. Create and organize bins.



Project Window

5. Back up the project.

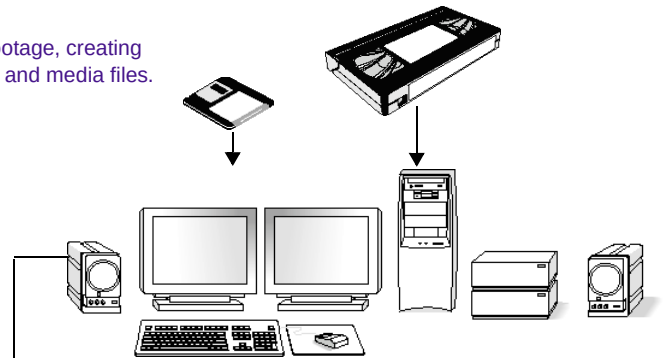


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Preparing to Edit

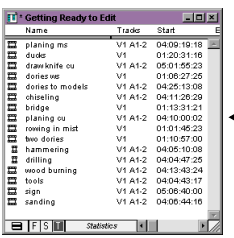
1. Batch digitize, log and digitize, or digitize on-the-fly your source material into the Avid system. See the *Avid Media Composer and Film Composer Input and Output Guide.*

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



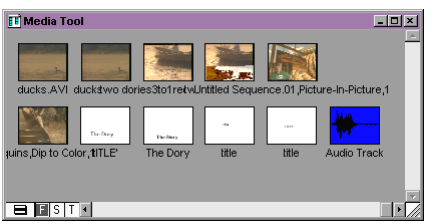
2. Sort and organize clips in the bins.

2. Use bins to organize the project items (**Chapter 6**).



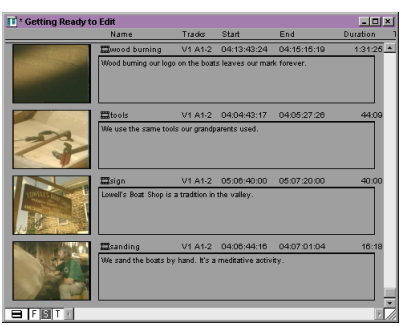
3. Manage media files for storage efficiency and backup security.

3. Manage media files by using the Media tool (**Chapter 7**).



4. Previsualize with storyboards.

4. Use the bins to create storyboards (**Chapter 6**).



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Editing a Sequence

1. View your clips in advance and mark IN points and OUT points, or create subclips based on selected portions of your master clips (**Chapter 9**).

2. Build your sequence in Source / Record mode, which provides nonlinear editing controls with Source and Record monitors, and in the Timeline (**Chapter 10**).

3. Fine-tune your edits and effects by using functions of the various edit modes, such as Segment mode, Trim mode, and Effect mode (**Chapter 11**, **Chapter 12**).

4. Adjust and mix multiple audio tracks and prepare for final playback or output, using the Media Composer Audio tool and Audio Mix tool (**Chapter 13**).

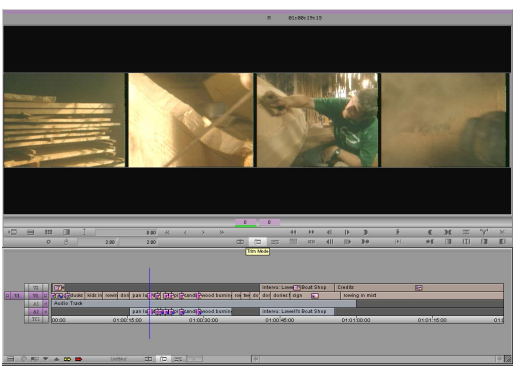
5. Return to editing if further adjustments are required.

1. Screen, mark, and subcatalog footage.

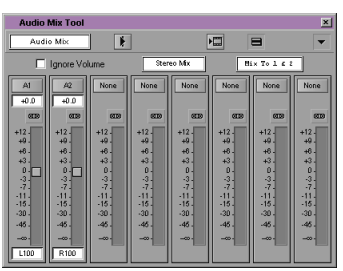


2. Edit in Source/Record mode and the Timeline.

3. Fine-tune edits and effects.



4. Fine-tune audio pan, volume, and EQ.



5. Screen and continue editing as necessary.

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CHAPTER 2

Desktop Basics

Although the majority of your work is performed within the Avid Media Composer application, you will need to use a few basic Windows NT desktop procedures. For example, you use the desktop to move projects and user profiles between systems.

This chapter describes the location of the various project files. For information about moving a project from one system to another, see the *Avid Media Composer and Film Composer Input and Output Guide.*

The following sections describe basic procedures involving the Windows NT operating system and the Avid folders:

- **Working with the Desktop**
- **About the Avid Media Composer Folder**
- **Managing the Avid Projects and Avid Users Folders**
- **Retrieving Bin Files from the Attic Folder**
- **Starting the Avid Media Composer Application**



This chapter refers to the default installation directory path for the various Avid folders. If you choose a different directory path during the installation, you must substitute that path when using this chapter.

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Working with the Desktop

For information on the Windows NT operating system, such as the desktop and icons, see your Microsoft® Windows NT Help.

This section describes the following desktop features that you will use when working with the Avid application:

- Creating an Emergency Repair Disk
- Working with Windows
- Using the Windows Taskbar
- Dragging Windows Without Showing the Contents
- Setting Your Screen Resolution
- Setting the Avid Color Scheme

Creating an Emergency Repair Disk

You or your system administrator needs to create a Windows NT 4.0 emergency repair disk (ERD) to rebuild your system configuration if it becomes damaged. You need to update the ERD any time you make a system change, like installing new software.

To create an emergency repair disk:

1. Click the Start button and click Run.
2. In the text box, type:

   ```
   rdisk /s
   ```

3. Click OK.
4. Follow the instructions to create the disk.
5. Store the disk in a safe, dry, static-free location.

If you have a problem, search for Emergency Repair Disk in the Windows NT Help.

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Working with Windows

Each window contains a title bar (horizontal bar at the top of the window) that contains the title of the window or dialog box. On many windows, the title bar also contains the application icon and the Minimize, Maximize, Restore, and Close buttons.

The following table describes these buttons:

Button	Description
 Minimize	Reduces the window to a button in the taskbar. If the window contains an application, the application remains loaded and running. To open a minimized window, click the button on the taskbar.
 Maximize  Restore	Enlarges the window to its maximum size. Restores the window to the previous size.
 Close	Closes the window. If the window is an application window, the application quits.

Using the Windows Taskbar

By default, the Windows® taskbar always appears on the bottom of your screen, on top of your application. You have the choice of two other settings:

- Keeping the taskbar hidden behind the application
- Setting the taskbar to appear only when you drag your mouse pointer to the bottom of the screen

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You can also drag the taskbar to a different position, such as the left side of the Bin monitor.

If you keep the taskbar hidden while running the Media Composer application and you minimize an application such as Help, you will not see the minimized button in the taskbar. To see the taskbar and minimized buttons, minimize the Media Composer application or press Ctrl+Esc.

To change the taskbar settings:

1. Right-click an unused part of the taskbar.
2. Choose Properties from the pop-up menu.
3. In the Taskbar Properties dialog box, click the Taskbar Option tab.
4. Select the options you want:
   - To keep the taskbar hidden, deselect “Always on top” and “Auto hide.”
   - To set the taskbar to appear when you want, select “Always on top” and “Auto hide.”
5. Click OK.

For more information, see the Windows NT Help.



When working in the Avid Media Composer application, you can minimize windows (such as the Project window and bins), and the icons will appear in the Bin monitor, not in the taskbar.

Dragging Windows Without Showing the Contents

By default, Windows NT systems show the contents of windows when you drag them. Deselect this option to improve screen display and to avoid problems repainting the screen.

To drag windows without showing the contents:

1. Click Start, point to Settings, and click Control Panel.
2. In the Control Panel, double-click Display.

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3. In the Display Properties dialog box, click the Plus! tab.
4. Deselect the “Show window contents while dragging” check box.
5. Click OK.

For a shortcut to the Display Properties dialog box, right-click an empty part of the desktop, and choose Properties from the pop-up menu.

Setting Your Screen Resolution

The Media Composer application is designed to work best with the following two-monitor screen resolutions:

- 2048 x 768 pixels
- 2304 x 864 pixels
- 2560 x 1024 pixels

A larger resolution displays more pixels and lets you view more objects in the monitors. The objects will appear smaller.

To view or change the screen resolution:

1. Click Start, point to Settings, and click Control Panel.
2. Double-click Display.
3. Click the Settings tab.
4. Under Desktop Area, drag the slider to the resolution you want.



Also in the Settings tab, make sure the Color Palette is set to True Color.

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Setting the Avid Color Scheme

Avid recommends you use the Avid color scheme provided with your Media Composer application.

To use the Avid color scheme:

1. Right-click an empty part of the Windows NT desktop.
2. Choose Properties from the pop-up menu.
3. Click the Appearance tab.
4. Choose Avid from the Scheme list.
5. Click OK.

Use this same procedure to switch to another color scheme.

About the Avid Media Composer Folder

The C:\Program Files\Avid\Avid Media Composer folder contains essential operational files and supporting files. You should not touch any of these files.

- **Help folder:** This folder contains the Help files. For information on using the Help, see **"Using Help" on page 62**.
- **HIIP folder:** This folder contains files that support the HIIP® export protocol. HIIP allows Media Composer to export files in various standard formats.
- **Media Composer application**: The application icon resides here. Procedures for starting the application are described in **"Starting the Avid Media Composer Application" on page 44**.
- **SupportingFiles folder**: These are a series of files that add functionality to the application, such as color bars and test patterns. The system accesses most of these files from within the application.

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Managing the Avid Projects and Avid Users Folders

Managing projects, user profiles, and settings involves moving, copying, or deleting files and folders, and changing project or user names.

These files and folders are considered data files. Because the data files can become large, Avid recommends that the data files be stored on a drive partition other than the C drive. The location on your system of the Avid Projects, Avid Users, and Settings folders depends on your Media Composer installation.

About the Avid Projects and Avid Users Folders

The Avid Projects and Avid Users folders allow you to move entire projects or selected project and user settings between Media Composer systems by copying and moving files on your desktop. When you copy or move a project, the bins for that project are also moved or copied.

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

- When you create a new user, the system creates three items:
  - A user profile file (.ave)
  - A user settings file (.avs)
  - A user folder containing the two files

  Each item is given the user name you provide. This new folder is stored in the *drive*:\Avid\Avid Media Composer\Avid Users folder.



The location of this folder depends on your Media Composer installation.

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- When you create a new project, the system creates three items:
  - A project file (.avp)
  - A project settings file (.avs)
  - A project folder containing the two files

  Each item is given the project name you provide. This new folder is stored in a location separate from the media files. The default location is the *drive*:\Avid\Avid Media Composer\Avid Projects folder.

Your settings are initially set to the default values. As you work, the files maintain current settings, while the project folder fills with bin files (.avb).

Changing Project and User Names

You cannot change project or user names from within the Media Composer application. You must change the name from your desktop before starting the application. The Avid Users and Avid Projects folders are located in the *drive*:\Avid\Avid Media Composer folder.



When you change a user name or project name, make sure you change the name of the folder and all the files in the folder that have the old name. The system does not automatically change the names of corresponding files in the folder.

To change a project or user name:

1. Double-click the Avid Projects or the Avid Users folder to open it.
2. Click the name of the folder you want to change.

   The name is highlighted for text entry, and the arrow changes to an I-beam.
3. Change the name of the folder.

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4. Double-click the folder with the new name to open it.

   The folder contains profile, settings, and project files with the old names.

5. Change the old name of each file to the new name.



Do not change the name of the file MCState in the users folder.

6. Close the windows and restart the Media Composer application.

   The new project or user name appears in the Open Project dialog box.

Deleting Projects and User Profiles

Digitized media related to a deleted project is not eliminated with the project folder. For more information on deleting media files, see **"Deleting Clips and Sequences" on page 156** and **"Deleting Media Files with the Media Tool" on page 209**.

You cannot delete projects and user profiles from within the Media Composer application. You must make the change from your desktop before starting the application. The Avid Users and Avid Projects folders are located in the *drive*:\Avid\Avid Media Composer folder.

To delete a project or user profile:

1. Double-click the Avid Projects or the Avid Users folder to open it.
2. Drag the project or user folder you want to delete to the Recycle Bin. Empty the Recycle Bin to remove the files from the system.



Deleting a project also deletes any bins that are in that project.

3. Close the windows and restart the Media Composer application.

   The deleted project or user no longer appears in the Open Project dialog box.

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Retrieving Bin Files from the Attic Folder

The Attic folder contains backup files of each bin in a project. For information on setting automatic save features, see **"Reviewing Basic Settings" on page 92**.

You retrieve files from the Attic folder in the following circumstances:

- When you want to replace current changes to a sequence or clip with a previous version
- When the current bin file becomes corrupt

The Attic folder contains a folder for each project. When a bin is saved, a copy of the bin file is stored in the project folder in the Attic folder. The system adds the file name extension .bak plus a version number to the bin name. The bin file with the highest version number represents the latest copy of the bin file. When you view a project folder in the Attic folder in Details view, you can also identify the most recent backup file based on the name and timestamp of creation displayed in the Date Modified column.



The oldest backup file is overwritten only if the second oldest backup file is more than 2 hours old.

To retrieve a file from the Attic folder:

1. Minimize the Avid application.
2. From the desktop, double-click the *drive*:\Avid\Avid Media Composer\Attic folder.

   The Attic folder opens and displays project folders that contain the backup files.
3. Double-click the project folder that contains the files you want to retrieve.
4. Choose Details from the View menu, if the project folder is not already in the Details view.

   The project folder displays the file names and their creation dates.

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5. Ctrl+click the bin files you want to retrieve.
6. Drag the selected backup bin files to the desktop.

   This makes a copy of the files, leaving the original files in the Attic folder.
7. Double-click the Media Composer button in the taskbar to activate it.
8. Click the Project window to activate it, and click Bins to display the Bins list.
9. Choose Open Bin from the File menu. Select one of the backup bin files you copied to the desktop and click Open.

   When you open the backup bin, a link to the backup bin on the desktop is created in the Other Bins folder.



The Avid application does not allow a bin and copy of a bin to be open at the same time. You must keep all other bins closed and open the backup bins one at a time. You might need to change the creation date to avoid conflicts.

10. Create a new bin if you do not plan to overwrite existing files.
11. Open the new bin and open the backup bin in the Other Bins folder.
12. Select the material you want to keep from the backup bin, and drag the files to the new bin.

    Repeat steps 9 through 12 for any other backup bin files you copied to the desktop.
13. Select and delete the backup bins in the Other Bins folder.
14. Drag the backup bin files on the desktop to the Recycle Bin.

Once you have moved the objects, modify their creation dates so they are considered newest by the system. The creation date is modified whenever you make a change to an object and then save the bin. There is no conflict with sequences, so there is no need to modify the creation date of a sequence.

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Starting the Avid Media Composer Application

For more information on using the Start menu and creating a shortcut, see your Microsoft® Windows NT Help.

The Media Composer application icon is located in the C:\Program Files\Avid\Avid Media Composer folder. For most users, the desktop or the Start menu is a more convenient location for starting the application. The installation process adds a pointer in the Start menu to the Avid Media Composer application.



The application will not start properly if the application icon is moved from the Avid Media Composer folder.

To start the application, do one of the following:

- Click the Start button, and then point to Programs, Avid, and click Media Composer.
- Double-click the shortcut icon.
- Double-click the application icon.



When you start the application, you might see a message box indicating there is no input or output signal. Check to ensure the Meridien I/O box is connected to the system and that it is turned on.

After the application starts, the Open Project dialog box appears, as described in **“Opening a Project” on page 46**.

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CHAPTER 3

Starting a Work Session

Your work in Media Composer begins when you turn on the system, start the application, and open an existing project or create a new project that conforms to the specifications of your material. This chapter describes these and other procedures for starting a work session. There are also several techniques you can use to safeguard and restore your work if necessary. These topics are covered in the following sections:

- **Opening a Project**
- **Backing Up Your Project Information**
- **Ending a Work Session**
- **Mounting and Ejecting Media Drives**
- **Using Context Menus**
- **Using Help**



It is important to plan your project before you edit it in Media Composer. For information on setting up and structuring your project, see the Avid Media Composer and Film Composer Input and Output Guide.

This chapter also provides a session check list.

For information on the Microsoft Windows NT operating system and terminology, see the Microsoft Windows NT Help. For information

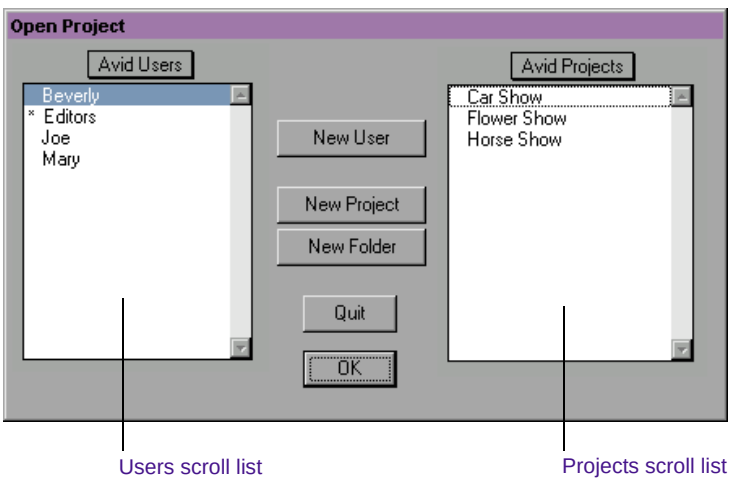
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about turning on your system, see the *Avid Media Composer Getting Started Guide.*

This chapter refers to the default installation directory path for the various Avid folders. If you chose a different directory path during the installation, you must substitute that path when using this chapter.

Opening a Project

Each time you start the Media Composer application, the Open Project dialog box appears.



Use the procedures described in the following sections to establish your identity as a user with the system and to select or create a project to open. You can also create additional folders within which to store projects, or you can quit the application from the Open Project dialog box.

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Identifying a User

To identify a user for the project, you can either create and identify a new user or select one from a list of existing users. This user name represents the user profile, which includes the settings associated with that user. New users begin with default user settings. When you customize the user settings in the Avid application, these customized settings are associated with the user name.

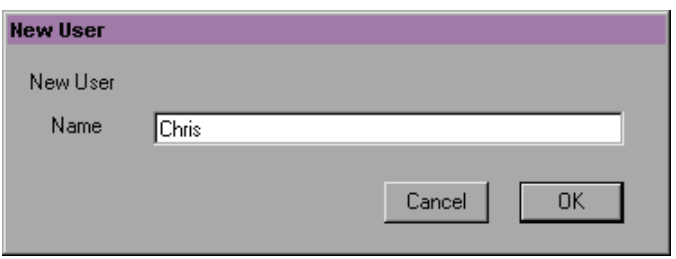
The Avid Users folder is the default location for user profile files.

Setting Up a New User

To create a new user profile:

1. Click the New User button.

   The New User dialog box appears.



2. Type your name and click OK.

*If you plan to move bins and projects from one platform to another, do not use the characters / \ : * ? " < > | when naming projects, bins, and users. You can set the Use Windows® compatible File Names option in the Avid application's General Settings dialog box to prevent the system from accepting these restricted characters in a bin, project, or user name.*

   The Open Project dialog box reappears with your user name highlighted in the list of users.

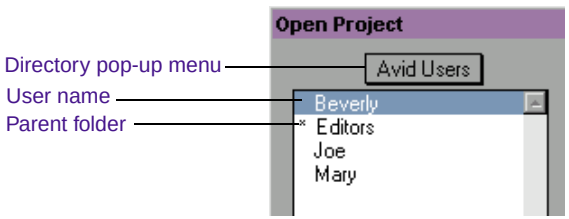
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You are ready to select a project. See **“Selecting a Project” on page 49**.

Selecting an Existing User

To select from the list of existing users, click the user name to highlight it in the user scroll list on the left side of the Open Project dialog box. This user profile is used when you open a project.

The *drive*:\Avid\Avid Media Composer\Avid Users folder is the default location for user profile files.



Each parent folder containing a collection of users appears with an asterisk preceding it.

To select a user name stored inside a parent folder within the Avid Users folder:

1. Double-click the folder to open it and display the user names.
2. Click a user name to select it.

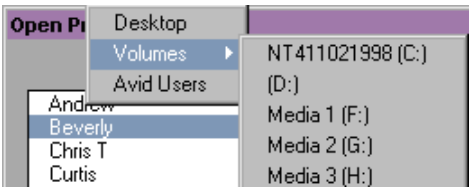
To change the location of user profiles outside the Avid Users folder, you must use the Windows NT operating system, see the Microsoft Windows NT Help.

If the user profile you want is stored on your system outside the Avid Users folder (in another folder or on a network, for example), you can locate it by using the Open Project dialog box.

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To search for another user profile folder:

1. Click the Directory pop-up menu to display a list of other locations on the system.



2. Select a drive from the Volumes submenu if necessary, and locate the folder.
3. Double-click the selected folder to open it. Continue to open any additional folders until the users scroll list displays the appropriate user name.
4. Click the user name to select it.

   You are ready to select a project. See **"Selecting a Project" on page 49**.

Selecting a Project

To open a project, you can either create and open a new project, or open an existing project.

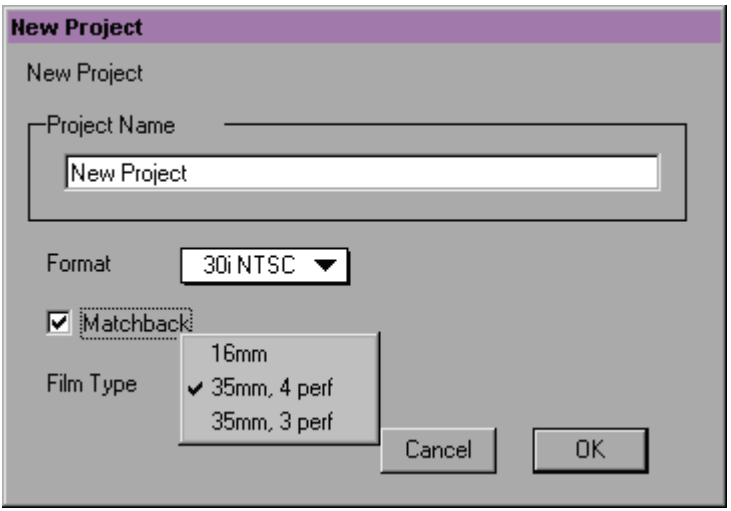
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Creating a New Project

To create a new project:

1. Click New Project in the Open Project dialog box.

   The New Project dialog box appears.



2. Type the name of your new project in the highlighted text box.

*If you plan to move bins and projects from one platform to another, do not use the characters / \ : * ? " < > | when naming projects, bins, and users. You can set the Use Windows® compatible File Names option in the Avid application's General Settings dialog box to prevent the system from accepting these restricted characters in a bin, project, or user name.*

For a complete description of each option, click the New Project dialog box and press the F1 key.

3. Select a project type from the Format pop-up menu, based on your source footage (NTSC or PAL) and the model of your Avid system:

   - If your Avid system does not include support for 24p projects, make a selection based on the source footage: NTSC or PAL.
   - If your Avid system includes support for 24p projects, make a selection based on the source footage or the type of film-to-tape transfer you are working with. For more

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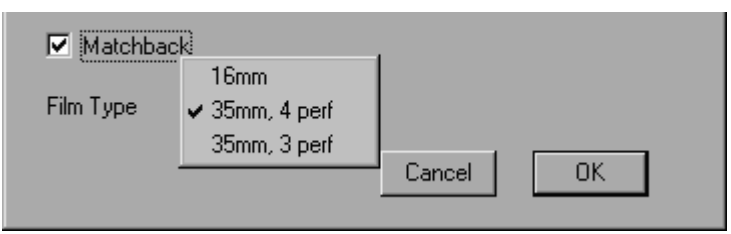
information, see the *Avid Media Composer and Film Composer Input and Output Guide*.

Table 3-1 lists the format options available with Avid systems that include support for 24p projects.

Table 3-1 Project Types for Systems Including Support for 24p Projects

Project Type	Source Footage Transfer
24p NTSC	For film-originated or other 24-fps footage, transferred to NTSC videotape
30i NTSC	For NTSC video-originated footage (30 fps)
24p PAL	For film-originated or other 24-fps footage, transferred to PAL videotape
25i PAL	For PAL video-originated footage (25 fps)

4. For 24p projects, choose a film tracking format from the Film Type pop-up menu.
5. (Option) Click Matchback and choose a film tracking format from the Film Type pop-up menu. The Matchback item appears only if your Avid system includes the Matchback option.



For more information about matchback, see the *Avid Media Composer and Film Composer Input and Output Guide*.

6. Click OK.

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The system creates the new project files and folder, and returns you to the Open Project dialog box. The project name is highlighted in the projects scroll list. You are ready to open the project. See **"Opening a Project" on page 54**.

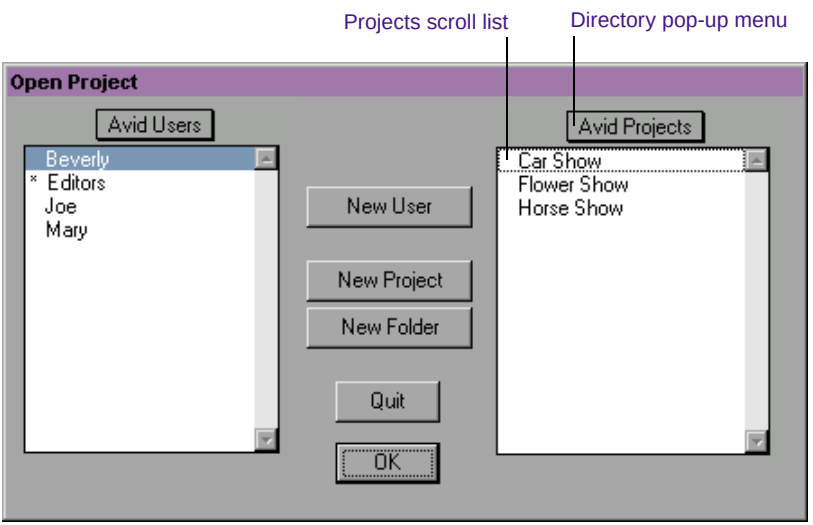
Setting Film Preferences

Set film preferences in the Film Settings dialog box immediately after you create a project in order to provide the system with important information about the type of film and audio transfer you used for your job. For information on film settings, see **"Film Settings" on page 92**.

Selecting an Existing Project

Existing projects appear in the projects scroll list in the Open Project dialog box.

The *drive*:\Avid\Avid Media Composer\Avid Projects folder is the default location for project files.



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To select an existing project, do one of the following:

- Click an existing project name to highlight it.
- Press the first letter of the project name on the keyboard to highlight it. (If there are multiple projects that begin with the same letter, the first project in the list that begins with that letter will be highlighted.)

If the project is nested in a folder:

1. Double-click the folder name to open it and display the contents in the project scroll list.
2. Click the project name to select it.

If the project is stored outside the Avid Projects folder (in another folder or on a network, for example), you can locate it by using the Directory pop-up menu.

To locate a project in another folder:

1. Click the Directory pop-up menu and choose a drive from the Volumes submenu.

   The Open Project dialog box displays all the stored folders.
2. Double-click a folder name to open it. Continue opening folders until the project scroll list displays the project folder you want.
3. Click the project name to highlight it.

   You are ready to open the project. See **“Opening a Project” on page 54**.

Nesting Projects in Folders

You can create folders in the Open Project dialog box for storing related projects. To nest a folder, you must first create a folder.

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To create a folder:

1. Click the New Folder button in the Open Project dialog box.

   The New Folder dialog box appears.

2. Type a name for the folder, and click OK.

   The folder appears with an asterisk preceding it in the project scroll list.

3. Double-click the folder name to open the folder.

   Any new projects you create now are displayed and stored in this folder.

You can also nest projects by using the desktop to move existing projects into folders that display in the Open Project dialog box. For more information about moving existing projects, see the *Avid Media Composer and Film Composer Input and Output Guide*.

Opening a Project

After you select the appropriate user and project names in the scroll lists of the Open Project dialog box, you can open the project with the selected user settings in one of the following ways:

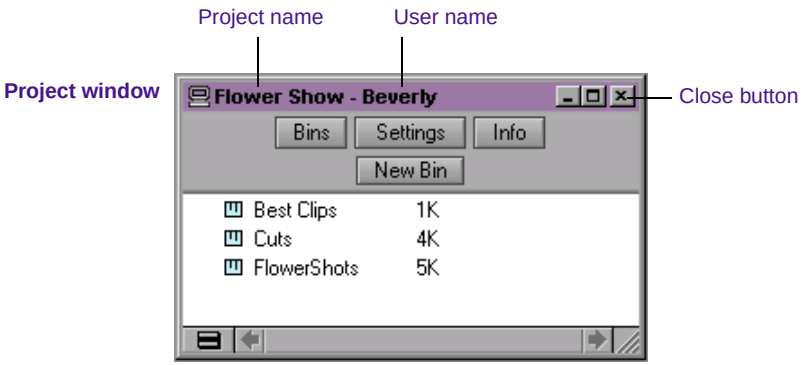
- Click OK.
- Double-click the highlighted project name in the projects scroll list.
- Double-click the highlighted user name in the users scroll list.

For more information about the Project window, see **Chapter 4**. For more information about the Composer window, see **Chapter 9**.

The Composer window opens on the Edit monitor, and the Project window opens on the Bin monitor with the selected user settings loaded.

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The title bar of the Project window contains the project name and user name you selected in the Open Project dialog box.



Closing a Project

To close the Project window and return to the Open Project dialog box, do one of the following:

- Click the Close button in the Project window.
- With the Project window active, choose Close Project from the File menu.

The Project window and all open bins close, and the Open Project dialog box appears.

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Backing Up Your Project Information

Although the Avid system automatically saves your bins, projects, and settings, you should back up these items frequently to avoid losing any of your project information due to 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 or equivalent drive
- Removable storage device
- Network storage device



To back up the larger media files that are created when you digitize footage, you must use a high-capacity storage device. For information on backing up media files, see ***"Backing Up Media Files" on page 219***.

Saving Your Project Information

To save your work on a floppy disk or equivalent device:

1. Open a window containing the destination storage folder.
    a. From the Windows NT desktop, double-click My Computer and then locate the destination storage drive or insert the floppy disk as appropriate.
    b. Double-click the icon for the destination storage drive or floppy drive to open it. Double-click any additional folders to target the appropriate storage location.
2. Open a window containing the folder you want to save.
    a. From the Windows NT desktop, double-click My Computer.

    Another My Composer window opens on top of the previous window.

    b. Drag the second My Computer window away from the other window.

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You can also drag folders and files, and drop them in the backup folder.

c. Double-click the appropriate folder to open it.

Folder	Contains
Avid Projects	Project folders
Avid Users	User folders
Settings	Site settings file

3. Click a project folder, user folder, or settings file to highlight it.
4. Choose Copy from the Edit menu of the window containing the folder you want to save.
5. Click the destination backup folder window and choose Paste from the Edit menu of the backup folder. The files are placed in the backup folder.
6. When the system finishes copying the files, remove the floppy disk from the drive and store it as appropriate.

Restoring from a Backup

To restore a project, user profile, or settings from a backup storage device:

1. Open a window containing the backup files and copy the files.
   a. From the Windows NT desktop, double-click My Computer and then locate the drive or insert the floppy disk that contains the backup files.
   b. Double-click the icon for the backup storage device to open it. Double-click any additional folders to target the appropriate backup folder.
   c. Click the folder or files you want to restore.
   d. Choose Copy from the Edit menu.

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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 **"Opening Bins from Other Projects" on page 79**.

2. Open a window containing the appropriate folder and paste the files.

   a. Double-click the appropriate folder in the *drive*:\Avid\Avid Media Composer folder to open it.

Folder	Contains
Avid Projects	Project folders
Avid Users	User folders
Settings	Site settings file

   b. Choose Paste from the Edit menu of the window containing the folder where you want to restore the files.

When you start the Avid application, the restored project and user profile appear in the Open Project dialog box.

Ending a Work Session

To end the work session, you must first quit the application, and then turn off your equipment in the order described in this section.

Quitting the Avid Application

There are two ways to quit the Avid application, depending upon whether you have a project open or you are between projects:

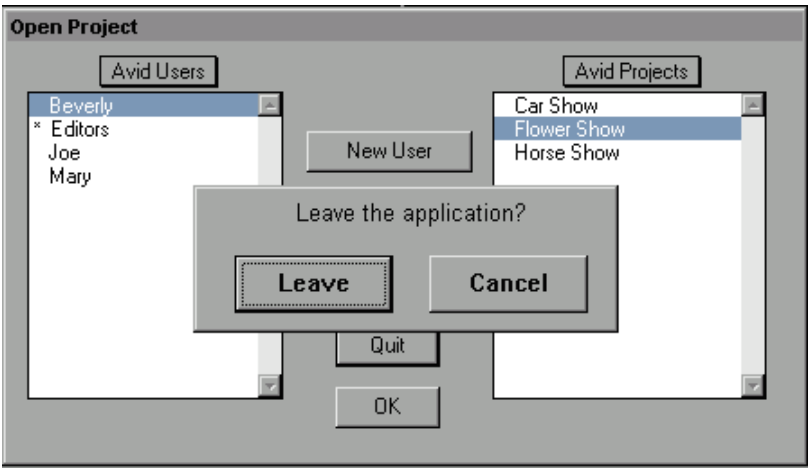
- If you are working on an open project and want to quit Media Composer quickly, choose Exit from the File menu.

  The project closes and the application quits.

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- If you are between projects, from the Open Project dialog box:

  a. Click the Quit button. The system asks if you want to leave the application.



  b. Click Leave to quit the application. Click Cancel to return to the Open Project dialog box and select another project.

Turning Off Your Equipment

When you finish using your system and want to turn it off completely, follow these steps to avoid damaging your system or media storage drives:

1. Choose Shut Down from the Start menu.

   The Shut Down Windows dialog box appears.

2. Click Shut down the computer, and click Yes.
3. When a message states that you can safely turn off your computer, press the computer's power button.
4. Turn off your speakers and monitors.

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5. Turn off each external drive in the chassis, then turn off the chassis itself.
6. Turn off all other hardware.



Never remove media drives from your Avid system when it is turned on. Shut down the computer and then remove the drives.

Mounting and Ejecting Media Drives

The Eject command makes selected media drives inaccessible to the Avid application. If the drive being ejected supports the auto-eject feature (for example, Jaz® drives), the command ejects the disk from the drive.

On systems with multiple media drives, ejecting unused drives can improve the performance of the Media tool. You need to eject the drives before you open the Media tool.

By default, all media drives that are connected to your system are listed and can be seen by the Avid application. You can remove one or more drives from the list at any time by choosing Eject from the File menu. For example, if you want to use only some of your drives for a particular project, choose Eject to prevent other drives from appearing in the Avid application. The Eject command does not remove drives from the Windows NT system.



Shut down the Window NT system completely before you physically remove or add drives. For information on removing and adding drives, see the *Avid MediaDrive Utilities User's Guide*.

Ejecting Drives

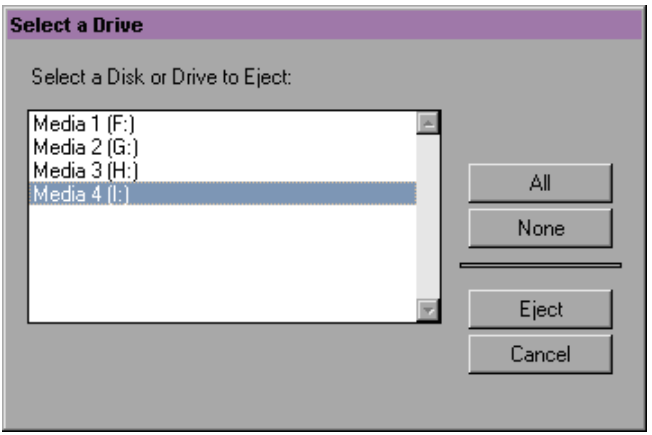
You cannot physically add or remove drives by using this procedure. For information about adding and removing drives, see the *Avid Composer Products Setup Guide*.

To eject a disk or make a drive unavailable to the Avid application:

1. With the Avid application active, choose Eject from the File menu.

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The Select a Drive dialog box appears.



The scroll list displays all drives currently available.

2. Select a drive to remove. Ctrl+click to select multiple drives.
3. Click Eject. The drives are no longer available to the Avid application.

Mounting All Drives

You cannot add selected drives to the Avid application, but you can add all drives connected to the system, including those previously removed.

To add all drives, choose Mount All from the File menu.

All drives turned on and connected to the system become available to the Avid application.

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Using Context Menus

The Windows NT environment allows you to access frequently used commands by using the right mouse button (right-clicking) to click an object. Avid system takes advantage of this feature. When working with your Avid application, right-click on a window to access a short-cut menu that shows the most frequently used commands for that window.

You can also right-click a screen object to access What's This? Help for the object.

Using Help

You can get help and background information for tasks, windows, dialog boxes, and screen objects through the Media Composer Help system.

Opening and Closing the Help System

The Help system is also included on the *Avid Media Composer Online Publications* CD-ROM.

To open the Help system, choose Media Composer Help from the Help menu. The Help Topics dialog box appears. Use the Contents, Index, and Find tabs to access the information you need.

To close the Help system, click the Close button in each Help window. The Help system automatically closes when you close the last open Help window.

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.

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To get help for windows and dialog boxes:

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

   If there is no information about a window or dialog box, the Help Topics dialog box appears.



For most dialog boxes that require an OK or Cancel response, you cannot move or click in a Help window until you close the dialog box. If you want to view the Help window while the dialog box is open, move the Help window to a part of the screen not used by Media Composer. Then open the dialog box again.

Getting Help for Screen Objects

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

To get help for screen objects:

1. Using the right mouse button, click the screen object (for example, a button).

   A pop-up menu appears.
2. Choose What's This? from the menu.

   The system displays a pop-up window that explains how you use the item. Many pop-up windows include hypertext links (marked by underlined text) to more information.



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

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Finding Information with the Help Topics Dialog Box

You see the Help Topics dialog box when you open Help from the Help menu. A topic is a single page of the Help system. The Help Topics dialog box includes three different methods for finding topics:

- **Using the Contents Tab**
- **Using the Index Tab**
- **Using the Find Tab**

Using the Contents Tab

The Contents tab provides a list of books that contain topics covering the entire Help system. The list is organized by book. Each book opens to display a list of topics.

Use the Contents tab as follows:

- To view the Contents, choose Media Composer Help from the Help menu and click the Contents tab, or click the Contents button in a Help topic.
- To open a book and display a list of topics, select the book title and click Open, or double-click the book title.
- To open a Help window, select the topic and click Display, or double-click the topic title.

Using the Index Tab

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

To find topics by using the Index tab:

1. Choose Media Composer Help from the Help menu and click the Index tab, or click the Index button in a Help topic.

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2. In the text box at the top, type a keyword for the topic that you want to find (for example, type “audio” to jump to index entries listed under audio).
3. Open the topic in the list:
    - If the typed keyword brings you to the topic you are seeking, click the Display button, or double-click the index entry.
    - If you do not immediately arrive at the topic, scroll through the list and double-click an entry that makes sense, or try an alternative keyword in the text box. When you find the subject you are looking for, click the Display button or double-click the entry to view the topic.

Using the Find Tab

The Find tab 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 by using the Find tab:

1. Choose Media Composer Help from the Help menu and click the Find tab, or click the Find button in a Help topic.
2. In the text box, type the word or phrase you want to find.

    To find an exact phrase:

    a. Type the first word of the phrase in the text box.

    b. Click More Choices.

    c. In the new line, choose “followed by” from the first pop-up menu and type the second word of the phrase in the text box.

    d. To add a third word, click More Choices and repeat step c.

    e. Click Search.

    A list shows the topics that contain the words you searched for. As you type additional words, the list updates.



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

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3. To change the way in which you search for a word or words, click the Options button and choose your preferences from the Find Options dialog box.



Deselect the Word Stemming check box if you want a more complete search.

4. Select a topic in the list and then click the Display button or double-click the topic. The topic is displayed, and the words you searched for are highlighted.

How Help Windows Work

The Help system consists of the Help Topics dialog box and four types of windows:

- The Help Topics dialog box opens in the center of your screen by default. The Contents tab page contains a list of overview topics covered in the Help system. Double-click any book icon to see additional topics. Double-click a topic or select a topic and click the Display button to open a window containing the information you seek.
- The **Media Composer How To window** opens on the right side of your screen. It displays step-by-step information for completing tasks. You can close this window, or leave it open as you work. Each time you click a new How To topic, the window displays the new information. You can cycle back through the topics by clicking the Back button. Click on a hypertext link (marked by underlined text) to open a window with related information.
- The **Media Composer Reference window** opens on the left side of your screen. It contains background information, tables of options, or other information that helps you understand system features and tools. Each time you click a new Reference topic, the window displays the new information. You can cycle back through topics by clicking the Back button. Click on a hypertext link (marked by underlined text) to open a window with related information.

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- The **Media Composer Illustration window** opens on the left central part of your screen. It contains a graphic illustration of a feature that you can view while you read about it. Each time you click a new Illustration button, the window displays the new information.
- The **pop-up windows** open from screen objects. They also open from defined terms in the text, and from “hot spots” in illustrations. In illustrations, the pointer changes to a hand pointer when placed over an area that has a pop-up window associated with it. You cannot move or resize pop-up windows. Many pop-up windows include a hypertext link (marked by underlined text) to more information.

Using Buttons in a Help Topic

Each Help topic contains buttons to help you navigate through the system and perform basic functions. Table 3-2 describes the Help topic buttons.

Table 3-2 Help Topic Buttons

Button	Description
Contents	Opens the Contents tab.
Index	Opens the Index tab.
Find	Opens the Find tab.
Back	Returns to the topic previously displayed in the window.
Print	Opens the Print dialog box from which you can print the current topic.
Browse (<< or >>)	Click one of the two Browse buttons to cycle through a set sequence of topics (Reference windows only).

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Table 3-2 Help Topic Buttons (Continued)

Button	Description	
Options	Provides the following features:	
	Annotate	Allows you to add a note to a topic.
	Copy	Allows you to copy information from a help topic into another document.
	Print Topic	Allows you to print the current topic.
	Font	Allows you to change the font size of topics.
	Keep Help on Top	Provides the option of displaying the Help window on top of other applications. The default is On Top.
	Use System Colors	Allows you to change the colors for the display area of Help windows. For information, see **"Changing the Color of Help Windows" on page 70**.
Glossary	Opens a glossary of terms.	

Printing Help Topics

You can print a single Help topic or a group of topics listed in the Contents.

To print a Help topic:

1. Open or click the topic to make it active.
2. Click the Print button in the topic window.
3. Select the print options. When you are ready to print the topic, click OK.

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To print a Help topic from the Contents tab, select the topic you want to print, and click the Print button at the bottom of the tab.

To print a book of related topics from the Contents tab:

1. Select the book you want to print.
2. Click the Print button.

If you select a book, all topics within that book, and all topics in other books contained in that book, will be printed. The system sends each topic as a separate print job to the printer, so this method can take a long time to print. You can more easily print large sections of user information from the *Avid Media Composer Online Publications* CD-ROM.

You can print a pop-up by clicking the right mouse button and choosing Print.

Copying from a Help Topic

To copy information from a Help topic into another document:

1. In the topic window, select the text that you want to copy.
2. Click Options and choose Copy.
3. Place the mouse pointer in another open application, such as a word processor.
4. Choose Paste from the Edit menu to paste copied text into a document.

   You can also paste the text into the keyword text box in the Index tab or into the text box in the Find tab.



You cannot paste text from one topic into another.

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Changing the Font Size of Help Topics

To change the font size of Help topics:

1. Open or click a How To or Reference window to make it active.
2. Click the Options button and choose Small, Normal, or Large from the Font submenu.

Keeping Help on Top

By default, the Help window remains on top of other application windows. This feature lets you refer to a Help topic while you are completing a task on your Avid system.

To change the Keep Help On Top setting:

1. In a Help topic, click the Options button.
2. Choose Keep Help On Top.

   The submenu displays three choices: Default, On Top, and Not on Top. The default is On Top.
3. To change the default, select Not On Top.

   This setting applies to the Help system immediately and remains when you close and reopen the file.

Changing the Color of Help Windows

The Help system is set to use two different colors for the display areas of windows. Reference windows are white, and How To windows are pale yellow. You can replace this color scheme with the single windows color (typically white) that is set for your system in the Windows NT Control Panel.

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To use the system color for Help windows:

For information on changing the color settings for your entire system, see your Windows NT documentation.

1. Open or click a How To or Reference window to make it active.
2. Click the Options button and choose Use System Colors from the pop-up menu.
3. Click Yes in the message box.
4. Choose Media Composer Help from the Help menu.

Follow the same procedure to revert to the two-color scheme.

Adding a Note to a Help Topic

To add a note to a Help topic:

1. In the Help topic window, click the Options button.
2. Choose Annotate.
3. In the dialog box, type your note and then click Save.

A paper-clip icon appears at the top of the topic. Click this icon to see, edit, or delete your note.

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Accessing Information from the Help Menu

In addition to the Help system, the Help menu provides other types of online information. Table 3-3 describes the Help menu choices.

Table 3-3 Help Menu Choices

Menu Item	Description
Shortcuts	Displays a list of topics that describe keyboard shortcuts for Media Composer operations.
Online Books	Displays the opening screen of the *Avid Media Composer Online Publications* CD, if you have loaded the CD into your CD-ROM drive. The *Avid Media Composer Online Publications* CD includes all software documentation in Adobe® Acrobat® Reader format. Use the opening screen to access any manual. For information on getting the best performance, click "How to Use this Collection."  **Do not access a CD-ROM while you are running a time-critical operation, such as digitize, render, or play.**
Show Tool Tips	Switches the display of pop-up descriptions for buttons and tools. You can set the time delay in the Interface Settings dialog box, which you access from the Settings scroll list in the Project window.
Avid Web Site	Launches the default Internet browser and brings you to the Avid home page. From this page, you can access all kinds of information about Avid, including technical support.
About	Displays the name and version of the product, along with license information.

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Session Check List

- [ ] Turn on your equipment in the proper order: storage first, peripherals second, system last. For more information, see the *Avid Media Composer Getting Started Guide*.
- [ ] On your desktop, move any settings files, project folders, or user folders from another system into the Avid folders (if necessary) before starting the application.
- [ ] Start the application.
- [ ] Create new projects or user profiles, or select existing ones in the Open Project dialog box.
- [ ] After finishing your work for the session, quit the application.
- [ ] Back up your work before shutting down the equipment.
- [ ] Turn off your equipment in the opposite order from which you turned it on: system, peripherals, and finally storage.

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CHAPTER 4

Working with the Project Window

The Project window provides controls in three 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. These topics are described in the following sections:

- **Opening and Closing the Project Window**
- **Using the Bins Display**
- **Using the Settings Display**
- **Using the Info Display**
- **Customizing Your Workspace**



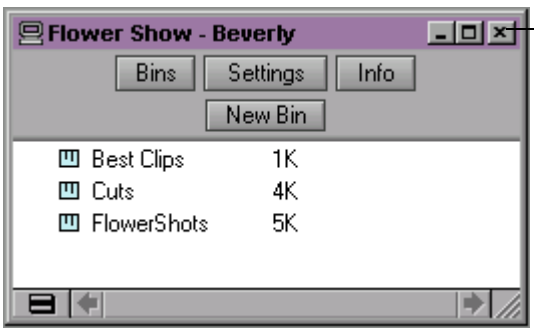
This chapter refers to the installation default directory path for the various Avid folders. If you chose a different directory path during the installation, you must substitute that path when using this chapter.

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Opening and Closing the Project Window

The Project window opens automatically when you select a project in the Open Project dialog box.

Project window



To close the Project window and return to the Open Project dialog box, do one of the following:

- Click the Close button in the Project window.
- With the Project window active, choose Close Project from the File menu.

Because the Project window remains open the entire time you are working in a project, it might be hidden from view by several open bins or tools.

To locate and redisplay the Project window, do one of the following:

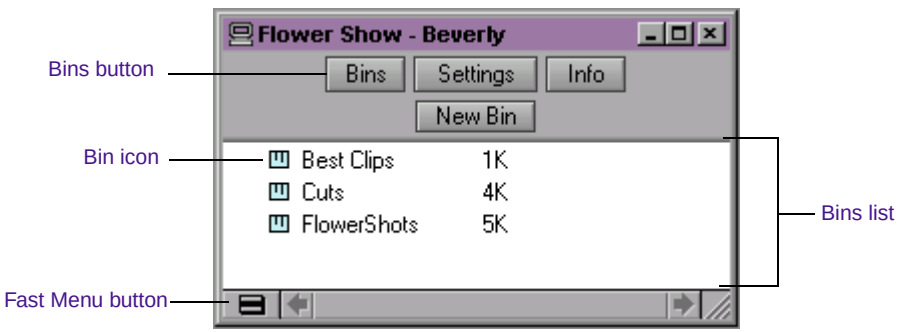
- Choose Project from the Tools menu.
- Click any unobstructed piece of the Project window to bring it forward.

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Using the Bins Display

Bins contain the master clips that are created when you digitize source material. (The master clips are linked to the media files.) Bins also contain the sequences, subclips, group clips, and effect clips that you create during a project. From the Project window, you can view a list of bins associated with the project, and open, close, and create bins. You can also open bins created for another project.

To view a list of bins associated with the project, click the Bins button in the Project window.

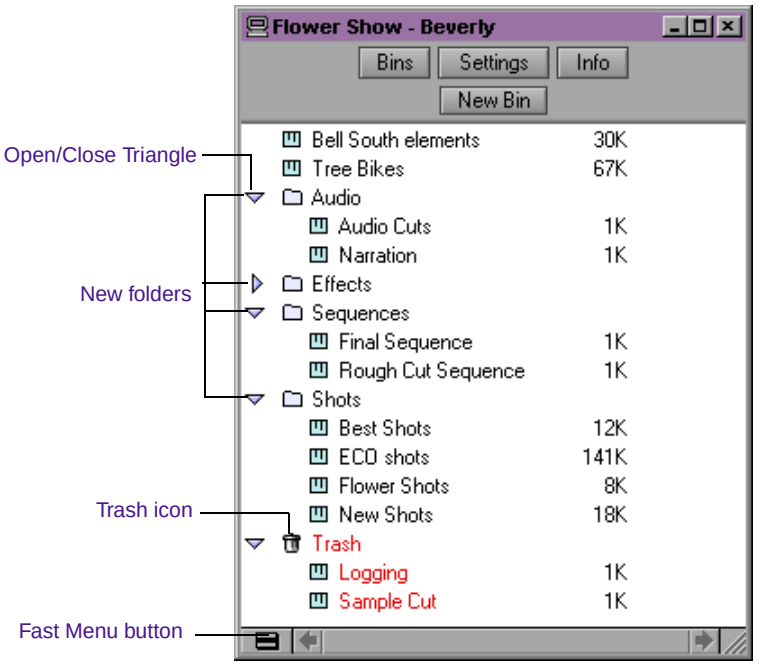


From the Bins list you can examine the number, names, size, and location of bins.

Displaying Bins

You can add folders to the Bins list in the Project window to help organize your project. You can drag bins into folders, or drag folders into folders. See **“Managing Folders and Bins” on page 82**.

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Click the triangle next to a folder icon to display the folder's contents in the Bins list of the Project window. Click the triangle again to close the display.

To view a list of only the folder contents and not the folders, select Flat View from the Fast menu. The Trash icon and its contents disappear until Flat View is deselected.

Creating a Folder in a Project

To create a folder in a project:

1. Click Bins in the Project window.
2. Choose New Folder from the Fast menu.

   A new untitled folder appears.
3. Click the untitled folder name in the Bins list and rename it.

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Creating a New Bin

To create a new bin in a project, with the Project window active, do one of the following:

- Choose New Bin from the File menu.
- Click the New Bin button in the Project window.

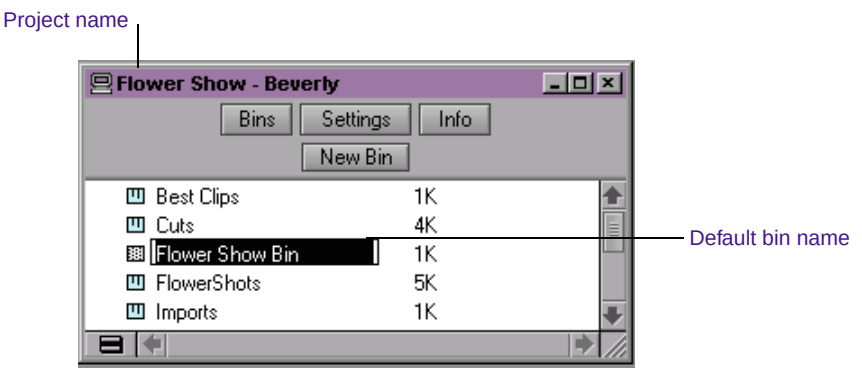
Performing either of these procedures opens a new (empty) bin that is given the name of the project as displayed in the title bar of the Project window. The new bin appears in the Bins list of the Project window. A corresponding file is placed in the project folder in the Avid Projects folder, and a backup copy is placed in the Attic folder.

You can keep the default name of the bin or rename the bin immediately. For more information, see **"Renaming a Bin" on page 78**.

Renaming a Bin

Each new bin that you create takes the name of the project that appears in the title bar of the Project window, numbered incrementally.

To change the name of a bin, click the bin name in the Bins list of the Project window and type a new name.



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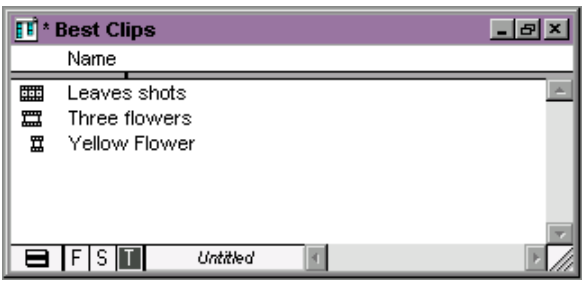
Opening and Closing a Bin

To open a bin:

1. Click the Project window to make it active.
2. Click Bins in the Project window.
3. Double-click the Bin icon next to a bin name.

The bin opens in a separate window. The Bin icon becomes dimmed, indicating the bin is open.

Bin window



Opening Selected Bins

To open several bins at once:

1. Click the name of one of the bins in the Bins list.
2. Ctrl+click each additional bin you want to open.
3. Choose Open Selected Bins from the File menu.

Opening Bins from Other Projects

To open a bin from another project:

1. Choose Open Bin from the File menu.

   The Open dialog box appears.

2. Find and select the bin you want. Bins have the file extension .avb.

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Never open a bin that is stored on a floppy disk; otherwise, the system will not be able to save your work. Always copy the bin to a project folder on the system drive before you open it. For information, see the *Avid Media Composer and Film Composer Input and Output Guide*.

3. Click the Open button.

The bin appears in the Bins list of the Project window in a folder called Other Bins. The name Other Bins appears in italics. You can rename this folder. This option is especially useful when you want to open a bin not currently displayed in the Project window.

The Other Bins folder disappears from the Bins list when you delete all the bins in the Other Bins folder. Deleting bins from the Other Bins folder does not remove the bins from the drive; only the pointers to the bins are removed.

Closing a Bin

To close a bin, do one of the following:

- Click the Close button in the upper right corner of the bin.
- Choose Close Bin from the File menu to close the active bin.

Deleting a Bin or Folder

You can delete bins and folders along with their contents from the Bins list. Deleted bins and folders are moved to a Trash folder in the Bins list until you empty the Trash. If you need a deleted bin or folder, you can retrieve the it from the Trash. For more information, see **"Viewing Contents in the Trash" on page 81**.

Only bins and folders appear in the Trash. If you select an item in a bin and press Delete, the item is permanently deleted and does not appear in the Trash.

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To delete a bin or folder:

1. Select the bin or the folder you want to delete in the Bins list.
2. Press the Delete key.

   A Trash icon appears in the Bins list in the Project window. It contains the deleted item.

Viewing Contents in the Trash

If you need to view the contents in the Trash or decide you do not want to delete those items in the Trash, you must first move the bins and folders from the Trash.

To view items in the Trash:

1. Double-click the Trash icon in the Bins list to list the contents of the Trash.
2. Click the bins or folders you want to keep (or view) and drag them from the Trash to the Bins list in the Project window.
3. Double-click the bin or folder to view it.

Emptying the Trash in the Bins List

You can empty the contents in the Trash that is located in the Bins list.



Emptying the trash permanently removes the bins or folders from the drive.



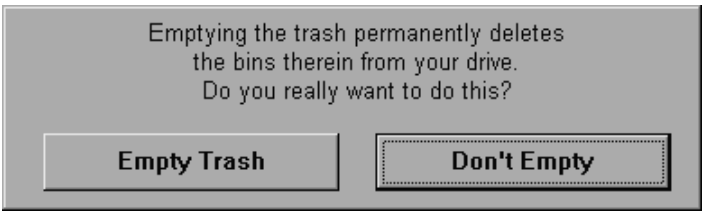
If you change the name of the Trash icon, you cannot empty the Trash.

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To empty the Trash in the Bins list:

1. Choose Empty Trash from the Fast menu.

   A message box appears.



2. Click Empty Trash to delete the bins or folders from the Trash and from your system drive.

Managing Folders and Bins

You can use the Project window to create hierarchies of folders and bins that reflect the specific workflow of the current project. This structure should provide both simplicity and backup security. Although the specifics can vary depending upon your production needs and habits, the following are a few basic principles that can help you get started:

- Limit the number of sequences you create in each project. For instance, consider creating one new project for each show, episode, spot, or scene.
- Limit the number and complexity of clips in each bin by creating and organizing bins in three groups, as follows:
  - Create a set of bins for the digitizing stage.

    For example, you can create one bin for each source tape or each day's worth of dailies transfers to be digitized to avoid slowing the system with large bins and causing confusion between tapes.

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- Create a second set of bins for organizing your project.

  For example, you can create a separate bin for each segment of a video project or each scene of a 24p project, depending upon the preferences of the editor.

- Create a third set of bins for the editing stage, including:

  A **current cut bin** for storing each work in progress (sequence)

  An **archive bin** for keeping the original version of each cut (sequence)

  A **selects or storyboard bin** for screening selected clips or cuts gathered from the source bins

  A **format cuts bin** for storing the final cuts with added format elements such as segment breaks, color bars and tone, slate, or countdown



For information on creating Script windows using scripts for your projects, see ***Chapter 8****.*

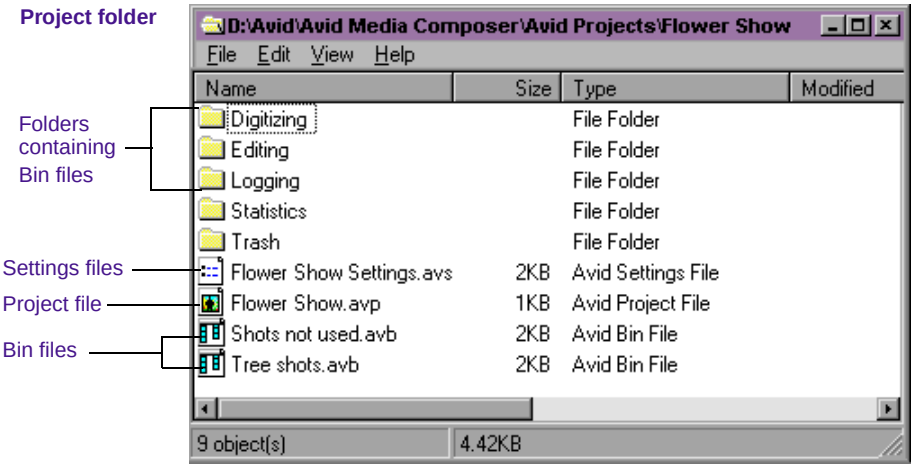
- (Option) Create additional folders at the desktop level for better organization.

  For example, you can create one folder for each digitizing bin and show cut bin, or a folder to contain all shot logs to be imported.

- Save these files as a template for future productions of a similar nature.

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A sample template of bins for a project is shown below:



This hierarchy allows you to have one set of bins available in the Project window during the digitizing and organizing phase, and another set of bins available during editing to reduce clutter.

Saving Bins Automatically

The Avid system automatically saves changes to your work on a regular basis during each session. You can modify the frequency of the automatic backups by using the Bin settings in the Settings scroll list in the Project window.

Two things happen when auto-save occurs:

- Any open bins are updated with changes made since the last auto-save.
- Copies of these bins are placed in the *drive*:\Avid\Avid Media Composer\Attic folder as backup.

The system automatically places copies of all bins into the Attic folder at regular intervals for backup. The procedure for recovering bin files

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from the Attic folder is described in **"Retrieving Bin Files from the Attic Folder" on page 42**.

To adjust the frequency of automatic saves:

1. Click the Settings button in the Project window.

   The Settings scroll list appears in the Project window.

2. Double-click Bin in the Settings scroll list.

   The Bin Settings dialog box appears.

3. Type a number in the minutes text box for the Auto-save interval option.

4. Click OK.

You can manually save bins for added security — for example, immediately after an important edit. When your work is lost, or when you want to recover an earlier version of a bin or sequence, you can retrieve files from the Attic folder.

Saving Bins Manually



The Save Bin command appears dimmed if there have been no changes since the last time the active bin was saved.

There are three ways to save bins manually:

- To save a specific bin:

  a. Click the bin to activate it.

  b. Choose Save Bin from the File menu.

- To save selected bins:

  a. Activate the Project window by choosing Project from the Tools menu or by clicking anywhere in the window.

  b. Click a Bin icon to select it. Ctrl+click any additional bins.

  c. Choose Save from the File menu.

  The system saves all the selected bins.

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- To save all the bins:

  a. Click the Project window to activate it but do not select any individual bins listed in the Bins list.

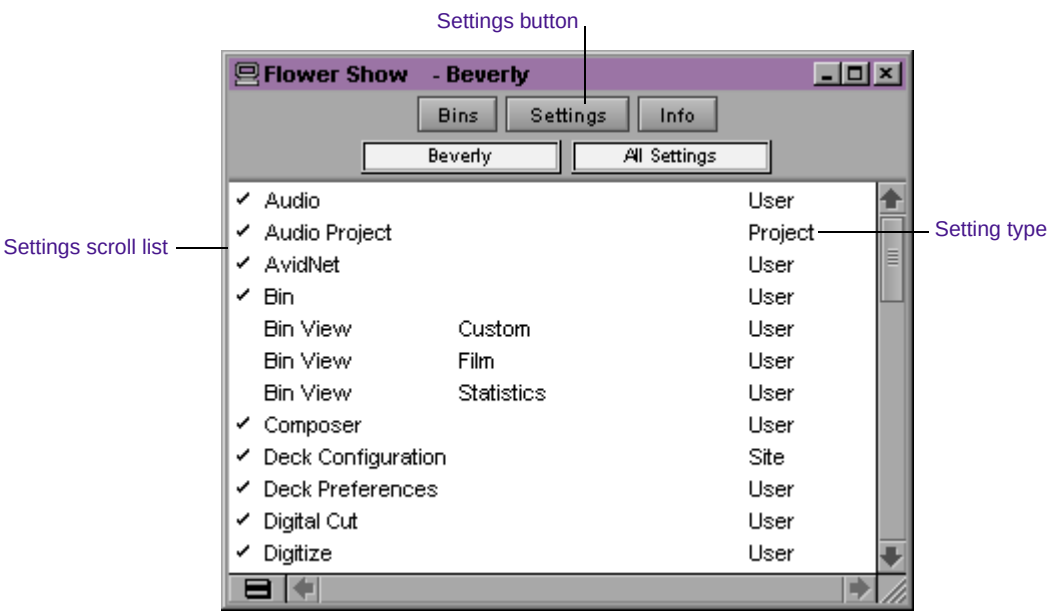
  b. Choose Save All from the File menu.

  The system saves all the bins for the project.

Using the Settings Display

From the Settings display of the Project window, 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 button in the Project window.



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About Settings

Three types of settings are displayed in the Settings scroll list: User, Project, and Site settings.

- **User settings** are specific to a particular editor. User settings reflect individual preferences for adjusting the user interface in the Avid application. Individual User settings are stored in each user folder within the *drive*:\Avid\Avid Media Composer\Avid Users folder.
- **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 *drive*:\Avid\Avid Media Composer\Avid Projects folder.
- **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, specification 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 *drive*:\Avid\Avid Media Composer\Settings folder.

Table 4-1 briefly describes each item in the Settings scroll list. The table also lists where you can find additional information on a particular item, and indicates whether the item has an associated dialog box (or window) that you can access from the Settings scroll list.

Table 4-1 Settings Scroll List

Setting Name	Description	For More Information	Access to Dialog Box?
Audio	Sets the default audio pan; contains audio scrub options.	See Chapter 13 and the *Avid Media Composer and Film Composer Input and Output Guide.*	Yes

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Table 4-1 Settings Scroll List (Continued)

Setting Name	Description	For More Information	Access to Dialog Box?
Audio Project	Sets parameters for audio setup.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
AvidNet	Sets the preference for opening the AvidNet Transfer Tool on startup.	See the *AvidNet Transfer Tool User's Guide*.	Yes
Bin	Sets the Auto-save and Double-click preferences for bins.	See **"Bin Settings" on page 96**.	Yes
Bin View	Selects and formats the information displayed in bins.	See **"About Bin Views" on page 169**.	Yes
Composer	Configures the display and behavior of buttons and information in the Source and Record monitors.	See **"Composer Window Settings Options" on page 286**.	Yes
Deck Configuration	Configures channels and decks into the system.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
Deck Preferences	Sets preferences that affect all decks configured into the system.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
Digital Cut	Sets parameters for previewing or recording a digital cut to tape. Appears in the Settings scroll list to facilitate copying settings.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	No; choose Digital Cut from the Output menu.
Digitize	Defines how the Avid system digitizes and batch digitizes in specific situations.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes

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Table 4-1 Settings Scroll List (Continued)

Setting Name	Description	For More Information	Access to Dialog Box?
Export	Sets parameters for file export.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
Film	Sets parameters for edit play rate, ink number format, and transfer rate.	See **"Film Settings" on page 92**.	Yes
General	Defines several default values such as the default starting timecode for your project.	See **"General Settings" on page 97**.	Yes
Grid	Defines the grid to use when you create effects.	See the *Avid Media Composer and Film Composer Effects Guide*.	Yes
Import	Sets parameters for file import.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
Interface	Defines the appearance and function of certain interface elements.	See **"Interface Settings" on page 98**.	Yes
Keyboard	Maps commands from the Command palette to the keyboard.	See **"Using the Keyboard" on page 304**.	Yes
OMM	Sets the default asset manager location and preference for logging in to your asset manager when you open a project.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
Render	Controls the size of imported graphics and rendered effects to ensure that the graphic or effect will be playable.	See the *Avid Media Composer and Film Composer Effects Guide*.	Yes

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Table 4-1 Settings Scroll List (Continued)

Setting Name	Description	For More Information	Access to Dialog Box?
Script	Sets the default display options for scripts imported using script integration.	See **"Script Settings Options" on page 234**.	Yes
Serial (COM) Ports	Configures the serial ports on your system for deck control, controllers, and VTR emulation.	See **"Using the Serial (COM) Ports Tool" on page 140**.	Yes
Timecode Window	Displays various timecodes in an adjustable window.	See **"Displaying Timecode in the Timecode Window" on page 283**.	Yes
Timeline	Contains the latest Timeline settings.	See **"Restoring the Default Timeline View" on page 368**.	Yes
Timeline View	If you save your Timeline settings, Timeline View appears in the Settings scroll list to facilitate copying settings.	See **"Customizing Timeline Views" on page 355**.	No; select saved setting files from within the Timeline.
Title Style Sheet	If you save a title style while you are using the Title tool, Title Style Sheet appears in the Settings scroll list.	See the *Avid Media Composer and Film Composer Effects Guide*.	Yes
Trim	Customizes the Trim mode environment.	See **"Trim Settings Options" on page 421**.	Yes
Video Input	The Video Input tool enables you to calibrate composite or component video when digitizing. Appears in the Settings scroll list to facilitate copying settings.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	No; choose Video Input Tool from the Tools menu.

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Table 4-1 Settings Scroll List (Continued)

Setting Name	Description	For More Information	Access to Dialog Box?
Video Output	The Video Output tool enables you to calibrate output for composite or component video in a digital cut. Appears in the Settings scroll list to facilitate copying settings.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	No; choose Video Output Tool from the Tools menu.
VTR Emulation	Sets parameters when using the Avid system to emulate a VTR.	See the *Avid Media Composer and Film Composer Input and Output Guide*.	Yes
Workspace	Enables you to associate settings and windows with a workspace.	See**"Linking User Settings and Workspaces" on page 121**.	Yes

Defining Settings

You can use the Settings display to establish a hierarchy of settings that address the specific needs of each production phase.

For example, you can establish:

- **User settings for the *assistant editor*:** Facilitate logging, digitizing, and organizing projects.
- **User settings for the *editor*:** Include editing interface preferences.
- **Project settings:** Reflect the specific needs of the project.
- **Bin View settings:** Display useful columns of information for each of the bins described in **"Managing Folders and Bins" on page 82**.



Never use a user settings file that was opened in MediaLog™.

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By establishing these settings once, and selecting the appropriate setting or bin view in context, you can save time and effort that would be spent searching for information or adjusting bin headings on-the-fly. You can also save these settings along with your template (as described in **"Managing Folders and Bins" on page 82**) for use on similar projects.

Reviewing Basic Settings

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

- Film settings for 24p projects
- Bin settings
- General settings
- Interface settings

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

Film Settings

Film settings determine essential parameters for accurately capturing, tracking, and editing source material for 24p projects, including:

- Format and display of ink numbers
- Audio transfer rate and pulldown parameters for film-to-tape transfers
- Default starting footage for film sequences

Table 4-2 describes the Film Settings options.

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Table 4-2 Film Settings Dialog Box Options

Option	Description
Edit Play Rate	Select the play rate for Timeline play. See **"Setting the Play Rate For Timeline Play" on page 94**.
Ink Number Format	Select one of these industry-standard ink number formats to meet your production lab standards and your film format. See the *Avid Media Composer and Film Composer Input and Output Guide*.
Ink Number displayed as	Select the format for the ink number display in bins and cut lists. See the *Avid Media Composer and Film Composer Input and Output Guide*.
Auxiliary Ink Format	Select the format for a second ink number (this is useful for tracking additional information for different film gauges). The choices are the same as for Ink Number Format. See the *Avid Media Composer and Film Composer Input and Output Guide.*
Auxiliary Ink displayed as	Select the format for the auxiliary ink number display. The choices are the same as for Ink Number displayed as. See the *Avid Media Composer and Film Composer Input and Output Guide*.
DAT TC Format	Specify the digital audiotape (DAT) timecode format for audio digitized in a 24p NTSC project without pulldown. If your Avid system includes support for 24p projects, this option also specifies the timecode format for a digital cut from an NTSC or PAL project at 24p NTSC. This timecode format must conform to the timecode format on your original DAT tapes. If the option setting does not conform to the original DAT tape, you will get a timecode discontinuity error after a few minutes of digitizing. See the *Avid Media Composer and Film Composer Input and Output Guide.*
Film to Video Transfer	Specify the type of film-to-tape transfer that you digitize. See **"Digitizing Video Without Pulldown" on page 94**. (*NTSC only*)
Audio Transfer	Specify the type of audio rate that you will use. See the *Avid Media Composer and Film Composer Input and Output Guide*. (*PAL only*)

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Setting the Play Rate For Timeline Play

Depending on the type of project with which you are working, the options available from the Edit Play Rate pop-up menu vary. **Table 4-3** describes the options available from the Edit Play Rate pop-up menu.

Table 4-3 Edit Play Rate Options

Project Type	Options	Description
24p PAL	24 fps	Selects playback at 24 fps of all output except for digital cut
	25 fps	Selects playback at 25 fps of all output except for digital cut
24p NTSC	23.976 fps	Selects playback at 23.976 fps of all output except for digital cut
	24.000 fps	Selects playback at 24 fps of all output except for digital cut

Digitizing Video Without Pulldown

NTSC film-to-tape transfers that were made without using pulldown can be digitized directly into a 24p project. This feature is useful when special effects are generated on a frame-by-frame basis to tape, and need to be integrated into a 24p project.

Before digitizing the footage, choose Video Rate from the Film to Video Transfer pop-up menu in the Film Settings dialog box. The Film to Video Transfer setting allows you to specify the type of film-to-tape transfer that you are digitizing.

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Table 4-4 describes the Film to Video Transfer settings available in the Film Settings dialog box.

Table 4-4 Film to Video Transfer Settings Options

Option	Description
Video Rate	Select this option when digitizing film footage that was transferred to PAL video or footage that was transferred to NTSC video without pulldown. Every frame of video is digitized. When you are digitizing at video rate in NTSC, you cannot digitize audio at the same time.
Pulldown	Select this option when digitizing film footage that was transferred as NTSC with pulldown.



For normal 24-frame capture, choose Pulldown from the Film to Video Transfer pop-up menu in the Film Settings dialog box.

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Bin Settings

The Bin Settings dialog box controls the Avid system's automatic save features, including the number of backups saved in the Attic folder. Table 4-5 describes the Automatic Save and Backup options, and the results of double-clicking an object in a bin.

Table 4-5 Bin Settings Dialog Box Options

Option	Description
Auto-save interval	Specifies the length of time between attempts to auto-save project files. The default is 15 minutes. To avoid interrupting an edit, the Avid system waits until the system is inactive before auto-saving. Use the "Force auto-save at" option to specify an interval at which the system *will* interrupt an edit to auto-save.
Inactivity period	Specifies the length of time the Avid system waits while the system is inactive before automatically saving the project files. The default is 0 seconds.
Force auto-save at	Specifies the maximum length of time between auto-saves. When the system reaches this time, it will auto-save the project files even if it must interrupt an edit to do so. The default is 15 minutes.
Maximum files in attic	Specifies the total number of files stored in the Attic folder. When a bin is saved, the Avid system copies the previous version of the bin to a special folder called the Attic. The default is 30 files. Keep more files if there are many editors working on the system. This ensures that all the bins are backed up. When there are multiple editors working on one system, store Bin settings as Site or Project settings. This will ensure that another user does not override your settings and delete your backups.
Max versions of any one bin	Specifies the total number of single-bin copies stored in the Attic folder. This setting prevents filling the Attic with too many copies of one bin, at the risk of losing the others. The default is five copies.

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Table 4-5 Bin Settings Dialog Box Options (Continued)

Option	Description
Double-click	These options determine what happens when you double-click an object in a bin
Opens new monitor for clip.	Creates a new pop-up monitor and automatically loads the clip when you double-click an object in the bin.
Loads clip into Source or Record monitor.	Loads the clip or sequence into the Source or Record monitor when you double-click an object in a bin.

General Settings

Table 4-6 describes the General Settings options.

Table 4-6 General Settings Dialog Box Options

Option	Description
Drive Filtering Based on Resolution	Prevents digitizing high-resolution media to drives that do not have sufficient speed to play the resolution. If you select this option, the drives affected by drive filtering are unavailable when you try to access them with the Digitize tool. Drive filtering does not verify the drive speed when you select a drive while rendering effects. Be sure when selecting your target drive for rendering that it is fast enough to play the media.
Default Starting Timecode Default Starting Edgecode	Specifies the timecode and edgecode values you want the system to use as the default starting timecode and edgecode for each new sequence.
NTSC Has Setup	Allows systems using NTSC-EIAJ (used primarily in Japan) to use the correct color mapping. NTSC-EIAJ users should not select this box. All other users should select this box.
Project Format	Displays the format currently selected for the project (NTSC or PAL). This option cannot be changed.

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Table 4-6 General Settings Dialog Box Options (Continued)

Option	Description
Audio File Format	Choose the file format for the audio: • OMF (WAVE): Compatible with Windows applications • OMF (AIFF-C): Compatible with many third-party applications, including Pro Tools® Choose the AIFF-C format for all audio media when you need to transfer audio media files directly to a Pro Tools system for audio sweetening.

Interface Settings

The Interface settings determine the level of basic information displayed in the interface. **Table 4-7** describes the User Interface Settings options.

Table 4-7 User Interface Settings Options

Option	Description
Show Labels in Tool Palette	When this option is selected, the system displays text labels with the icons in tool palettes. To tear off the Tool palette, click anywhere on the palette, hold the mouse button, and drag the palette to the location you want.
Show ToolTips	When this option is selected, the system displays labels for buttons and icons when you position the pointer over them. You can also turn ToolTips on and off from the Help menu.

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Table 4-7 User Interface Settings Options (Continued)

Option	Description
Delay *n* seconds before showing	If you select Show Tool Tips, you can delay the label display by entering a value in this field. A delay enables you to move the pointer across the interface without displaying the labels on items between the starting point and the destination of the pointer.
Show Graphics on Client Display	When this option is selected and you have a Client monitor, the system displays graphics such as grid lines in the Client monitor as well as in the Record monitor.
Windows Standard Alt Key Behavior	This option switches between standard Windows Alt key behavior and Avid system Alt key behavior. When you select this option, pressing and holding the Alt key *together with* another key works as a keyboard shortcut for certain Windows actions (for example, opening menus). When you deselect this option, pressing and releasing the Alt key and *then* pressing another key works as the Windows keyboard shortcut, while pressing and holding the Alt key *together with* another key works as a keyboard shortcut for certain Avid functions. This is the default option. For more information on Windows shortcuts, see your Windows documentation. For more information on Avid shortcuts, see the *Avid Media Composer and Film Composer Quick Reference* or choose Shortcuts from the Help menu.

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Displaying Project Settings

You can display the Settings scroll list of the Project window in different groups, depending on what you need to view. **Table 4-8** describes the different settings display groups.

Table 4-8 Displaying Groups of Settings

Option	Description
All Settings	Displays all settings available in the Media Composer system
Base Settings	Displays Project, User, and Site settings only; no views are displayed
Bin Views	Displays all the Bin View settings you created
Timeline Views	Displays all the Timeline View settings you created
Title Styles	Displays all the templates you created for the Title tool
Video Tool Settings	Displays all the Video Tool settings
Import Settings	Displays all the Import settings
Export Settings	Displays all the Export settings
Workspaces	Displays all the Workspace settings you created
Workspace Linked	Displays all the workspace links you created

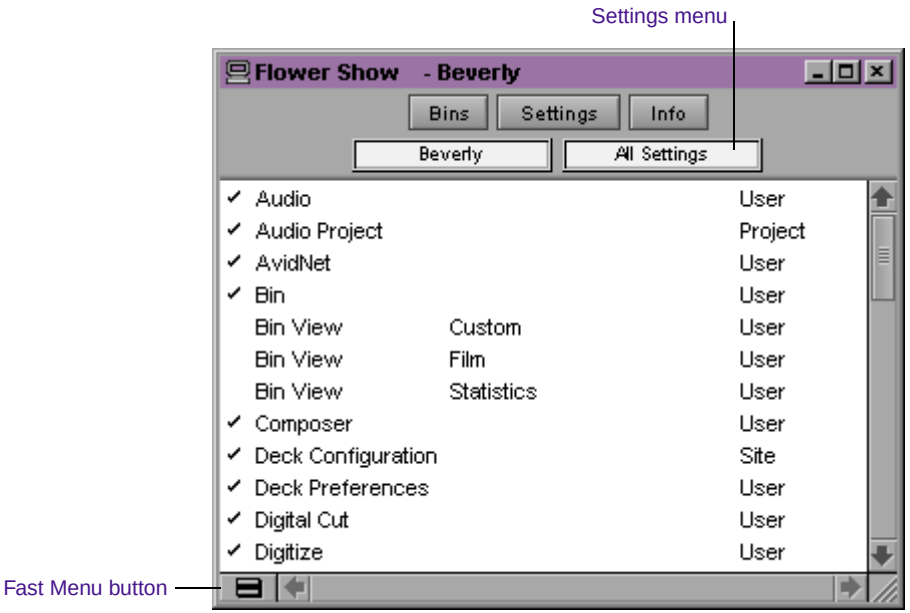
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To change the Settings scroll list display of the Project window:

1. Click the Settings button in the Project window.

   The Settings scroll list appears in the Project window.

2. Choose a settings display group from the Fast menu or from the Settings menu.



The Settings menu displays the settings group selected and the Settings scroll list displays only the settings in that group.

Working with Settings

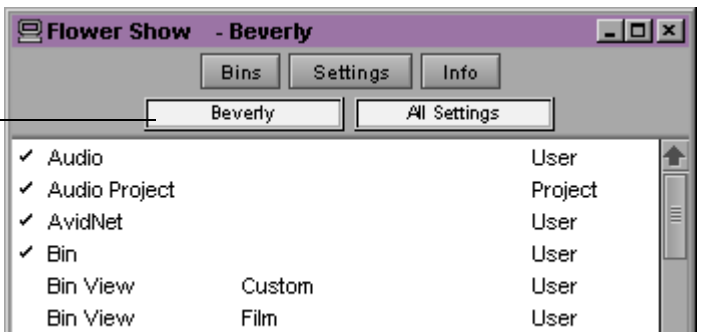
You can view and modify most of your current settings by double-clicking them in the Settings scroll list of the Project window and by selecting new options. You can duplicate, rename, copy, and move settings among files or systems.

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Selecting Another User

Because User settings are not project or site specific, you can display another set of User settings within the Project window.

To select another user, choose another name from the User pop-up menu.



User pop-up menu

The previous user's settings are saved, and the new user's settings are loaded into the Avid system and the Project window.

Modifying Settings

You can alter the default options for various settings to reflect the specific needs of a project or to customize the system based on personal preferences.

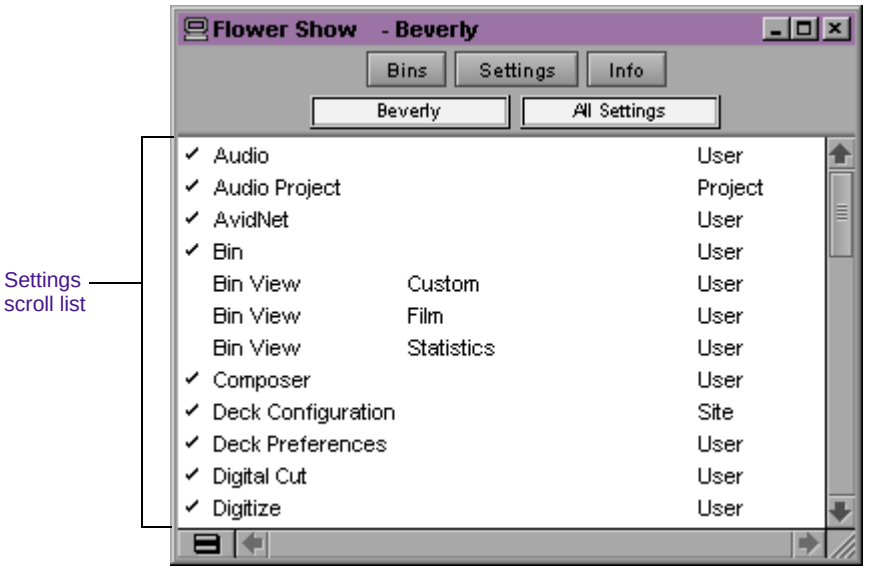
There are three types of settings that you cannot modify. They are:

- Settings that require the presence of standalone peripherals, such as the Digidesign® 888
- Settings that can be modified only from within the tools in which they are used, such as Timeline views
- Film settings when you are working in nonfilm projects

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To modify available settings:

1. Double-click the name of a chosen setting in the Settings scroll list to open a settings dialog box.



   A dialog box or window opens.

2. Enter new values or select new options for the settings.
3. Click OK, Save, Apply, Cancel, or the Close button.

   The system saves changes in the appropriate User, Project, or Site settings file.

Working with Multiple Settings

You can have multiple versions of settings in your Settings scroll list in the Project window that apply to several users at various stages of production.

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For example, you can have:

- Two Bin settings: one that automatically saves more often when you are editing intensively, and one that automatically saves less often when you are doing organizational work in the bins
- Multiple Digitize settings for digitizing various types of source material
- Multiple Keyboard and Composer settings to use for various activities such as digitizing, offline editing, or online effects editing
- Multiple Deck Preferences settings for various types of digitizing or for output

Duplicating Settings

To create a new version of a setting:

1. Click the Settings button in the Project window to display a list of your current settings.
2. Click the setting you want to copy. Ctrl+click any additional settings you want to copy.
3. Choose Duplicate from the Edit menu.

   A copy of each setting appears in the window. Duplicate settings with custom settings names followed by a period and a version number in the second column appear with each custom setting name. Name your settings to indicate their functions.

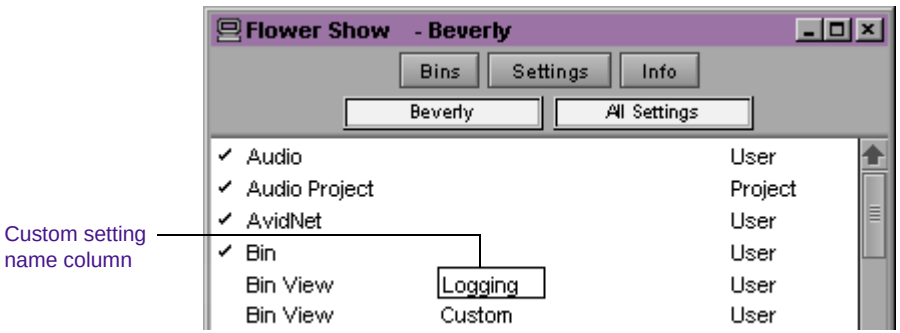
Naming Settings

You can add a custom name to a setting to differentiate it among more than two copies or to indicate a specific use.

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To enter a custom setting name:

1. Click the Custom setting name column in the Settings scroll list of the Project window.



2. Type a new name and press Enter.

   The new name appears in the list and is saved in the settings file.

Selecting Among Multiple Settings

With multiple settings, only one setting at a time is active. Settings that are currently active have a check mark to the left of the setting name.

To change the active setting, click in the space to the left of the setting that you want to select as the active setting.

Deleting Settings

You can delete settings from the Settings scroll list in the Project window at any time. For example, you might choose to delete one or more versions of a particular setting or you might want to delete all but a few settings for transfer into another Settings window. For information on transferring settings, see **“Copying Settings Between Settings Files” on page 107**.

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To delete a setting:

1. Click a setting to highlight it. Ctrl+click each additional setting you want to delete.
2. Press the Delete key or choose Delete from the Edit menu.

   The selected settings are immediately removed.

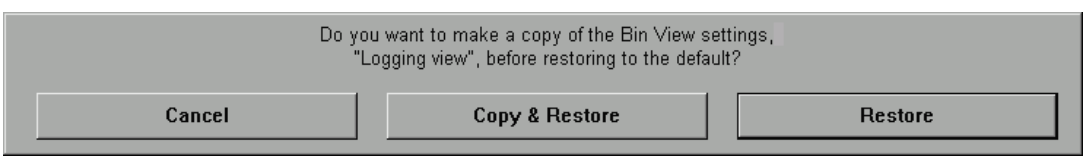
You cannot undo the deletion. You can, however, restore the default settings, or you can transfer settings from other files, as described in the following sections.

Restoring Default Settings

You can restore your settings to the default values at any time by doing the following:

1. Click a setting to highlight it. Ctrl+click each additional setting you want to select.
2. Choose Restore to Default from the Special menu.

   A message box asks whether you want to save the settings.



3. Click Copy & Restore to copy the current settings before restoring the default settings, or click Restore to discard the current settings.

   The system restores the default values for the selected settings.

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Copying Settings Between Settings Files

You can copy selected settings:

- Between existing settings files.
- Into a new settings file for use in other projects.
- To change one type of setting to another.
- Into the *drive*:\Avid\Avid Media Composer\Settings folder to establish standard system settings for all new projects and users. See **“Using Site Settings” on page 109**.

You can also transfer settings files to another Media Composer (Windows) system. See the *Avid Media Composer and Film Composer Input and Output Guide*.

To copy settings between files:

1. With the Settings display active, open the destination settings file in one of the following ways:
   - Create and open a new settings file by choosing New Setting File from the File menu.

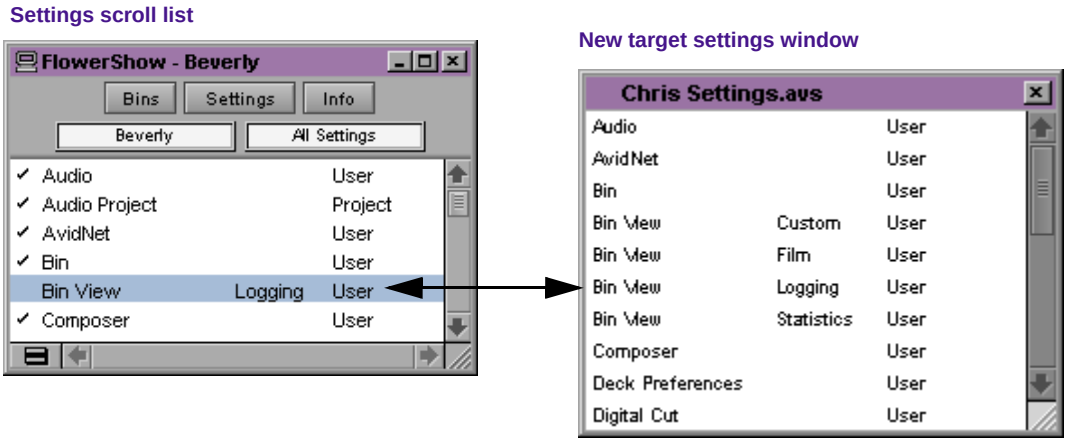
     An untitled settings window opens.
   - Open an existing settings file by choosing Open Setting File from the File menu.

     The Open dialog box appears.

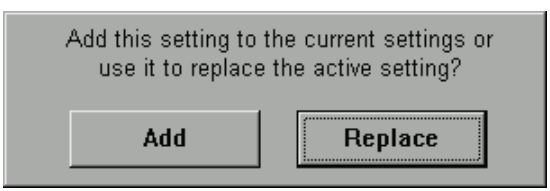
     Locate and select a settings file (setting files have the file name extension .avs) in the Avid Projects or Avid Users folder and click Open. The settings file window opens.
2. Click the setting you want to copy in the Settings scroll list of the Project window. Ctrl+click any additional settings that you want to copy.

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3. Drag the highlighted settings to the new destination Settings window.



4. You can also drag settings from the Settings window into the Settings scroll list in the Project window. When you copy a setting into the Settings scroll list and the setting is active, a message box appears.



5. Do one of the following:

   - Click Add to add the new settings to the project without affecting the project's current settings.
   - Click Replace to replace the current version of each setting with the new settings. Additional versions of each setting are not affected.

   The copied settings are saved when you close or save the file or project.

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Using Site Settings

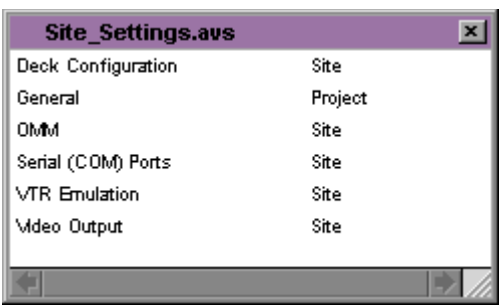
When the system opens a new project, it first searches the Site_Settings file (located in *drive*:\Avid\Avid Media Composer\Settings folder) and loads any settings placed here. The system then proceeds to load any Project and User settings not included in the Site Settings file.

This feature is useful if you need to establish global settings for all new users and projects, such as switcher settings, a specific start timecode for all sequences, or various customized features of the interface.

To load settings into the Site_Settings file:

1. Open a project with the settings you would like to establish as site settings. If a project does not already exist with the settings you want, create a project and make adjustments to the default settings as needed.
2. Choose Site Settings from the Special menu.

   The Site_Settings window opens.



3. Click a setting in the Settings scroll list of the Project window or Ctrl+click multiple settings and drag them into the Site_Settings window.

   Copies appear in the Site_Settings window.
4. Close the Site_Settings window.

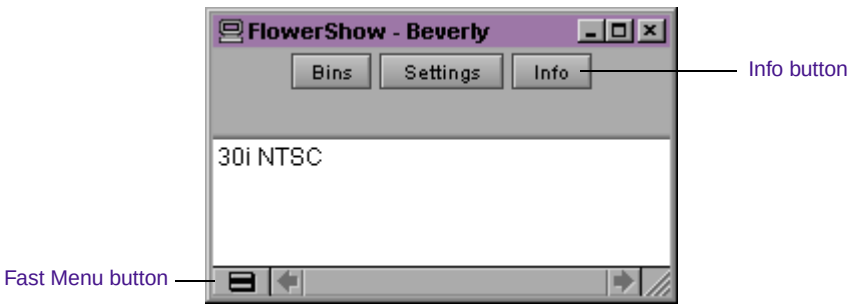
All new users and projects opened from the Open Project dialog box use these settings as the default settings.

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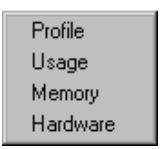
Using the Info Display

The Info display in the Project window allows you to view basic project information, such as the video format (NTSC, for example).

To activate Info display, click the Info button in the Project window.



The items listed in this view are for information only and cannot be changed from the Info list.



The Fast Menu button at the bottom of the Info display in the Project window displays four menu items: Profile, Usage, Memory, and Hardware.

Displaying a Project Profile

The Profile displays basic project information, such as the video format (NTSC or PAL) or frame rate (24 fps for 24p projects).

To display the Profile information:

1. Click the Info button in the Project window.
2. Click the Fast Menu button.
3. Choose Profile from the Fast menu.

   Basic project information is displayed.

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Displaying Usage Information

The statistics feature gathers and reports information on system usage. You can use this information to support business functions such as resource management.

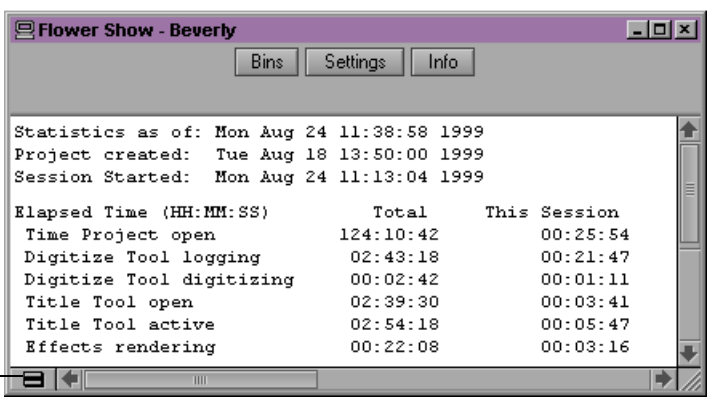
All statistics are gathered and reported by project. The file that contains this information is formatted so that you can use it as input to software programs such as analysis applications, spreadsheets, or report generators.

Do not rely on the statistics feature for billing or other financial purposes.

To view statistics for an open project:

1. Click the Info button in the Project window.
2. Click the Fast Menu button.
3. Choose Usage from the Fast menu.

   You see a display similar to the following:



4. Click the Info button again to update the Usage window to reflect any changes you made to the project.

To print this file, choose Print Usage from the File menu.

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A new statistics file is created each time you open the project. The files are stored in a Statistics folder inside each project folder.

The file name has the following format:

`Statistics.`*`yymmdd.HHMMSS`*

where:

Variable	Description
yy	Indicates the last two digits of the year
mm	Indicates the month
dd	Indicates the day
HH	Indicates the hour
MM	Indicates the minutes
SS	Indicates the seconds

The statistics file is formatted as comma-separated ASCII text, so it can be accepted by a variety of software programs. Each line in the file is tagged with indicators for identifying content and data type to assist in programming custom applications. **Figure 4-1** shows a sample data file.

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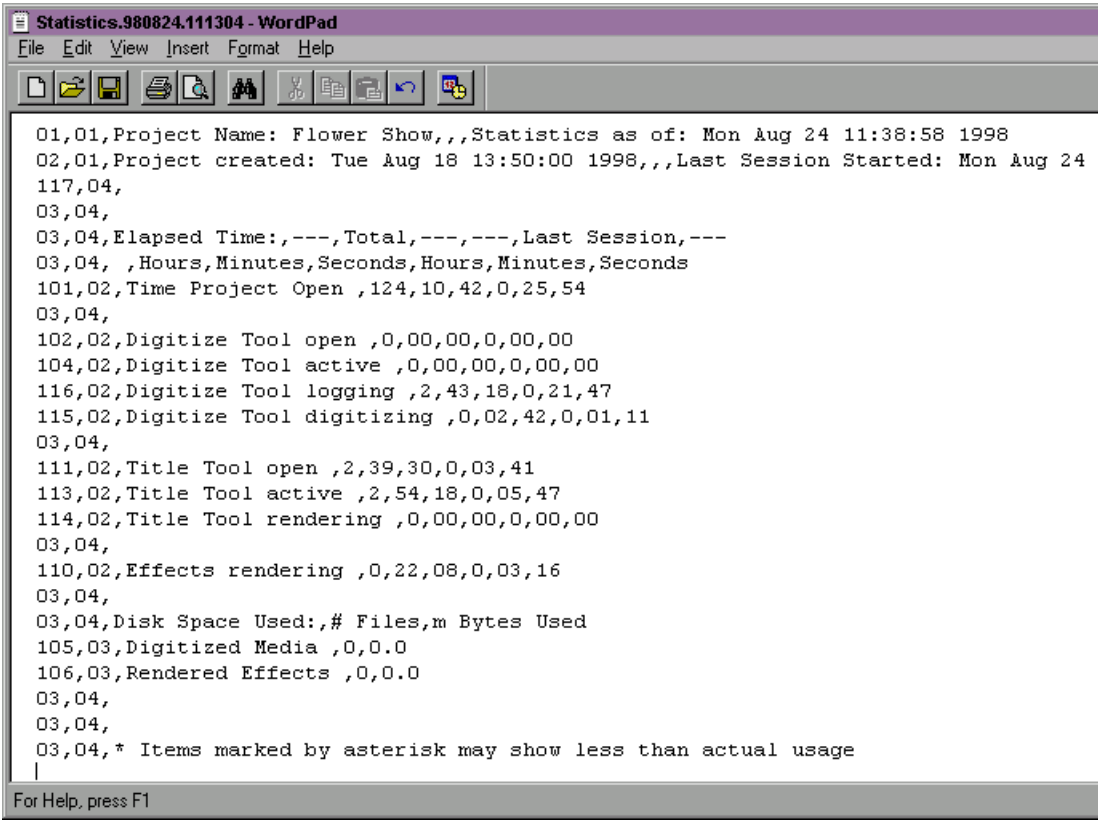


Figure 4-1 Sample Data File

Description of Data File Values

The values in the first column indicate the content of the line. Values are:

01 title1
02 title2
03 heading
100 project info
101 Time Project open
102 Digitize tool open

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104 Digitize tool active
105 Digitized Media bytes used
106 Rendered Effects bytes used
110 Effects rendering time
111 Title tool open
113 Title tool active
114 Title tool rendering
115 Digitize tool digitizing
116 Digitize tool logging
117 user comments

The value in the second column indicates the type of data in the line. Values are:

01 project info
02 time used
03 bytes used
04 text string

Importing the Statistics File into a Spreadsheet

You can import the statistics file into spreadsheet or other programs as an ASCII file and use the application to set up the proper format. For example, to create a statistics file in Microsoft® Excel™:

1. Start Microsoft Excel.
2. Choose Open from the File menu and navigate to the statistics file you want to import.

   Make sure All files (*.*) is selected in Files of Type pop-up menu.
3. Click Open.

   After you open the file, the Text Import Wizard starts.

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To complete the steps for the Text Import Wizard:

1. Choose Delimited for the Original Data Type and click Next.
2. Choose Comma for Delimiters and click Next.
3. Choose General for Column Data Format.
4. Click Finish.

   The statistics file appears in spreadsheet format.

Spreadsheet Form of Statistics Data File

Figure 4-2 is the same sample file as it appears when you import into a spreadsheet.

Statistics.980824.111304

	A	B	C	D	E	F	G	H	I
1	1	1	Project Name: Flower Show			Statistics as of: Mon Aug 24 11:38:58 1998			
2	2	1	Project created: Tue Aug 18 13:50:00 1998			Last Session Started: Mon Aug 24 11:13:04 1998			
3	117	4							
4	3	4							
5	3	4	Elapsed Time:	---	Total	---	---	Last Session	---
6	3	4		Hours	Minutes	Seconds	Hours	Minutes	Seconds
7	101	2	Time Project Open	124	10	42	0	25	54
8	3	4							
9	102	2	Digitize Tool open	0	0	0	0	0	0
10	104	2	Digitize Tool active	0	0	0	0	0	0
11	116	2	Digitize Tool logging	2	43	18	0	21	47
12	115	2	Digitize Tool digitizing	0	2	42	0	1	11
13	3	4							
14	111	2	Title Tool open	2	39	30	0	3	41
15	113	2	Title Tool active	2	54	18	0	5	47
16	114	2	Title Tool rendering	0	0	0	0	0	0
17	3	4							
18	110	2	Effects rendering	0	22	8	0	3	16
19	3	4							
20	3	4	Disk Space Used:	# Files	m Bytes Used				
21	105	3	Digitized Media	0	0				
22	106	3	Rendered Effects	0	0				
23	3	4							
24	3	4							
25	3	4	* Items marked by asterisk may show less than actual usage						
26									

Statistics.980824.111304

Figure 4-2 Sample Spreadsheet Form

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Displaying Disk Space Statistics

To improve system performance, statistics for disk space (digitized media and rendered effects) are not calculated and are not displayed in the Usage window, unless you issue a Console command.

To display disk space statistics in the Usage window:

1. Choose Console from the Tools menu.
2. In the command entry text box, type:

   `toggleStatSpace`
3. Press Enter.
4. Choose Load Media Database from the File menu.

After the media database is loaded, the Usage window displays the number of files and disk space used for digitized media and rendered effects. To update the display, click the Info button on the Project window. To prevent recalculation, reenter the toggleStatSpace command.

Viewing Memory

To display system memory information:

1. Click the Info button in the Project window.
2. Click the Fast Menu button.
3. Choose Memory from the Fast menu.

   The Memory window opens.

The Memory window displays the following information:

- **Objects:** The total number of memory handles currently used by Media Composer. Objects include memory requirements of the application, such as windows, as well as clips, sequences, and other items associated with a project.

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- **Total physical memory:** The total number of bytes of RAM (random-access memory).
- **Available physical memory:** The amount of RAM available for allocation by Windows NT.
- **Total page file:** The total number of bytes that can be stored in the paging file. The paging file is used as virtual memory by Windows NT.
- **Available page file:** The total number of bytes available in the paging files.
- **Working set (minimum and maximum):** The set of memory pages currently available to the application in RAM.

You can view additional memory information through the Window NT tools Task Manager and Performance Monitor. You can view information about system activities, such as driver messages, through the Windows NT Event Viewer. For information on these tools, see the Windows NT Help.



You can improve the performance on large projects by reducing the number of objects. Close unused bins, eject unneeded media drives, consolidate finished elements, eliminate old material from the project, or break the project up into separate projects. Then quit and restart the Avid application. If performance is still slow, reboot your system.

Accessing the Hardware Tool

To open the Hardware tool from the Info display:

1. Click the Info button in the Project window.
2. Click the Fast Menu button.
3. Choose Hardware from the Fast menu.

   The Hardware tool opens.

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You can also access the Hardware tool by choosing Hardware from the Tools menu. For more information about the Hardware tool, see **"Using the Hardware Tool" on page 138**.

Customizing Your Workspace

A workspace is the arrangement and size of tool windows 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 you can then recall with a workspace button. For example, during digitizing you might want to display the Digitize tool and Video Input tool in specific locations. During effects editing, you might want to display the Effect Palette and Effect Editor in a particular location and size. You can switch between workspaces by using the workspace buttons available on the More tab of the Command palette.

While in a workspace, you can move tool windows or open and close tool windows. The next time you select that workspace, the tool windows appear with either:

- The arrangement from the last time you left the workspace
- The arrangement you set for the workspace, regardless of any changes you made

You can select your preference in the Workspace Settings dialog box. For more information, see **"Creating a New Workspace Setting" on page 119**.

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 by using the workspace buttons. The buttons are

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assigned to the workspaces in the Settings scroll list of the Project window in the order that they appear. For example, the W1 button is assigned to the first workspace that appears in the Settings scroll list; W2 is assigned to the second workspace that appears in the Settings scroll list; and so forth.



You cannot assign certain tool windows to a workspace, such as the Hardware tool, Serial (COM) Ports tool, and Media tool.

Creating a New Workspace Setting

To create a new workspace setting:

1. Click Settings in the Project window.

   The Settings scroll list appears in the Project window.

2. Scroll to the bottom of the Settings scroll list and select Workspace.

   Workspace is highlighted.

3. Choose Duplicate from the Edit menu.

   A new workspace setting appears in the Settings scroll list.



If you are duplicating a previously named workspace setting, a .1 appears at the end of the new name.

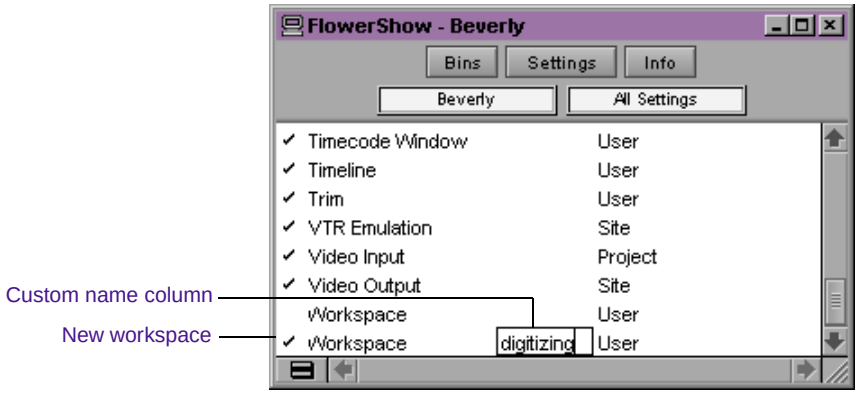
4. Click to the left of the new workspace you want to set.

   A check mark appears next to the workspace.

5. Assign a custom name to the new workspace:

   a. In the column between Workspace and User, click until you see a text cursor and box. Make sure you click the Custom name column and not the Setting name.

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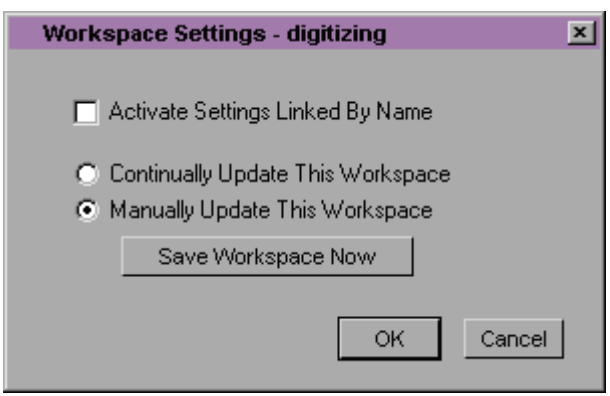
b. Type a name for the new custom workspace; for example, digitizing.

c. Press Enter.

6. Open the windows that you want to associate the workspace with. Resize and move the windows to the location you want them to appear on the monitors.

7. Double-click the custom workspace setting.

   The Workspace Settings dialog box appears.



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8. Select or deselect the following options, depending on your preference for the behavior of the workspace:
    - **Activate Settings Linked By Name:** This setting allows you to link other settings to the workspace. See **"Linking User Settings and Workspaces" on page 121**.
    - **Continually Update This Workspace:** This setting automatically preserves the workspace in its most recent arrangement. Future changes to the arrangement of the tool windows are saved.
    - **Manually Update This Workspace:** This setting saves the workspace in its current arrangement when you click the Save Workspace Now button. Future changes to the arrangement of the tool windows are disregarded.
9. Click OK.

Linking User Settings and Workspaces

User settings can be linked to a workspace. You can create a customized workspace and set up specific options in any Settings dialog box, 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 can also open a customized Timeline (with enlarged audio tracks and rubberbanding displays). You can also link this workspace to a Settings dialog box 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.

To link user settings and a workspace:

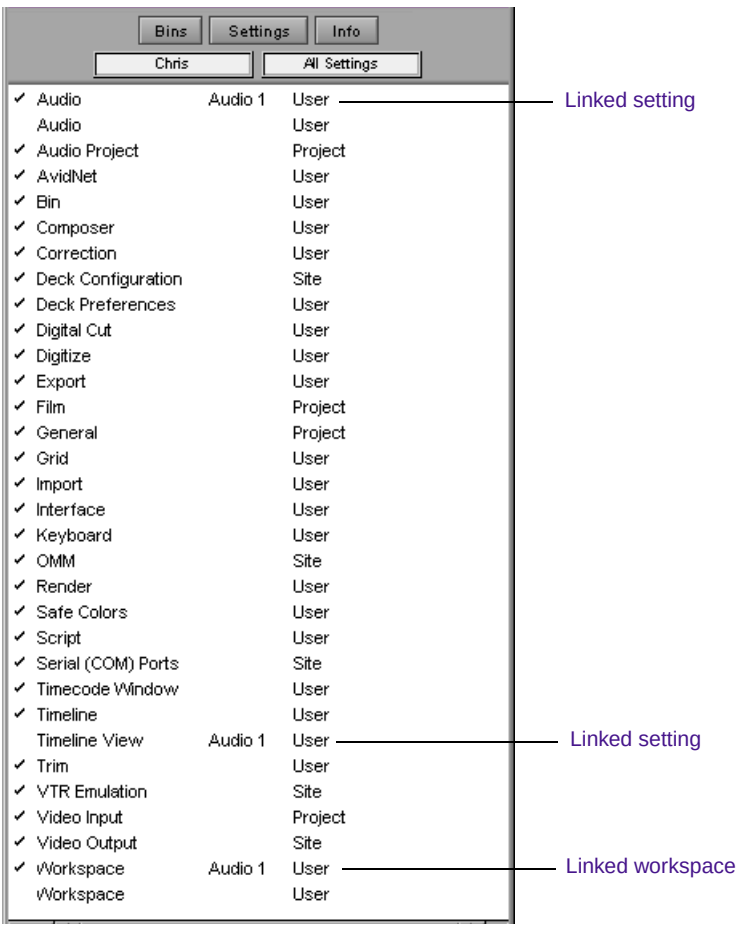
1. Create a new workspace setting. See **"Creating a New Workspace Setting" on page 119**.
2. Give the workspace a custom name.

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3. Click a setting from the Settings scroll list that you want to link to the new workspace. For example, click Timeline view. Adjust the Timeline to what you want displayed (enlarged tracks, audio waveform, and so forth).

For information on naming a Timeline view, see **"Saving a Customized Timeline View" on page 366**.

4. Give this Timeline view setting the same name you gave the workspace in step 2.
5. Double-click another setting; for example, Audio. Select the new options; for example, Performance Scrub, and click OK.
6. Give this setting the same name you gave the workspace in step 2.



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7. Double-click the workspace you just created.

   The Workspace Settings dialog box appears.

8. Click Activate Settings Linked By Name.
9. Click OK.

   All the settings and the new workspace you created are activated.

Switching Between Workspaces

To switch from one workspace to another:

1. Click the Settings button in the Project window.

   The Settings scroll list appears in the Project window.

2. Click to the left of the workspace setting you want to use.

   A check mark appears next to the workspace.

You can also switch between workspaces by using the workspace buttons. To assign workspace buttons, see **“Assigning a Workspace Button” on page 124**.

Deleting a Workspace

To delete a workspace:

1. Select the workspace you want to delete from the Settings scroll list in the Project window.

   The workspace is highlighted.

2. Press the Delete key.

   The selected workspace is removed from the Settings scroll list.



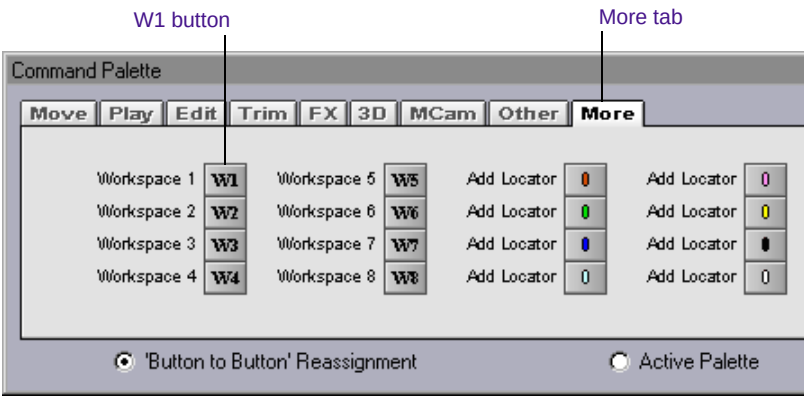
You cannot delete the active workspace.

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Assigning a Workspace Button

To assign a workspace button:

1. If you want to assign a workspace button to a palette (for example, the Tool Palette from the Fast Menu), open the palette.
2. Choose Command Palette from the Tools menu.



3. Click the More tab.
4. Select the Button to Button Reassignment radio button.
5. Click a workspace button (W1 – W8) and drag the button to a location on another palette (for example, the Tool palette) or the keyboard.

   The buttons are assigned to the workspaces in the Settings scroll list of the Project window in the order that they appear. For example, the W1 button is assigned to the first workspace that appears in the Settings scroll list; W2 is assigned to the second workspace that appears in the Settings scroll list; and so forth.

   The workspace button appears in the new location.
6. Click the W1 button to display the first workspace that appears in the Settings scroll list.

   When you open the windows associated with the first workspace, they open in the assigned locations.

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CHAPTER 5

Using Basic Tools

The Tools menu on the Avid Media Composer menu bar provides quick access to a collection of essential tools for use in your projects. This chapter provides information about several basic tools that you can use at any time during your project.

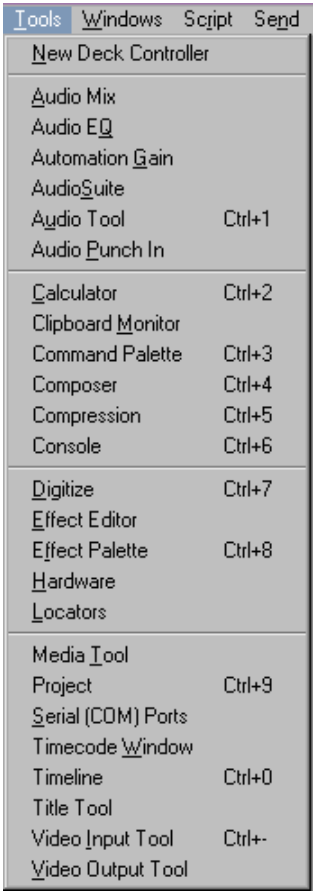
- **Using the Tools Menu**
- **Using the Deck Controller**
- **Using the Command Palette**
- **Using the Avid Calculator**
- **Using the Console**
- **Using the Hardware Tool**
- **Using the Serial (COM) Ports Tool**

Using the Tools Menu

You can open any of the most frequently used system tools from the Tools menu located on the Avid Media Composer menu bar.

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To open a tool, choose its name from the Tools menu.



The Tools menu also allows you to activate or open windows that have been closed or are covered by other windows. These include any open tools, plus the Composer, Timeline, and Project windows.

The following sections describe several basic tools that you can use at any time during a project. For information about each tool listed in the Tools menu, open the window, move the pointer to the window, and press the F1 key.

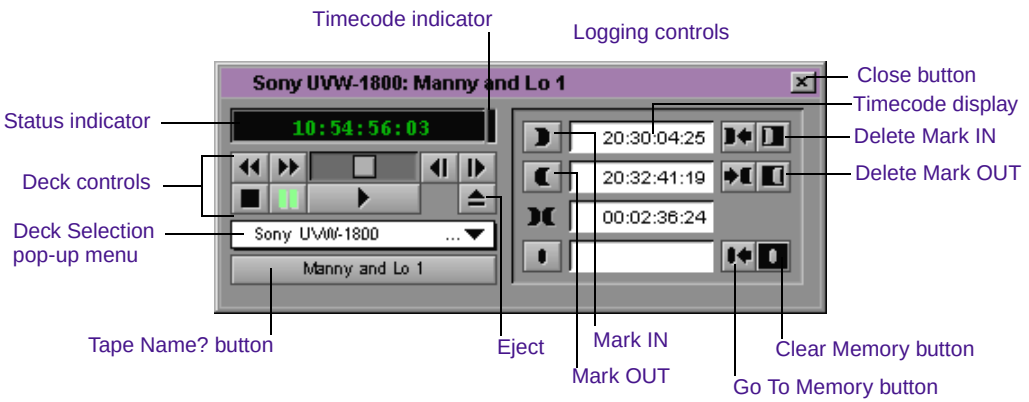
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Using the Deck Controller

The deck controller provides direct serial or VLX*i*® V-LAN® control of an Avid-compatible tape deck at any time during editing. This allows you to cue and screen footage from source tapes in various edit modes or when recording a digital cut, without entering Capture mode.

To open a deck controller, choose New Deck Controller from the Tools menu.

The Avid Deck Manager program is initialized, and a new Deck Controller window opens.



For information on compatible decks and cabling, see the *Avid Composer Products Setup Guide*.

Each deck controller includes the following elements:

- The Status indicator provides information about the control status of the tape deck, as follows:
  - If the deck is properly connected and power is on, the deck controller displays timecode when a tape is mounted.
  - If a deck is not properly connected to the system or power is off when you open the controller, the indicator shows the message “NO DECK.”

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- If you turn the deck power off with the deck controller already open, the indicator shows the message “Power Off.”
- If you switch the deck control to Local on the VTR, the indicator shows the message “Local.”

- The Timecode indicator flashes green during playback or digitizing to indicate that the system is receiving valid timecode from the source tape. If the indicator remains unlit, the system is not receiving timecode.
- The deck controls provide a standard range of playback capabilities, including fast forward and rewind, stop and play, step backward and step forward, pause, and eject.
- The Deck Selection pop-up menu allows you to specify a deck with deck control parameters that you can customize in the Deck Settings dialog box. For more information, see the *Avid Media Composer and Film Composer Input and Output Guide.*
- The deck controller allows you to associate a tape name with the controller by clicking the Tape Name button and selecting a tape in the Selection Tape dialog box. For more information, see the *Avid Media Composer and Film Composer Input and Output Guide.*
- Logging controls allow you to log IN and OUT marks while cueing your tape.

For more information on logging with the Digitize tool, see the *Avid Media Composer and Film Composer Input and Output Guide.*

Marks you set with the deck controller are temporary, and allow you to return to timecode locations entered in the window while screening and cueing a tape. If the Digitize tool is open, however, timecodes logged here also appear in the Digitize tool, and can be entered into an open bin.

Using the Command Palette

The Command palette provides a central location for all *user-selectable buttons* that you can map to various locations for ease of use. User-

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selectable buttons allow you to perform a wide range of commands with a single click of the mouse.

The Command palette organizes buttons by editing function. Tabs are displayed for each editing function and the buttons that perform those functions are displayed within each tab. The functions are: Move, Play, Edit, Trim, FX, 3D, MCam, Other, and More.



When you are working with a 24p project, the Command palette displays the Step Forward 8 Frames button and Step Backward 8 Frames button.

You can use the Command palette to:

- Map buttons to any Tool palette in a pop-up, Source, or Record monitor and reconfigure the keyboard. See **“Mapping User-Selectable Buttons” on page 131**.
- Map menu commands to various buttons and keys. See **“Mapping Menu Commands” on page 133**.
- Directly activate a command. See **“Activating Commands from the Command Palette” on page 135**.

For information about each button on the Command palette, right+click on a button and choose What’s This? from the context menu.

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About Button Mapping

Mapping user-selectable buttons allows you to reconfigure Command palettes or the keyboard in various combinations to suit different editing needs. The following are a few examples:

- **Subcataloging clips:** You can map the Make Subclip button and other clip management buttons.

 Make Subclip  Find Bin  Add Locator

- **Complex layering and effects editing:** You can map buttons such as Motion Effect, Remove Effect, Transition Corner Display, Fade Effect, Render Effect, Cycle Picture/Sound, Add Dissolve, and Grid (which displays Safe Title overlays).

 Motion Effect  Remove Effect  Transition Corner Display

 Fade Effect  Render Effect  Cycle Picture/Sound

 Add Dissolve  Grid

- **Multicamera editing:** You can map the Quad Split and Gang buttons.

 Quad Split  Gang

For more information on multiple settings, see **"Working with Multiple Settings" on page 103**.

When you remap buttons or commands, the system immediately saves your new configuration in one of the default settings that you can open from the Project window. You can also save, rename, and recall multiple versions of any of these settings to serve various purposes.

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The Avid application saves button configurations as follows:

- Changes to the keyboard are saved in the Keyboard setting.
- Changes to the pop-up monitor Command palettes, monitor Command palettes, and Tool palette in the Composer window are saved with the Composer settings.
- Changes to Command palettes in Trim mode are saved with Trim settings.

You can change the appearance of the buttons on the Tool palettes by using the Interface settings from the Settings scroll list in the Project window. You can choose to identify a button's function with only an icon or with an icon and letters.

Mapping User-Selectable Buttons

To remap buttons or keys on the keyboard by using the Command palette:

1. Open a window that has a user-selectable button palette by doing one of the following:
   - Activate the Source or Record monitor in the Composer window.
   - Tear off the Tool palette by clicking a Fast Menu button and dragging the palette.
   - Open a clip in a pop-up monitor.
   - Enter Trim mode in the Composer window.
   - Open the Keyboard palette from the Settings scroll list in the Project window.
2. Choose Command Palette from the Tools menu.

   The Command palette appears.

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3. Select Button to Button Reassignment at the bottom of the Command palette.



4. Select the tab from which you want to choose a user-selectable button.
5. Drag the button from the Command palette to a button location on the other palette.

Using the Blank Button



The Blank button allows you to replace a defined button with an undefined button. If you do not need or use a specific button within the Source or Record monitor, a pop-up monitor, or Tool palette, you can replace these buttons with a blank button.

To map the Blank button to a new location, see **“Mapping User-Selectable Buttons” on page 131**.

Using the Add Alt Key Button



The Add Alt key button adds the Alt key modifier to the function already associated with a button. Drag this button onto another button to add the Alt key modifier to the function already on the button.

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For example, if you drag the Add Alt key button onto the Mark IN button, the function of the Mark IN button changes to Go to IN Point. For a list of other functions that the Add Alt key can modify, see the *Avid Media Composer and Film Composer Quick Reference.*

After you modify a button with the Add Alt key button, you can use the default function of the button by pressing the Alt key and clicking the button.

Mapping Menu Commands

You can map menu commands displayed in the pull-down menus on the Media Composer menu bar directly onto buttons in any of the Command palettes or onto the keyboard. This is especially useful if you frequently use the keyboard or Command palettes during editing. In some cases, you can avoid using the menus altogether.

Before you can map some commands, you must first establish the condition that enables the command. For example, before you can map the Render In/Out command from the Clip menu, you must first place IN and OUT marks in the Timeline so that the menu command appears.

To map menu commands:

1. Open a window that has user-selectable buttons by doing one of the following:
   - Activate a monitor in the Composer window.
   - Tear off the Tool palette by clicking a Fast Menu button and dragging the palette.



   - Open a clip in a pop-up monitor.

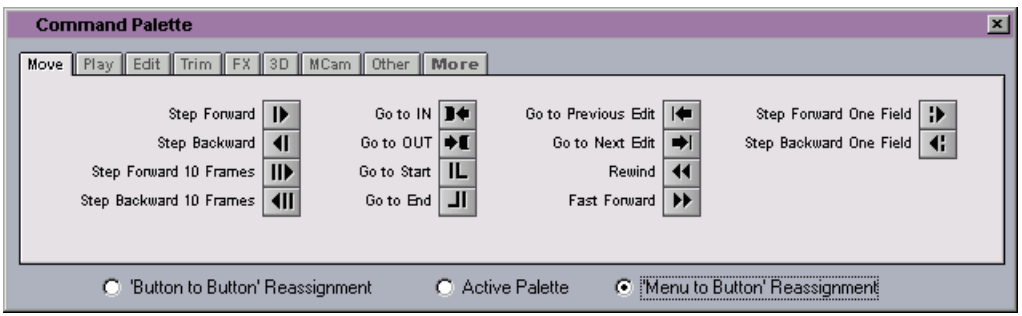
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- Enter Trim mode in the Composer window.
- Open the Keyboard palette from the Settings scroll list in the Project window.

2. Choose Command Palette from the Tools menu.

   The Command palette appears.

3. Select Menu to Button Reassignment at the bottom of the Command palette.



When you are working with a 24p project, the Command palette displays the Step Forward 8 Frames button and Step Backward 8 Frames button.

4. Click a target button on the Keyboard palette or other palette (for example, the Command palette under a monitor).

   The pointer changes to a small white menu.

5. Click a menu and choose the menu command you want to map to the target button.

   The initials for the menu command appear on the target button.



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Activating Commands from the Command Palette

You can perform a command function directly from the Command palette; for example, click the Play button in the Command palette to play the material in the Source window.

To activate a command from the Command palette:

1. Choose Command Palette from the Tools menu.

   The Command palette appears.

2. Select Active Palette at the bottom of the Command palette.
3. Select the tab from which you want to choose a command function.
4. Click the Command button in the Command palette for the function you want to perform.

Using the Avid Calculator

The Avid Calculator helps you calculate video and film durations and convert timecode and film key numbers to different formats.

For example, you can:

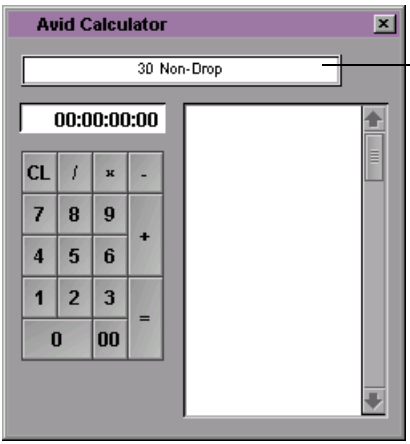
- Convert drop-frame to non-drop-frame timecode values
- Convert timecode durations between 30-fps and 25-fps projects
- Convert a duration in video to the corresponding length in footage and frames for measuring 35mm film

To use the Avid Calculator:

1. Choose Calculator from the Tools menu.

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The Avid Calculator opens.



2. Choose a format from the Format pop-up menu.
3. Make calculations in the selected format. Click numbers and functions in the Avid Calculator, or enter numbers and functions with the numeric keypad or the top row of numbers on the keyboard.

   You do not need to enter leading zeroes, colons, or semicolons for timecode.
4. To convert your totals at any time to another format, choose a different frame code or key number format from the pop-up menu.

Using the Console

The Console window provides a number of features, including:

- Current system information, including your system ID number
- A log of error messages
- Detailed information about sequence segments in the Timeline or about objects in a bin
- Information after you digitize or import

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Do not use the programming features of the Console without guidance from Avid professionals. Contact your local Avid Reseller (in North America, you may contact Avid Customer Support).

Displaying System Information

To display current system information:

1. Choose Console from the Tools menu to open the Console window.
2. Scroll to the top of the Console window to view your system information and ID. This feature is especially useful for finding the system ID before you contact your Avid Reseller or Avid Customer Support.

Reviewing a Log of Errors

To review errors logged to the console:

1. When an error occurs, close the message box and choose Console from the Tools menu.
2. Scroll through the Console window to find a log of the error to use when contacting your Avid Reseller or Avid Customer Support.

Getting Information with the Console

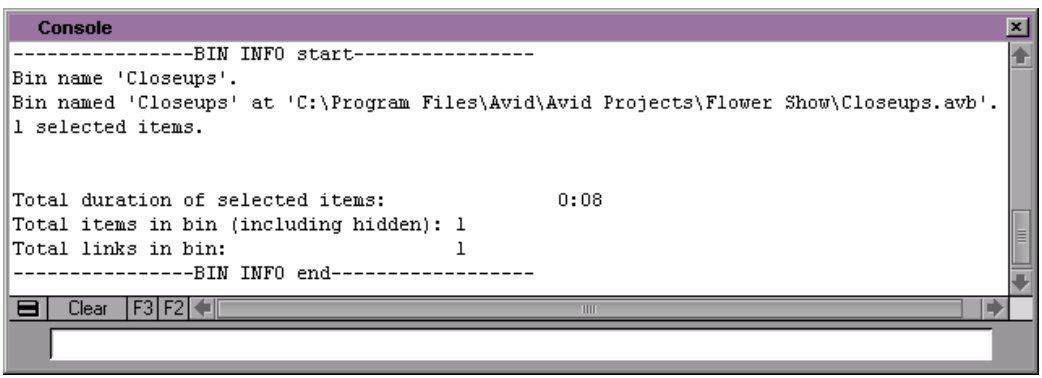
This function provides quick access to bin information such as total duration of selected clips, or total items in a bin including hidden items. You can also use this procedure to display information about a shot, segment, or sequence in the Timeline.

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To get information with the Console window:

1. Choose Console from the Tools menu.
2. Select the item about which you want information, for example:
   - In the Timeline, place the position indicator in the chosen shot or segment.
   - In the bin, select an object or Ctrl+click multiple objects.
3. Choose Get Bin Info or Get Position Info from the File menu.

   Information about the shot appears in the Console window.



Using the Hardware Tool

The Hardware tool provides the following information about the system's hardware configuration:

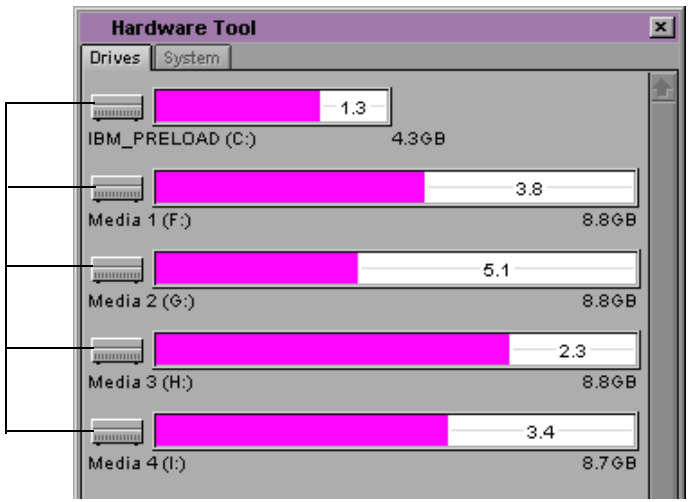
- The Disks tab lists each online drive. The shaded portion of the bar next to each drive shows the total size of the drive and the amount of storage space currently filled.
- The System tab lists the operating system, its version and build, and the physical memory.

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To check the hardware configuration of your Avid system, do one of the following:

- Choose Hardware from the Tools menu.
- Click the Info button in the Project window and choose Hardware from the Project window Fast menu.

The Hardware tool opens.



- Each online drive is listed on the left side of the tool. The name of each drive and its total size are listed below each Drive icon. The shaded portion of the bar graph to the right of each drive shows the amount of storage space currently filled. The number in the bar graph indicates the amount of available drive storage space for each drive.
- The name of the operating system, version number, service pack, and build number appear on the System tab. The total physical memory is also listed in the same location.

For information about the boards included in your Avid system, use the Avid System Test Pro diagnostic utility.

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To start the Avid System Test Pro diagnostic utility:

1. Click the Start button and then point to Programs. Point to Avid, point to Utilities, and then click Avid System Test Pro.
2. Click OK in the opening dialog box.
3. Choose Board Info from the Window menu.

Using the Serial (COM) Ports Tool

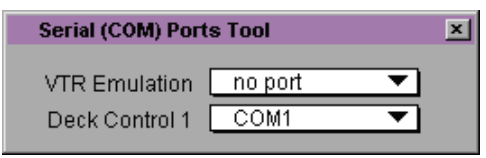
The Serial (COM) Ports tool allows you to view the current configuration of the serial interface at any time during editing. You can also use it to reconfigure the ports without closing the Avid application or shutting down the computer.

Although you can use the Serial (COM) Ports tool to reassign ports, you still need to reconnect the appropriate cables to the newly assigned ports.

To access the Serial (COM) Ports tool:

1. Choose Serial (COM) Ports from the Tools menu.

   The Serial (COM) Ports tool opens.



2. Assign ports for deck control and other devices, as necessary, by choosing a port or no port from any of the pop-up menus.
3. Close the Serial (COM) Ports tool.

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CHAPTER 6

Organizing with Bins

The Avid system provides powerful database tools for organizing and managing your digitized material. You can view bins in three different display views. You can rename, sort, sift, duplicate, and delete clips and sequences. You can also print single-clip frames or whole bins. A worksheet at the end of this chapter provides guidelines for using these techniques to create and print storyboards for your project. These topics are covered in the following sections:

- **Before You Begin**
- **About Bin Display Views**
- **Basic Bin Procedures**
- **Using Text View**
- **Using Frame View**
- **Using Script View**
- **Printing Bins**
- **Gathering Format Elements**
- **Storyboard Worksheet**

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Before You Begin

There are several procedures you might want to perform before organizing your project because they affect the display of information in bins or the way the clips play back during screening:

- If you would like to customize the types of objects (clips, subclips, and so on) displayed in a bin, see **“Setting the Bin Display” on page 142**.
- If you need to group or multigroup material, see **“Grouping and Multigrouping Clips” on page 550**.
- If you would like to center the pan between the left and right speakers for some or all of the clips in a bin, see **“Using the Center Pan Command” on page 146**.
- If you digitized some of your video and audio clips separately, and need to synchronize them for editing, see **“Autosyncing Clips” on page 530**.
- When working with a 24p project, if you sync audio and video clips and find that the audio needs to be slipped slightly at the perforation level to achieve true sync, see **“Resyncing Subframe Audio” on page 534**. (35mm project type only)
- If you digitized clips by using LTC (longitudinal timecode) recorded on an audio track, and would like to instruct the system to address this timecode during editing, see **“Using Audio Timecode” on page 146**.

Setting the Bin Display

By default, your bins display all existing media objects except source clips and rendered effects. To reduce crowding in the bin and to display only those objects that you need to organize your project, you can display selected media objects.

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You can use the Set Bin Display option to display clips referenced by a sequence, even if the clips were not previously in the bin. Place a sequence in a new bin and follow this procedure.

To set the bin display:

1. Choose Set Bin Display from the Bin menu.

   The Display Bin Selection dialog box appears.

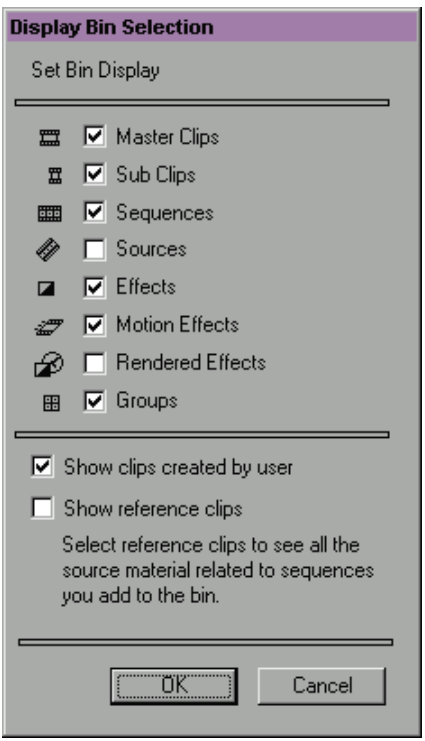


   Table 6-1 on page 144 describes the icons listed in the Display Bin Selection dialog box.

2. Select the object types that you want to see: master clips, subclips, sequences, and so on.

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3. The option “Show clips created by user” is selected by default. Deselect this option only if you want to hide all objects except those created by the system.
4. Select the option “Show reference clips” to automatically display objects that are referenced by sequences in the bin, whether those clips were previously in the bin or not.
5. Click OK. The bin displays objects according to your specifications.

Table 6-1 Object Icon Descriptions

Object Icon	Object Description
 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, that you create from other clips.
 Source Clip	A clip that references the original videotape source footage for master clips.
 Effect	A clip that references an unrendered effect that you create.
 Motion Effect	A file in the bin that references effect media files generated when you create motion effects.
 Rendered Effect	A clip that references an effect media file generated when you render an effect.
 Group Clip	(For multicamera editing) A clip containing two or more grouped clips, strung together sequentially according to common timecodes.

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Adjusting Pan Defaults

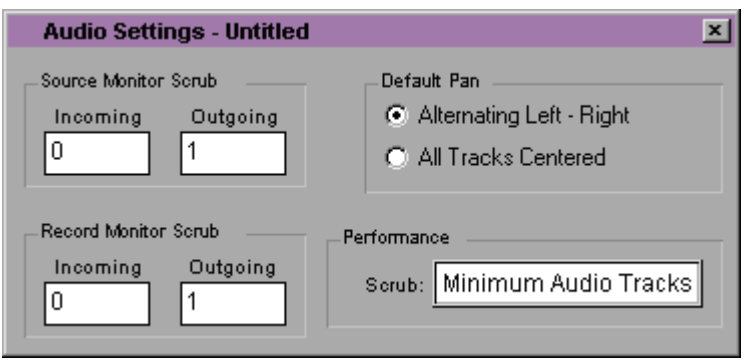
For information on using the Audio Mix tool to adjust pan for individual clips in a sequence, see **"Using the Audio Mix Tool" on page 460**.

The way your footage was recorded in the field and digitized in the Avid system will affect the way sound pans between the speakers. By default, the system pans audio tracks 1 and 3 to the left speaker output and pans tracks 2 and 4 to the right speaker output.

You can set global pan settings before or during editing by using the Audio Settings dialog box and the Center Pan command, as described in this section.

Adjusting Default Pan Settings

The Audio Settings dialog box provides options for adjusting the default audio pan when editing with new clips, and digital audio scrub parameters for monitoring and analyzing audio tracks and transitions.



By default, the audio tracks for clips alternate with track 1 on the left and track 2 on the right speaker for monitoring and output. The All Tracks Centered option instructs the system to center the pan of all tracks between the two speakers for monitoring and output.

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Using the Center Pan Command

You can use the Center Pan command on source material in bins. Use it prior to editing or at any time during the editing process.

Instead of adjusting pan on individual clips by using the Audio Mix tool, Center Pan allows you to create a standard distribution of audio between left and right speakers. You can adjust the pan on selected clips or all clips with a single command. This is especially useful when you have clips with field audio recorded (and subsequently digitized) variably between A1 and A2. Panning all of the audio to center eliminates the distraction of having to listen to left and right speakers, in turn. It also smooths the playback of the edited sequence because all shots are panned to center.

To adjust the pan on clips:

1. In a bin, select the clips you want to pan to the center.
2. Choose Center Pan from the Clip menu.

   A dialog box appears and asks you to confirm the pan.
3. Click OK. The system pans all of the selected clips to the center.

Using Audio Timecode

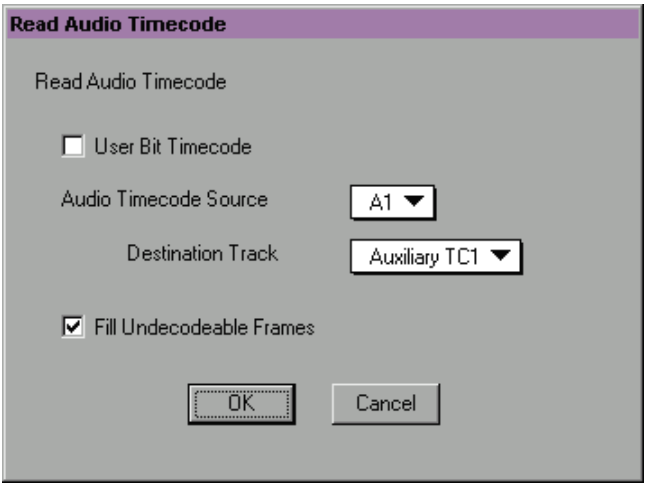
The Avid system can read audio timecode (LTC or longitudinal timecode recorded on an audio track). If you captured the LTC as an audio track during the digitizing process, use the Read Audio Timecode command. This instructs the system to access this track for timecode information to be displayed in the bins and used in editing.

To use timecode on an audio track:

1. In the bin, select the appropriate clips, and then choose Read Audio Timecode from the Special menu.

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The Read Audio Timecode dialog box appears.



2. To read timecode stored in the user bits of the LTC, select User Bit Timecode. If this option is not selected, the system reads the LTC timecode.

Information contained in the user bits of the LTC must be timecode only. Other data stored in the user bits will not appear in the Avid application.

3. Choose the audio track containing the timecode from the Audio Timecode Source pop-up menu. A1 is the default.
4. Choose the target auxiliary timecode bin column for recording the audio timecode from the Destination Track pop-up menu. Auxiliary TC1 is the default selection.
5. Select Fill Undecodeable Frames to instruct the system to fill in any timecode breaks with continuing timecode. This is the default.

   For example, in a 3-minute master clip, the audio timecode starts at 1:00:20:20. At 1:00:22:10, the timecode ends. With the Fill Undecodable Frames option selected, the system assigns 1:00:22:11 to the next frame and continues assigning timecode.

   Do not select this option if you do not want to fill timecode breaks.

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6. Click OK to complete the procedure. The timecode appears in the bin in the auxiliary timecode column that you chose.

Film Scene Workflow

During the organizing phase, common practice on film productions is to organize the digitized clips according to scene. This helps to simplify the work environment for the editor, and keeps crowded bins to a minimum.

Use the various procedures described in this chapter to organize scene bins according to the following basic workflow:

1. Create one bin for each scene by using the procedures described in **"Creating a New Bin" on page 78**.
2. Gather clips according to scene using one of the following optional procedures:
   - Copy clips for each scene from the digitize bins into the appropriate scene bin, using procedures described in **"Copying Clips and Sequences" on page 155**.
   - Duplicate the clips and then move the duplicates into the appropriate scene bin, using procedures described in **"Duplicating Clips and Sequences" on page 154**.
3. Proceed to sort, sift, and organize the clips within each scene bin, according to the editor's preferences.

It is best to copy or duplicate clips as you reorganize them in bins, so that all the original source clips will remain in the appropriate dailies bin if you ever need to redigitize according to source tape.

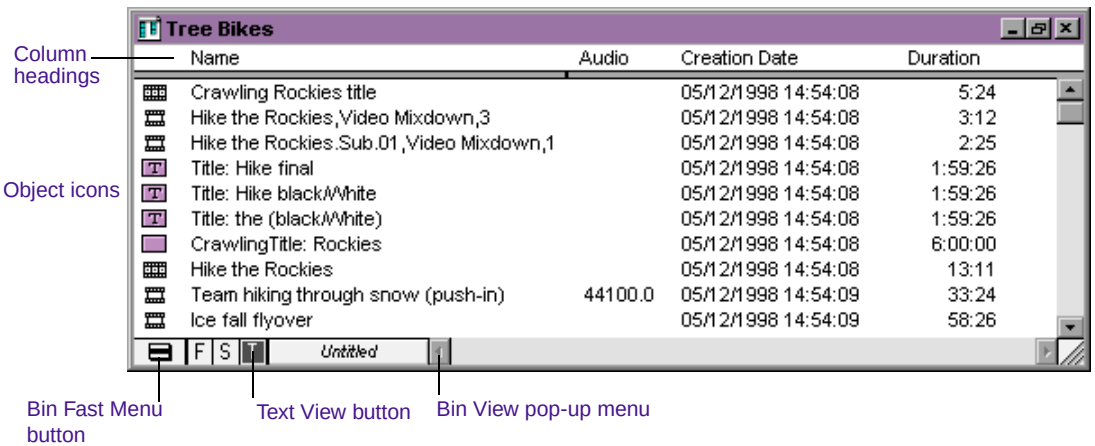
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About Bin Display Views

There are three display views for viewing and working with clips in a bin: Text view, Frame view, and Script view:

For information on Text view features, see **"Using Text View" on page 169**.

- In *Text view*, clips are displayed in a database text format, using columns and rows, with icons representing the various objects. You can save various arrangements of columns, text, and objects as customized *views*.

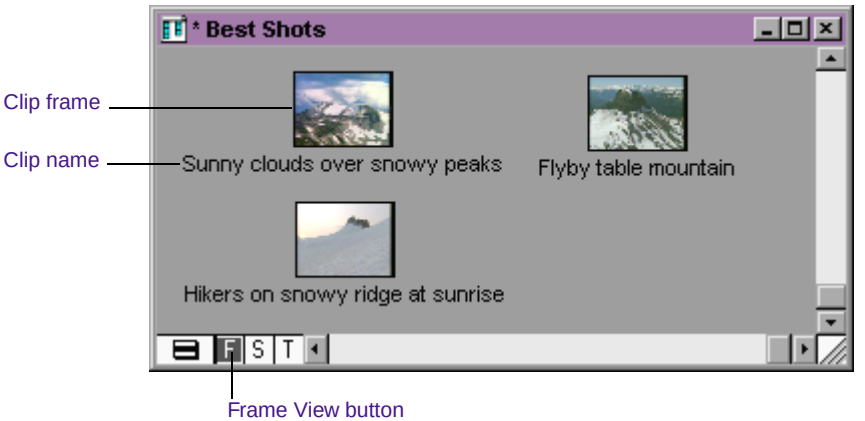


To enter Text view, click the Text View button (labeled T) in the lower left portion of the bin.

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For information on Frame view features, see **"Using Frame View" on page 190**.

- 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, and change the size of frames. You can also rearrange the frames in any order within the bin.

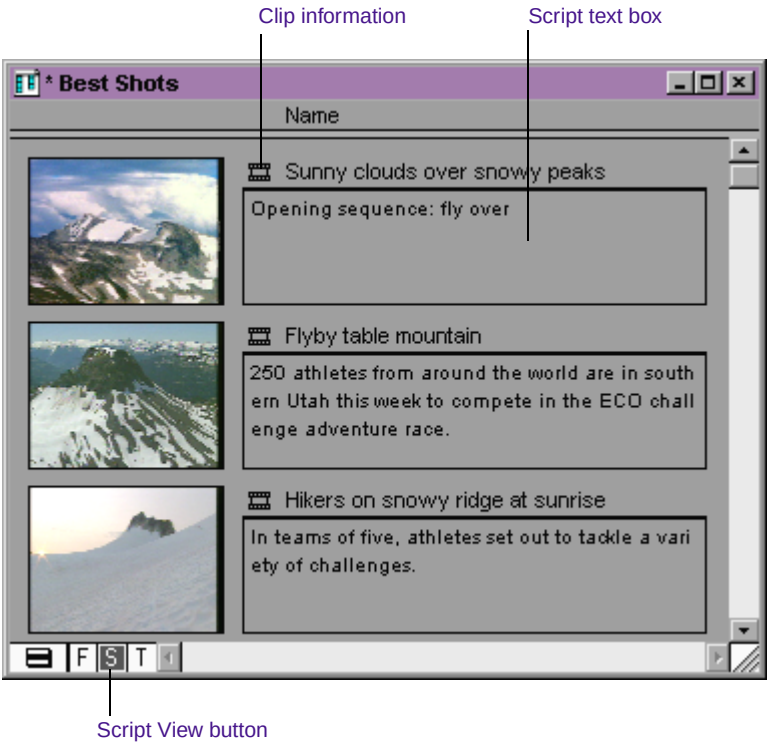


To enter Frame view, click the Frame view button (labeled F) in the lower left portion of the bin.

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For information on Script view features, see **"Using Script View" on page 194**.

- In *Script view*, the 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 script text box to the right of each clip. Clip information is displayed above the text box.



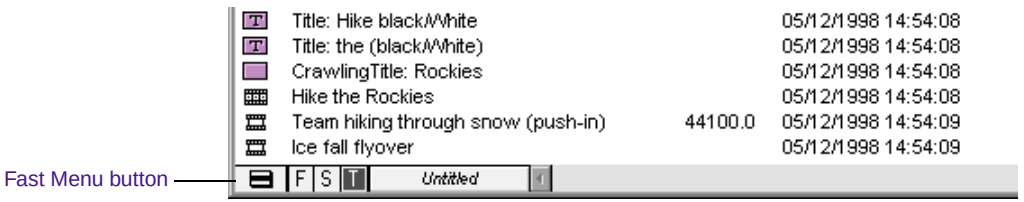
To enter Script view, click the Script View button (labeled S) in the lower left portion of the bin.

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Bin Fast Menu

All Bin menu commands are also available in the Bin Fast menu located in the lower left corner of every bin.

To open the Bin Fast menu, click the Fast Menu button in any of the three bin display views.



The Bin Fast menu is especially convenient when you are working with several open bins and need to access Bin menu commands quickly.

Basic Bin Procedures

There are some basic procedures that you can use in any of the three bin display views for manipulating clips in the bin. These include selecting, deleting, duplicating, moving, copying, and sifting clips and sequences.

When you are working with bins, an asterisk appears before the bin name in the bin's title bar. This asterisk indicates that the changes to the bin have not been saved. Once you save the bin, the asterisk is removed.

To view a complete list of the bins in your project, see ***"Using the Bins Display" on page 76****.*

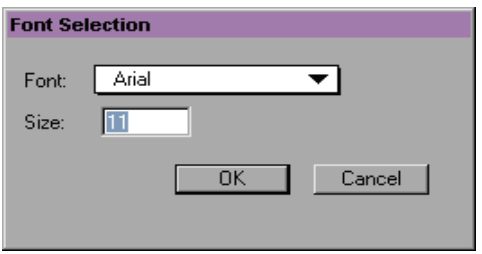
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Setting the Bin Font

To change the bin font:

1. Choose Set Font from the Edit menu.

   The Font Selection dialog box appears.



2. Choose a font from the Font pop-up menu.

Any font loaded on the Avid system appears in the list. For information on adding fonts to your system, see your Windows NT documentation.

3. Type another point size for the font in the Size text box.
4. Click OK. The new font appears in all bin display views.

Selecting Clips and Sequences

Use one of the following procedures to select clips in a bin:

- Click the clip or sequence icon (Text view), or click the picture area of the clip or sequence (Frame view).
- Select multiple clips or sequences by doing one of the following:
  - Ctrl+click additional items. (Text view)
  - Shift+click the first and last items. (Text view)
  - Shift+click additional items. (Frame view)
  - Lasso several clips.

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To reverse your selection, choose Reverse Selection from the Bin menu. The clips that you previously selected are deselected and those clips that were previously deselected are selected.

Duplicating Clips and Sequences

When you duplicate a clip or sequence, the system creates a separate clip linked to the same media files. You can move, rename, and manipulate this clip without affecting the original clip.

To duplicate a clip or sequence:

1. Select the clip or sequence that you want to duplicate, or select multiple clips.
2. Choose Duplicate from the Edit menu.

   A copy of the clip or sequence appears in the bin, with the original clip or sequence name followed by the file name extension .Copy.*n*, where *n* is the number of duplicates created from the original clip or sequence.



Deleting media files for the duplicate clip or sequence also deletes the media files for the original clip or sequence.

Moving Clips and Sequences

You can move clips and sequences to other bins to group and organize various types of material based on project needs.

To move clips or sequences from one bin into another:

1. Create or open another bin. Give the bin a name that represents its purpose or contents.
2. Position the bins so that you can see both of them at the same time. You might need to resize the bins to do this.

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3. Select the clip or sequence that you want to move, or select multiple clips.
4. Drag the clips to the new bin.



If the destination bin's display has been set to show reference clips, the referenced object types do not appear until you save the bin. For more information on setting the bin display, see ***"Setting the Bin Display" on page 142***.

Copying Clips and Sequences

When you copy clips or sequences, you are essentially cloning the same clip or sequence in another bin. Any change you make to the copy will affect the original as well. The system does not add the .Copy file name extension to the clip or sequence as it does when duplicating. You cannot copy clips to the same bin, and you cannot return a clip copy to the same bin where the original resides.

To copy clips or sequences from one bin into another bin:

1. Position the bins so that you can see both of them at the same time. You might need to resize the bins to do this.
2. In the original bin, click the clip or sequence that you want to copy, or select multiple clips or sequences.
3. While pressing the Alt key, drag the clips to the destination bin and release.

The clips appear in the destination bin and the originals remain in the source bin. If the destination bin's display has been set to show reference clips, the referenced object types do not appear until you have saved the bin.

When you copy clips from one bin to another, the custom columns that you created in the first bin are also copied to the second bin. The custom columns appear in the order in which you created them.

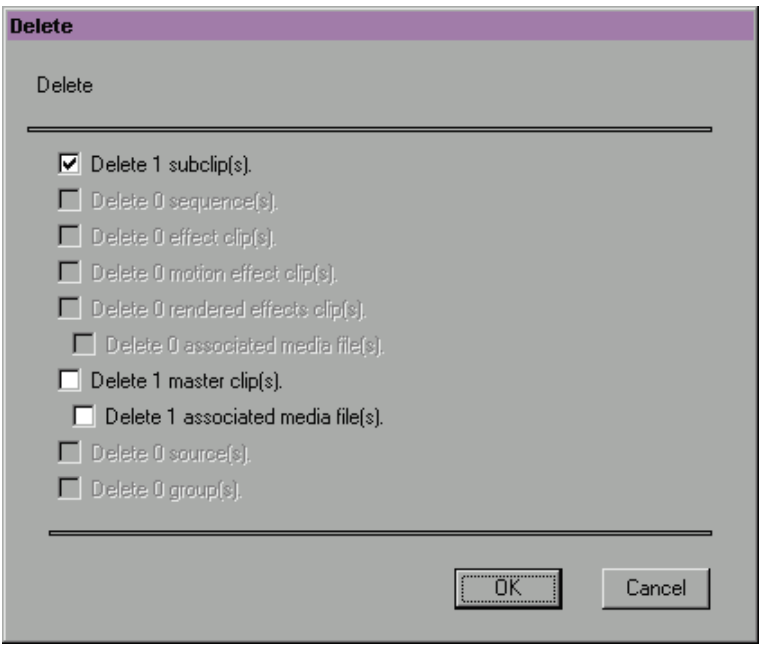
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Deleting Clips and Sequences

To delete clips or sequences from a bin:

1. Select the clips and sequences that you want to delete.
2. Choose Delete from the Edit menu or press the Delete key on the keyboard.

   The Delete dialog box displays information about the selected items.



In this example, one subclip and one master clip (along with their media files) are highlighted for deletion.

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3. Select the items highlighted for deletion.
4. (Option) Delete the associated media files for master clips and effect clips. You can select clips and media files for deletion, or you can select only the media files if you want to retain the clips for later redigitizing.
5. Click OK.

   A dialog box asks you to confirm the deletion.
6. Click Delete.

Assigning Colors to Bin Objects

You can assign colors to clips, subclips, sequences, and effect clips to help you manage and organize the bin objects. Colors assigned to bin objects are referred to as source colors. You can display source colors in bins and in the Timeline. For information on displaying source colors in the Timeline, see **"Displaying Local and Source Colors in the Timeline" on page 364**.



Clip colors assigned to sequences, groups, motion effects, and title clips do not appear in the Timeline.

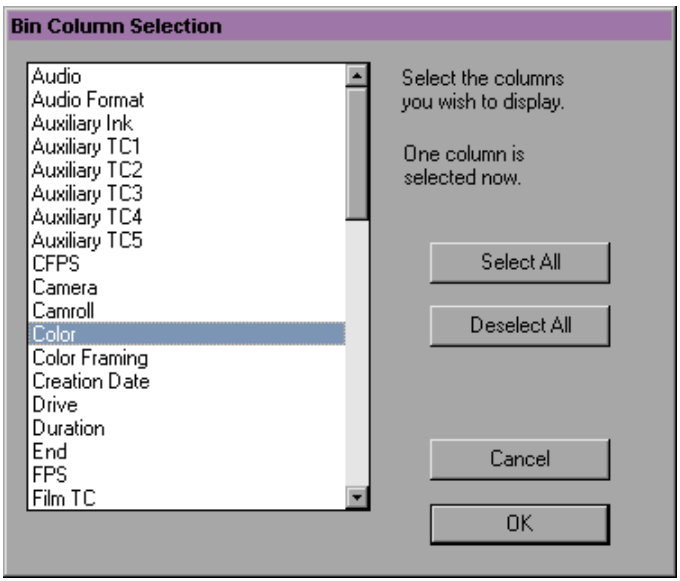
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Adding a Color Column to a Bin

To add a Color column to a bin:

1. With a bin in Text view, choose Headings from the Bin menu.

   A Bin Column Selection dialog box appears.



2. Ctrl+click Color from the scroll list to select it.
3. Click OK.

   The Color column appears in the bin.

By default, a new column appears as the last column in the bin. To move the Color column, select the Color column heading and drag it to the left.

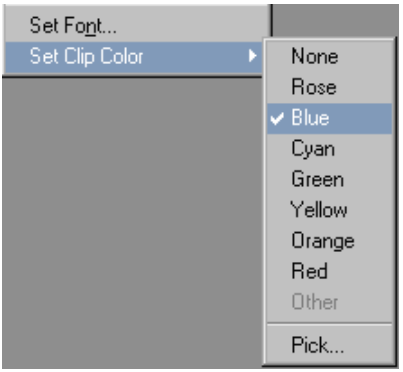
Assigning a Source Color

To assign a color to a clip, subclip, sequence, or effect clip in a bin:

1. With a bin in Text view, select the bin objects that you want to assign a color to.

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2. Choose Set Clip Color from the Edit menu and choose a color from the submenu.



The color appears in the Color column and on the clip icon.

You can also assign a color by clicking in the Color column and choosing a color from the pop-up menu.

Assigning a Custom Source Color

To assign a custom color to a clip, subclip, sequence, or effect clip in a bin:

1. With a bin in Text view, select the bin objects that you want to assign a color to.
2. Choose Set Clip Color from the Edit menu and choose Pick from the submenu.

   The Color dialog box appears.
3. Select a color from the Color dialog box and click OK.

   The custom color appears in the Color column and on the clip icon.

After you assign a custom color, the color appears as Other in the Set Clip Color submenu.

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Limiting Color Choices

When assigning colors to bin objects, you can limit the color choices to only the colors currently used in the bin.

To limit the colors available when assigning colors to bin objects:

1. With a bin in Text view, select the bin objects that you want to assign a color to.
2. Alt+click in the Color column in the bin.

   A menu of all the colors you are using in the bin appears. Any custom colors you assigned are labeled Other.
3. Choose one of the colors.

   The color appears in the Color column and on the clip icon.

Sifting Clips and Sequences

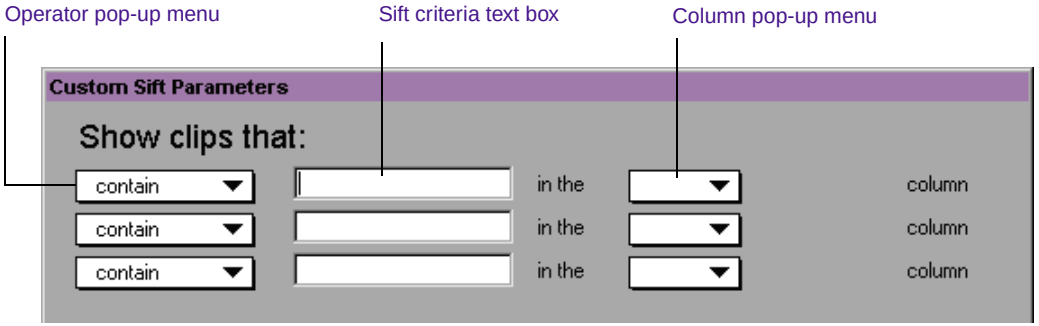
When you sift clips and sequences, the bin displays only those clips and sequences that meet a specific set of criteria. For example, you can do a custom sift to display only those clips containing the word “close-up” in the heading column. The Custom Sift Parameters dialog box provides six different levels of criteria.

To sift clips and sequences:

1. Choose Custom Sift from the Bin menu.

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The Custom Sift Parameters dialog box appears.



2. Click the Operator pop-up menu and choose one of the sifting options.
3. Click the first Sift criteria text box and type the text that you want to use as a sift criterion. When sifting by color, type the *exact* name of the color (using uppercase and lowercase letters) in the text box.
4. Click the Column pop-up menu and choose a column heading to which you want to apply the criterion.
5. Type additional sift criteria, and make additional column selections, as necessary.
6. Click OK.

   Only the clips that meet your criteria remain in the bin, with the word “sifted” added to the bin name.

After you have sifted the clips in a bin, you can display the bin in a sifted or an unsifted state.

- To view the entire bin, choose Show Unsifted from the Bin menu.
- To view the sifted bin, choose Show Sifted from the Bin menu.

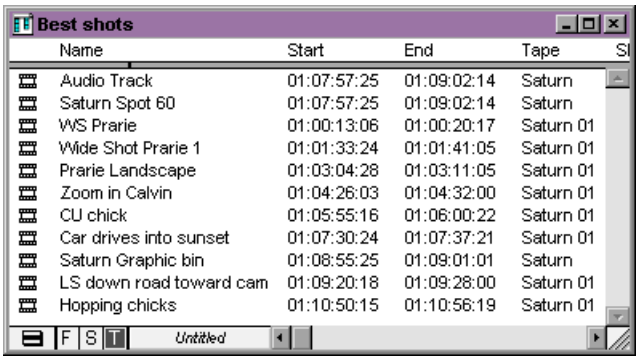
The word “sifted” after the bin name appears or disappears to indicate the current state of the bin you are viewing.

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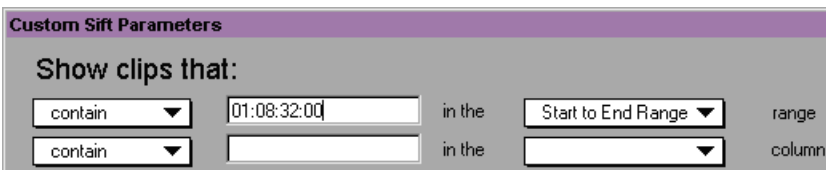
Sifting Timecodes or Keycode Ranges

You can sift on a timecode (or keycode) number within a specific range. For example, you can sift for all the clips that start before and end after a particular timecode.

Before custom sift

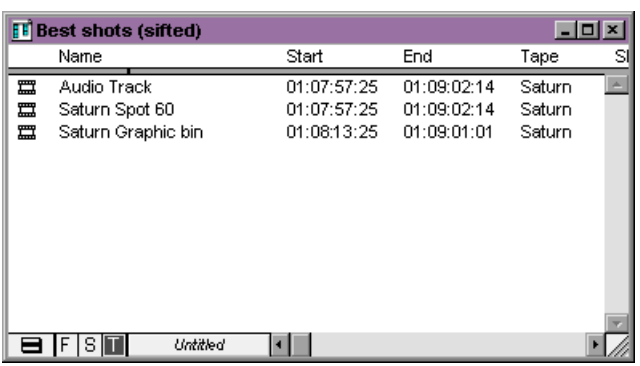


Enter 01:08:32:00 in the Sift criteria text box in the Custom Sift Parameters dialog box, and choose Start to End Range.



After custom sift

The clips that encompass the timecode number 01:08:32:00



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Some column pairs explicitly define a range, for example, Start and End or Mark IN and Mark OUT. Other columns define the beginning of a range, and the end of the range is determined by the Duration column. For example, Auxiliary TC1 implies a range that begins at the value in the Auxiliary TC1 column, and ends at that value plus the value in the Duration column.

If you display any column in the bin that is associated with ranges, either explicit or implicit, the corresponding range menu item appears in the Column pop-up menu of the Custom Sift Parameters dialog box. For example, if you choose to display the Start column and the Auxiliary TC1 column in the bin, the Start to End Range and Auxiliary TC1 Range menu choices will appear in the Column pop-up menu.

When specifying a timecode or keycode number, you do not need to enter colons or semicolons, and the leading zero may be omitted. For example, you can enter 3172000 as a timecode number.

Keycodes contain letters, numbers, and a dash before the feet and frames; for example, KJ23 -0345+13. When sifting on a keycode number, you only have to enter the numbers after the dash (the actual counter portion). Any information before the dash is ignored. If you do enter characters before the dash, they must match the corresponding characters in the bin column exactly.

Table 6-2 lists all columns associated with explicit ranges and their corresponding menu choices:

Table 6-2 Range Menu Items for Explicit Ranges

Bin Column (Explicit Ranges)	Column Pop-up Menu Item
Start, End	Start to End Range
Mark In, Mark Out	Mark In to Out Range
KN Start, KN End	KN Start to End Range
KN Mark In, KN Mark Out	KN Mark In to Out Range

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Table 6-3 lists all columns associated with implicit ranges and their corresponding menu choices. The Duration column determines the end of these ranges.

Table 6-3 Range Menu Items for Implicit Ranges

Bin Column (Implicit Ranges)	Column Pop-up Menu Item
Film TC	Film TC Range
Sound TC	Sound TC Range
Auxiliary TC1	Auxiliary TC1 Range
Auxiliary TC2	Auxiliary TC2 Range
Auxiliary TC3	Auxiliary TC3 Range
Auxiliary TC4	Auxiliary TC4 Range
Auxiliary TC5	Auxiliary TC5 Range
Ink Number	Ink Number Range
Auxiliary Ink	Auxiliary Ink Range

Sifting Within a Range

To sift for a timecode or keycode number within a specific range:

1. Choose Custom Sift from the Bin menu.

   The Custom Sift Parameters dialog box appears.

2. Type the timecode (or keycode) number for which you want to sift in a range.

3. Choose a range from the Column pop-up menu; for example, Start to End Range or Mark In to Out Range.

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The criterion “contain” is displayed in the Operator pop-up menu. If you try to change this criterion, a blank will be displayed in the column menu.

4. Click OK.

   The bin will display those clips that encompass the timecode (or keycode) number that you entered.

Locking Items in the Bin

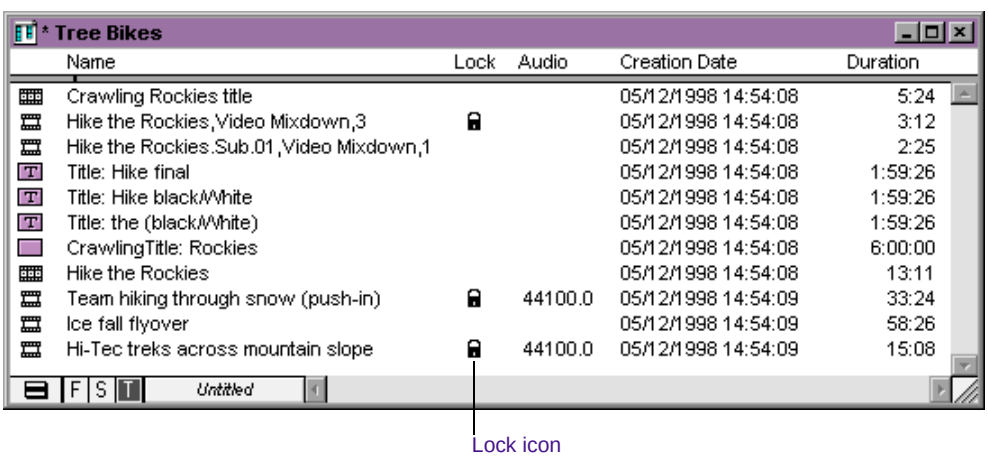
You can lock any item in the bin — including source clips, master clips, subclips, and sequences — to prevent deletion. When you lock clips in the bin, you lock their associated media files on your desktop as well.

To lock items:

1. Click a clip, subclip, or sequence to select it. Ctrl+click additional clips if necessary.
2. Choose Lock Bin Selection from the Clip menu.

   A Lock icon appears for each locked clip in the Lock column of the bin in Text view.

For more information on displaying columns, see **“Showing and Hiding Columns” on page 171**.



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To unlock previously locked items:

1. Select the items in the bin.
2. Choose Unlock Bin Selection from the Clip menu.



You can use the clip-locking feature along with archiving software to automatically archive all locked media files. For more information on archiving locked files, see your archiving software's documentation.

Selecting Offline Items in a Bin

Offline items are clips, subclips, or sequences that are missing some or all of their original media files or have never been digitized.

To identify offline items, choose Select Offline Items from the Bin menu.

The bin highlights all items that are missing media files.



To identify offline items in the Timeline, see ***"Highlighting Offline Media Clips" on page 365***.

Selecting Media Relatives for an Object

When you identify the *media relatives* of a selected clip or sequence, the system highlights all other clips linked to the selected clip, such as subclips or other sequences.

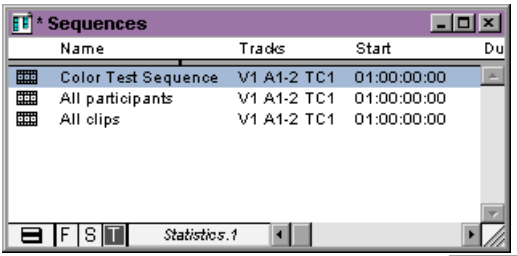
To identify media relatives:

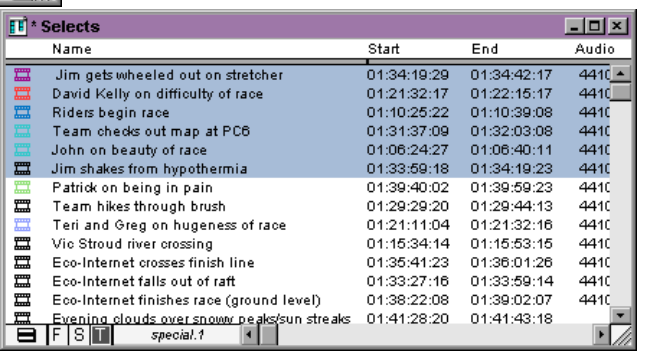
1. Open the bin that contains the chosen clip or sequence.
2. Open any other bins that might contain the media relatives that you want to find.
3. Resize and position the bins so that you can see their contents. Text view is best for viewing as many objects as possible.

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4. Select the chosen clip or sequence, and choose Select Media Relatives from the Bin menu.

   The system highlights all related objects in all open bins.





Selecting Sources Used by an Object

Use the Select Sources command to identify all of the sources used by a particular object. For example, if you select a sequence as the object, you use the Select Sources command to identify every master clip, subclip, tape, and media file that is a source for that sequence.

To identify sources for a clip or sequence:

1. Select one or more objects in a bin.
2. Choose Select Sources from the Bin menu.

   All sources for the selected objects in all open bins are highlighted.

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Selecting Unreferenced Clips

When you select Unreferenced Clips, the system highlights all clips that are not currently referenced by clips or sequences that are present in the open bins. Any master clips, subclips, or effect clips you edited into a sequence in the bin are not highlighted. This command is effectively the reverse of the Select Media Relatives command.



The Unreferenced Clips command is useful for finding unused footage or media.

Identify unreferenced clips as follows:

1. Open the bin containing the sequence or clip that is referenced.
2. Open all other bins containing clips that were used during editing.
3. Choose Select Unreferenced Clips from the Bin menu.

   A message box warns you that unreferenced clips will be highlighted in open bins only (items in closed bins will not be shown).
4. Click OK.

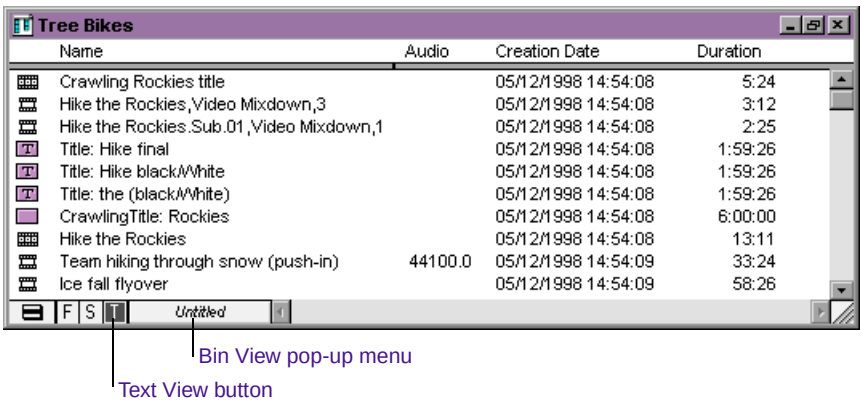
   All unreferenced clips are highlighted in the open bins.

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Using Text View

Text view provides the most complete view of clip information. It uses database columns that you can rearrange and customize to suit your needs.

To enter Text view, click the Text View button (labeled T) in the lower portion of the bin.



About Bin Views

To the right of the Text View button is the Bin View pop-up menu (Text view only) for selecting different Bin views. Bins have three default views that are automatically loaded:

For more information on Film and Statistical column headings, see **"Bin Column Headings" on page 187**.

- **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.
- **Film view:** Has film-related column headings, including key number, ink number, pullin, and so on. If you are working on a non-film-related project, and select the Film view, a dialog box informs you that only the non-film-related columns will be displayed.

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- **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.

If you import a log file from your telecine transfer, much of this information will be placed in the bin when you import the log. If you do not have a film log, then you can enter this information manually by highlighting the field in the bin and typing the information.

Customizing Bin Views in Text View

You can create and save customized bin views that you can easily access from the Bin View menu. You can customize the bin view by adding, hiding, or rearranging Bin columns. The only required column heading is the clip name, displayed by default.

There are several ways to customize views of the bin:

- Alter the arrangement of existing columns in the standard Statistics view or Film view to suit your needs, without adding or hiding columns. These arrangements will be recalled each time you choose Statistics view or Film view.
- Add or hide columns of information to create customized Statistics or Film views. These will be saved as additional view settings in numerical order, for example *Statistics.1*, *Statistics.2*, unless you choose another name.
- Add, hide, copy, or rearrange standard or customized columns in any combination to create your own custom views. You can name and save these to suit your needs.

When you create a new bin view, the system saves the settings for this view so that you can later access and alter, copy, or delete these settings. New bin view settings appear in the Settings scroll list of the Project window.

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Arranging Bin Columns

This section provides procedures for adding, hiding, moving, duplicating, and deleting columns from a bin. After arranging the bin columns, you can save the bin view as described in **"Saving a Custom Bin View" on page 175**.

Moving and Rearranging Columns

To move a text column in a bin:

1. Click the heading of the column that you want to move.

   The entire column is highlighted.

2. Drag the column to the position you want and release the left mouse button.

   The column appears in the new position, and columns to the right are moved over to make room.

Aligning Bin Columns

When you align bin columns, the system maintains the same order of columns from left to right, but spaces them according to the length of contents. This is especially useful for removing spaces left after moving or rearranging columns.

To align bin columns, choose Align to Grid from the Bin menu.

Showing and Hiding Columns

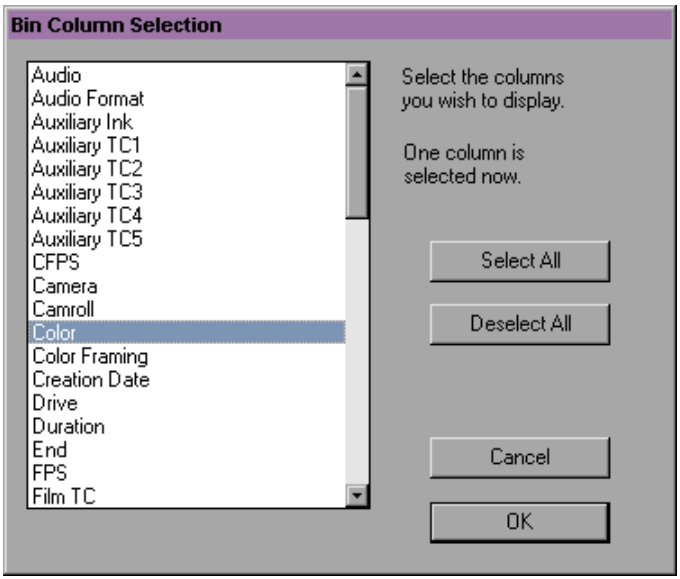
You can select individual or multiple headings to be displayed or hidden in the bin. For a complete description on each column heading, see **Table 6-8 on page 187**.

To choose column headings by using the Headings dialog box:

1. With a bin in Text view, choose Headings from the Bin menu.

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A Bin Column Selection dialog box appears.



2. Select the headings you want to add to the bin:
   - Ctrl+click the name of a heading to select it.
   - Ctrl+click a highlighted heading to deselect it.
   - Click Select All to highlight all the headings in the bin.
   - Click Deselect All to deselect all the headings in the bin.
3. Click OK. Only the headings highlighted in the Bin Column Selection dialog box appear in the bin or bin view.

Deleting a Column

Deleting a statistical column is the same as hiding the column; you can restore the column at any time by using the Bin Column Selection dialog box, as described in **“Showing and Hiding Columns” on page 171**. When you delete a Custom column, however, you must re-create the column.

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To delete a column:

1. Click the column heading.
2. Choose Delete from the Edit menu or press the Delete key.

   The column disappears from the view and surrounding columns close to fill the space.

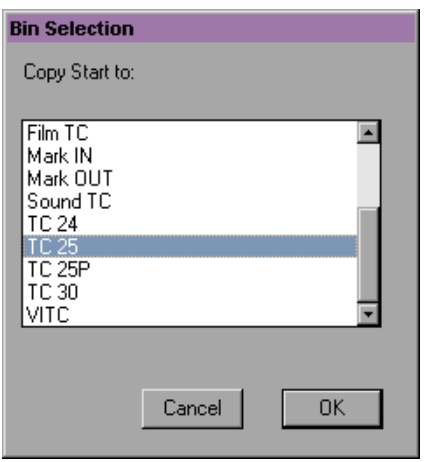
Duplicating a Column

You can duplicate existing columns containing timecode information into other compatible columns that you target in a dialog box.

To duplicate a timecode column:

1. Select the column you want to duplicate by clicking its heading.
2. Choose Duplicate from the Edit menu.

   The Bin Selection dialog box appears.



In the example, “Copy Start to:” appears at the top of the dialog box because the user selected the Start column for duplication. Select a column name from the list. The column must contain the same type of data for the copy to occur. For example, you can copy start timecodes

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to the Auxiliary TC column, but you cannot copy timecodes to the Pullin column.

The column of information appears in the column you designated.

When you duplicate a timecode column (Start, TC 24, TC 25, TC 25P, and TC 30), the values for master clips and subclips are converted to the appropriate timecode. For more information, see **"Displaying Timecodes in a 24p Project" on page 184**.

Adding Customized Columns to a Bin

In addition to the standard statistical or film column headings, you can add your own column headings to describe information about clips and sequences. For example, you might want to add a column heading to describe what kind of shot (close-up, wide shot, master shot, extreme close-up, and so on) is used in a clip.

To add a new custom column:

1. Click an empty area to the right of the current headings in the headings box.
2. Move any existing column to the right or left in order to create an empty area.
3. Type the column heading you want and press Enter. Column headings must contain fewer than 14 characters, including spaces.

   This puts the cursor in the data box, beside the first clip in the bin.
4. Choose Align to Grid from the Bin menu after you have entered the new column heading.
5. Type the information and press Enter to move to the next line.

Changing a Custom Column Heading

You can change the heading name of custom columns. You cannot change any of the standard column headings.

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To change the name of a custom column:

1. Press and hold the Alt key, and click the heading to highlight it.
2. Type the new text for the heading and press Enter.

Saving a Custom Bin View

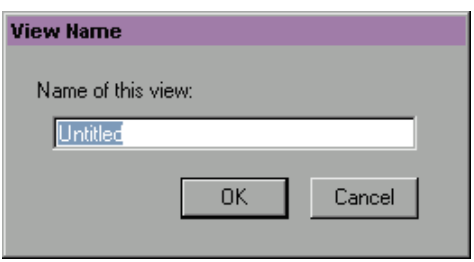
Any time you add, hide, or delete a column, the bin view name changes to an italicized name with the file name extension *.n* to indicate that it no longer matches the original view. If you select a new bin view setting while the current setting is untitled or italicized, the system discards the current setting.

If you do not save the view after adding or deleting headings, it is discarded.

To save a bin view:

1. Open a bin and click the Text View button (T).
2. Add or hide columns according to preference. The bin view name becomes italicized.
3. Choose Save As from the Bin View pop-up menu.

   The View Name dialog box appears.



4. Type a name for the custom view and click OK.

For procedures on adding, hiding, and deleting bin columns, see **"Arranging Bin Columns" on page 171**.

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Managing Clip Information in Text View

For additional bin shortcuts, see the *Avid Media Composer Quick Reference.*

There are several ways to manage clip information in Bin columns. These methods include copying information between cells, moving information between whole columns, sorting clip information, and modifying clip data, as described in this section.

Moving Within Column Cells

Use the keyboard shortcuts to move from cell to cell in bin columns:

- **Tab:** Moves the pointer to the parallel cell in the next column. You can continue to press the Tab key to scroll through the cells to the right until the cell in the last column is highlighted. The next time you press the Tab key, the cell in the first column is highlighted.
- **Shift+Tab:** Moves the pointer left to the cell in the previous column. You can continue to press the Shift+Tab keys to scroll through cells to the left until the cell in the first column is highlighted. The next time you press Shift+Tab, the cell in the last column is highlighted.
- **Enter key on the main keyboard:** Enters any new information typed into the cell and moves the pointer down to the cell in the next row. You can continue to press the Enter key to scroll down the column until the last cell in the column is highlighted. The next time you press the Enter key, the first cell in the column is highlighted.
- **Shift+Enter keys on the main keyboard:** Move the pointer up to the cell in the previous row. You can continue to press the Shift+Enter keys until the cell in the top row is highlighted. The next time you press the Shift+Enter keys, the cell in the last row is highlighted.

Modifying Clip Information

You can change or modify the information in certain columns for your master clips, subclips, tapes, and other objects stored in the bin. This is

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especially useful if some of the data is incorrect, or if you need to conform information for organizational purposes.

The following conditions apply to modifying clip information:

- When you modify a clip's information, related objects are automatically updated to reflect the new data. For example, if you change the name of a clip, the updated name appears in the sequences that use the clip.
- Some data cannot be modified after digitizing because changes would prevent you from playing back and editing the material successfully.
- Sequence data cannot be changed, even though it appears in your bin. The only way to modify sequence data is to edit the sequence itself. You can, however, change the name and start time for the master timecode track, as described in **"Changing the Sequence Name and Timecode" on page 331**.

There are two ways to modify data:

- You can modify some data directly for master clips, subclips, and other objects stored in a bin.
- You can use the Modify command to change specific information for master clips only.

Modifying Data Directly

When you modify information in a bin directly, you click a cell and type the new information. For example, you can type a new name for a clip, or correct the start and end timecodes.

You can directly modify any data in the bin while logging and prior to digitizing. After the footage is digitized, however, you can directly modify only selected headings, with restrictions, as shown in **Table 6-4**.

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Table 6-4 Direct Modification Headings

Heading	Restrictions
(Clip) Name	No restrictions.
Mark IN	Altering the mark IN also alters the IN to OUT duration. This replaces any previous mark.
Mark OUT	Altering the mark OUT also alters the IN to OUT duration. This replaces any previous mark.
Color	No restrictions.
Color Framing	Must be according to tape specifications. See **"Tracking Color Frame Shifts" on page 414**.
Auxiliary timecodes, 1–5	No restrictions.
KN (Key Number) Start	Only for 24p projects and matchback projects. Altering the starting key number also alters the KN End to maintain the duration. This can cause discrepancies with any auxiliary timecode information that you entered manually.
KN (Key Number) End	Only for 24p projects and matchback projects. Altering the KN End also alters the KN Start to maintain the duration.
Pullin	Only for 24p projects and matchback projects. Pullin data imported from a telecine-generated list can be altered only by using the Modify command or directly before digitizing. See **"Modifying Data by Using the Modify Command" on page 179**. *(NTSC only)*
Pullout	Automatically calculated. This field can not be modified.

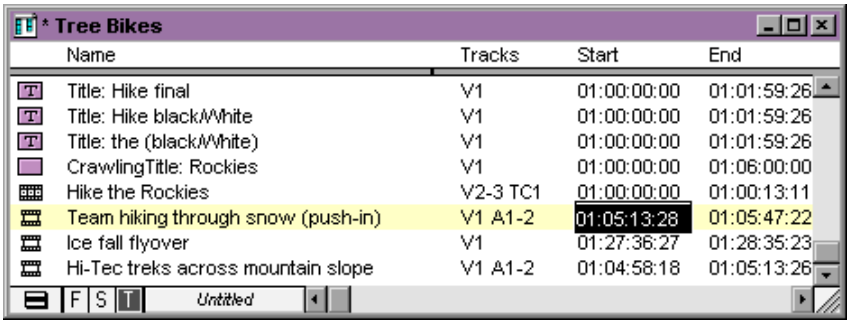


Modifying tape names and timecodes will affect any key numbers entered for the selected clips.

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To modify the clip data directly:

1. Enter Text view.
2. Click the cell that you want to modify. Select only one item at a time. In this example, the timecode data is highlighted.



3. Click the cell again to enter text.

   If the pointer does not change to an I-beam, you might be attempting to modify a column that cannot be directly modified.

4. Type the new information and press Enter.

Modifying Data by Using the Modify Command

The Modify command gives you specialized control over groups of clip information. For example, you can use the Modify command to change the name of source tapes, or to increment or decrement the start and end timecodes by a specified length of time for one or several clips at once.

For a complete description of the Modify dialog box options, see the *Avid Media Composer and Film Composer Input and Output Guide.*

You can apply changes with the Modify command to master clips only; subclips and sequences cannot be altered in this way. In addition, you can only perform modifications that alter the end timecodes or the tracks before digitizing, as described in **Table 6-5**.

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Table 6-5 Modify Command Options

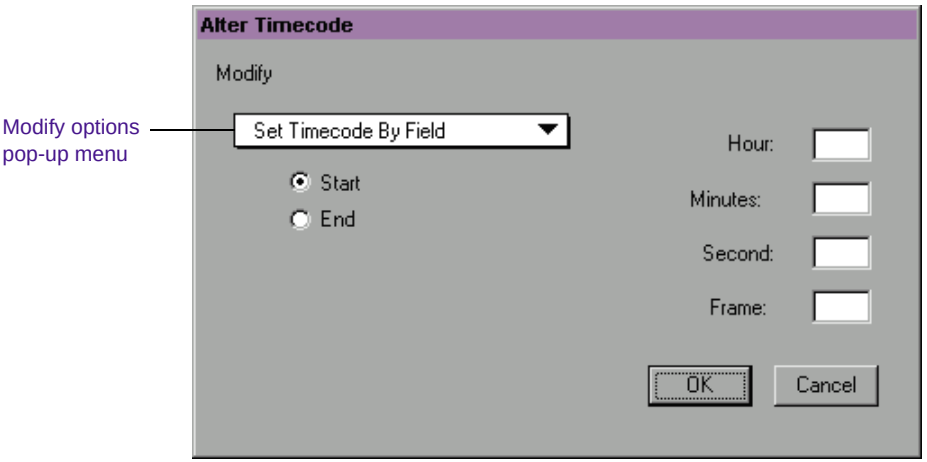
Option	Restrictions
Set Timecode Drop / Nondrop	Setting must match the timecode format of the tape
Set Timecode By Field	Only start timecode can be altered after digitizing
Increment Timecode	Only start timecode can be incremented after digitizing
Decrement Timecode	Only start timecode can be decremented after digitizing
Set Key Number Generic (Prefix)	Only for 24p projects and matchback projects
Set Pullin	Only for adjusting Pullin information from an imported telecine list for a 24p project or matchback project
Set Tracks	Clip must be undigitized
Set Source	Should match the original source tape name

To modify selected data by using the Modify command:

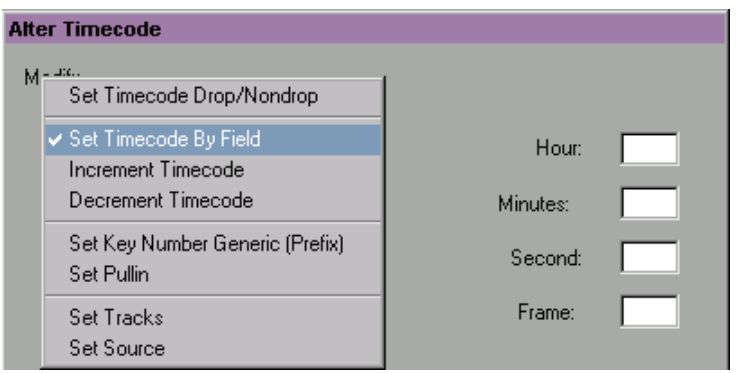
1. Open the bin.
2. Click the icon to the left of the clip, sequence, or other object you want to modify. Ctrl+click each additional object you want to modify.
3. Choose Modify from the Clip menu.

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The Alter Timecode dialog box appears.



4. Choose an option, such as Set Timecode By Field, from the Modify Options pop-up menu.



5. Select an option or enter information into the text boxes (timecode values, for example) when they appear.
6. Click OK. The modification takes effect.

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Copying Information Between Columns

The following procedure describes how to copy all the information in one column to another column. The procedure uses an example of copying timecode information in one column to a new column.

1. Select the timecode column that you want to copy.
2. Choose Duplicate from the Edit menu.

   A dialog box prompts you to target a timecode column for the data.
3. Select the target column for the data and click OK.

Copying Information from Another Cell in a Custom Column

To copy information from another cell in a custom column:

1. Press and hold the Alt key while you click in the destination cell to reveal a pop-up menu of all items entered in that column.
2. Select the text from the menu.

   The text appears in the cell.

Sorting Clips

Sorting clips arranges them in either numerical order, alphabetical order, or color, based on the data in the column you select as the sorting criteria. You can sort clips in several different ways, using an ascending sort, a descending sort, or a multilevel sort.



You can automatically sort clips and sequences in Text view only. If you need to view sorted clips in Script or Frame view, sort them in Text view first and then return to Script or Frame view.

If you want to sort clips in a customized order in Text view, you must first rearrange the clips in Script view, and then return to Text view. For information about Script view, see **“Rearranging Clips in Script View” on page 196**.

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Sorting Clips in Ascending Order

To sort clips in ascending order:

1. In Text view, click the heading of the column that you want to use as the criterion.

   The column is highlighted.

2. Choose Sort from the Bin menu.

   The objects in the bin are sorted.



If the Sort command appears dimmed in the menu, you have not selected a column.

To reapply the last sort, choose Sort Again from the Bin menu with no column selected. This step is especially useful after you have added new clips to a sorted bin.

Sorting Clips in Descending Order

To sort clips in descending order:

1. In Text view, click the heading of the column that you want to use as the criterion.

   The column is highlighted.

2. Press and hold the Alt key while you choose Sort Reversed from the Bin menu.

   Sort Reversed displays the column in descending order.

Multilevel Sorting with Columns

You can select multiple columns in a bin and perform a multilevel sort by using the information in the columns.

To do this, rearrange the columns in the bin to establish the primary column. The column that appears farthest to the left in Text view becomes the primary criterion for the sorting operation.

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Sorting Clips by Color

You can sort the clips by color if you assigned colors to the clips. See **"Assigning Colors to Bin Objects" on page 157**.

To sort clips by color:

1. Click the Color column heading in the bin.
2. Choose Sort from the Bin menu.

   The objects in the bin are sorted by color.



Colors are sorted by hue, saturation, and value.

Displaying Timecodes in a 24p Project

When you are working with 24p projects, you can add timecode columns to bins or the Media tool to enter and display starting timecodes in several timecode formats for master clips, subclips, and sequences.



For information on displaying timecodes in the Timeline and the Tracking Information display, see ***"Displaying Timecode Tracks in the Timeline" on page 361*** *and* ***"Displaying Tracking Information" on page 275***.

After you add a timecode column (TC 24, TC 25, TC 25P, and TC 30) to a bin, you can use the Duplicate command to convert the values for master clips and subclips to the appropriate timecode for that column.

For example, when working with a 24p NTSC project, if you duplicate the Start column values to one of the timecode columns and the Start column contains a master clip with the timecode 01:00:00:15, the timecode is converted to the timecode of that column.

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Table 6-6 shows the converted timecode for each timecode column. All of the values are equivalent.

Table 6-6 Timecode Columns

Bin Column	Timecode
TC 24	01:00:00:15
TC 25	01:00:00:15
TC 25P	01:00:00:16
TC 30	01:00:00:19



The TC1 track in the Timeline represents the timecode of the project in which you are working. For example, when you are working in a 24p NTSC project, the TC1 track displays the same timecode as the TC 30 track.

Frame Counting for Timecodes

Table 6-7 shows the frame count for each of the timecodes. The timecodes are listed as 24 for 24 fps, 25 for 25 fps, 25P for 25 (PAL with pull-down), and 30 for 30 fps (the count skips six frames to fit 30 frames into 24 fps).

Table 6-7 Timecode Frame Counts

Timecode	Frames
24	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 00
25	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25P	00 01 02 03 04 05 06 07 08 09 10 11 13 14 15 16 17 18 19 20 21 22 23 24 00
30	00 01 03 04 05 06 08 09 10 11 13 14 15 16 18 19 20 21 23 24 25 26 28 29 00

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To add timecode columns to a bin or the Media tool:

1. Choose Headings from the Bin menu.

   The Bin Column Selection dialog box appears.

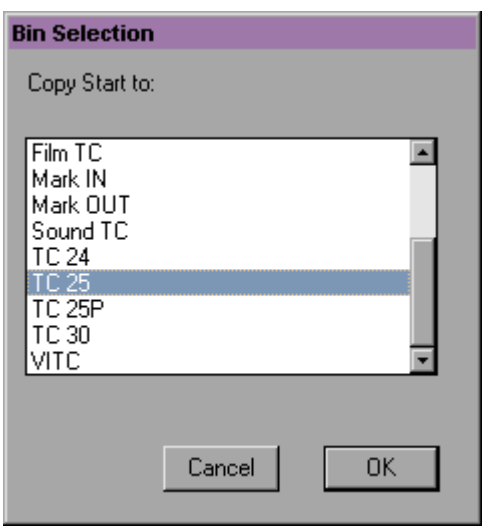
2. Ctrl+click the timecode columns you want to display.
3. Click OK.

   The timecode column appears in the bin or the Media tool.

To add timecode values to the timecode columns:

1. Open a bin or the Media tool.
2. Add the Start column and the timecode column with the format you want to use.
3. Select the Start column.
4. Choose Duplicate from the Edit menu.

   The Bin Selection (Copy Start to) dialog box appears.



5. Select the timecode heading from the list.
6. Click OK.

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The values for master clips, subclips, and sequences in the Start column are converted to the appropriate timecode format and entered into the column you selected.

Bin Column Headings

You can select individual or multiple headings to be displayed or hidden in a bin. **Table 6-8** describes the Bin Column Selection headings. For a procedure on how to select column headings, see **"Showing and Hiding Columns" on page 171**.

Table 6-8 Bin Column Selection

Heading	Description
Name	This heading does not appear as a column selection, but it always appears in the bin. The column contains the name of the clip or sequence (you can rename a clip or sequence after it has been digitized).
Audio	The audio resolution (sample rate).
Audio Format	The audio format of master clips (AIFF-C, SDII, or WAVE).
Auxiliary Ink	Auxiliary ink format settings allow you to display two types of ink numbers at the same time. This lets you track additional types of film information for different film gauges. Used for 24p projects and matchback projects only.
Auxiliary TC1 through TC5	You can enter an auxiliary timecode, such as Aaton® or Arri®, or another timecode for editing film or audio timecode for film. (*Not restricted to film projects*)
CFPS	The captured frames per second.
Camera	The camera used to film this clip. This feature is used in multicamera shoots.
Camroll	The camera roll containing this clip. Used for 24p projects and matchback projects only.
Color	The color of the bin objects for organizing the objects.

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Table 6-8 Bin Column Selection (Continued)

Heading	Description
Color Framing	The color framing for the tape. For NTSC, the choice is Even or Odd. For PAL, the choices are A Standard, A Non-Standard, B Standard, or B Non-Standard.
Creation Date	The date and time the clip was logged or digitized.
Drive	The last known drive on which the media for that master clip existed.
Duration	The length of the clip.
End	The timecode of the clip's tail frame.
FPS	The play rate: the number of frames to be displayed each second. The default is 30 for NTSC and 25 for PAL for video.
Film TC	The timecode used on film. Used for 24p projects only.
Frame	Displays the same frame that is displayed when you select Frame view for the bin. See **"Using Frame View" on page 190**. *It can take longer for the screen to display frames than text. Because of this, working with frames can slow down the work that you do with bins.*
IN-OUT	The length of the marked segment, if any.
Ink Number	The ink number for the clip. Used for 24p projects and matchback projects only.
KN Duration	The length of the clip, expressed in feet and frames. Used for 24p projects and matchback projects only.
KN End	The ending key number for the clip. Used for 24p projects and matchback projects only.
KN IN-OUT	The Mark IN and Mark OUT key number for the clip. Used for 24p projects only.
KN Mark IN	The key number for the IN point, if you set one for the clip. Used for 24p projects only.

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Table 6-8 Bin Column Selection (Continued)

Heading	Description
KN Mark OUT	The key number for the OUT point, if you set one for the clip. Used for 24p projects only.
KN Start	The starting key number for the clip. Used for 24p projects and matchback projects only.
Labroll	The labroll containing the clip.
Lock	Specifies whether the clip is locked against deletion.
Mark IN	The timecode for the IN point, if you set one for the clip.
Mark OUT	The timecode for the OUT point, if you set one for the clip.
Modified Date	The date and time a sequence was last edited or changed.
Offline	The track names for any media files that are offline.
Perf	The film edge perforations format used for 3-perf projects. Used for 24p projects and matchback projects only.
Project	The project under which the media was originally digitized.
Pullin	The telecine pulldown of the first frame of the clip. Pullin can have the values A, B, C, or D. Used for 24p projects and matchback projects only.
Pullout	The telecine pulldown of the last frame of the clip. Pullout can have the values A, B, C, or D. Used for 24p projects and matchback projects only.
Reel #	The source reel number. Used for 24p projects only.
Scene	The scene number of the clip.
Shoot date	The date the footage was shot.
Slip	The number and direction of perfs for subclips (audio clips only). Used for 24p projects only.

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Table 6-8 Bin Column Selection (Continued)

Heading	Description
Sound TC	The timecode for audio.
Soundroll	The sound roll this clip came from. Used for 24p projects and matchback projects only.
Start	The timecode of the clip's head frame.
TC 24	The 24-fps timecode. Used for 24p projects only.
TC 25	The 25-fps timecode, no pulldown. Used for 24p projects only.
TC 25P	The 25-fps timecode with PAL pulldown. Used for 24p projects only.
TC 30	The 30-fps timecode with 2:3 pulldown. Used for 24p projects only.
Take	The take number of the scene.
TapeID	The source tape name.
Tracks	All tracks used by this media object.
VITC	The vertical interval timecode.
Video	The resolution under which the media for that clip was digitized.

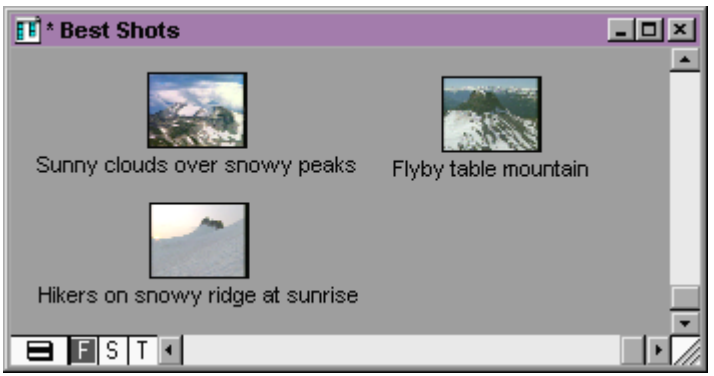
Using Frame View

In Frame view, each clip is represented by a single frame, with the name of the clip displayed below the frame. The system uses the head frame as the default, but you can play back the footage within any clip and select any frame to represent the footage. You can make the pictures larger to see more detail, or smaller to see more clips in the window. You can also rearrange the frames in any order.

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You can also mark IN points and OUT points in Frame view. For more information, see **“Marking IN to OUT Points” on page 309**.

To enter Frame view, click the Frame View button (labeled F) in the lower left portion of a bin.



Each frame appears in the bin with its assigned name directly below it.

Changing the Bin Background Color

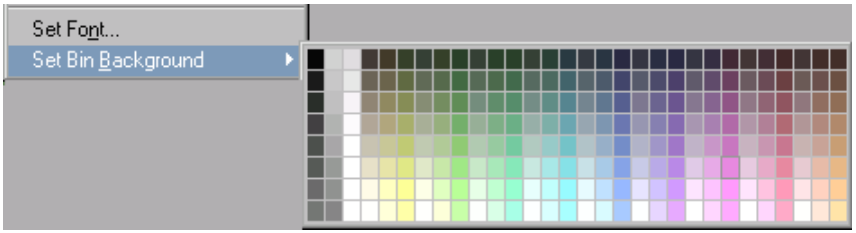
You can customize the background color of the bin behind the frames. Changes affect one bin at a time. However, changes you make in Frame view appear in Script view as well. Text view remains black and white.

To change the bin background color:

1. Activate the bin you want to change and make sure you are in Frame view (or Script view).

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2. Choose Set Bin Background from the Edit menu, and select a color from the pop-up palette.



The bin color changes based on your selection.

Enlarging or Reducing Frame Size

You can enlarge and reduce the size of the frames appearing on the screen to five available sizes. You must enlarge or reduce all frames together. You cannot change the size of individual frames.

- To enlarge the frame size, choose Enlarge Frame from the Edit menu. The display size increases each time you choose this option, up to seven times.
- To reduce the frame size, choose Reduce Frame from the Edit menu. The display size decreases each time you choose this option, up to seven times.

Rearranging Frames

Frame view allows you to rearrange the display of the frames in the bin by moving them.

To rearrange frames:

1. Click a single frame and drag it to its new position.

   To rearrange more than one frame at a time, Shift+click or lasso multiple frames and drag them to a new position in the bin.

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2. Click the background area of the bin to deselect the clips.

When you return to Text view, the order of the clips is changed there as well.

Changing the Frame Identifying the Clip

By default, Frame view displays the first frame of each clip in the bin. However, you can choose a different frame.

There are several ways to change the represented frame:

- Use the J-K-L keys.
- Press the Home key or End key on the keyboard.
- Step or shuttle by using the mouse.

For more information about playing footage, see **"Controlling Playback" on page 299**.

*If you have group or multigroup clips in the bin and want to change the displayed frame, you must use controls in Source/Record mode. For more information, see **"Multicamera Editing Techniques" on page 559**.*

To change the frame identifying the clip:

1. Select the clip that you want to change.

   Press and hold the K key on the keyboard (Pause) and press the L key (Play) to roll the footage within the frame forward at slow speed. To move backward through the footage, press and hold the K key and press the J key (Reverse Play).

2. When you see the frame that you want use, release the keys.

   The Avid application saves your choice as part of the bin configuration.

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Arranging Frames in a Bin

To realign the frames in a bin after you have changed their display, use one of the following procedures:

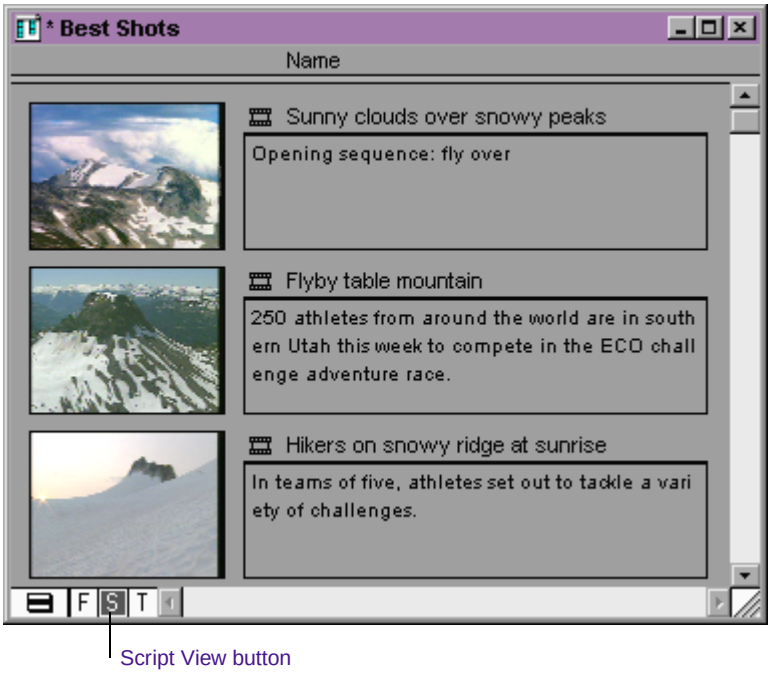
- To align all frames to an invisible grid, choose Align to Grid from the Bin menu.
- To align only selected frames, choose Align Selected to Grid from the Bin menu.
- To spread out the frames evenly to fill available space in the bin window, choose Fill Window from the Bin menu.
- To arrange frames in the order in which they are sorted in Text view, choose Fill Sorted from the Bin menu.

Using Script View

Script view combines the features of Text view with Frame view, with an added script box next to each frame. The frames are displayed vertically on the left side of your screen with the script box next to each. Use the script boxes to hold text for notes or a script. Clip data matching the column headings in Text view appears above each script box.

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To enter Script view, click the Script View button (labeled S) in the lower left portion of the bin.



Adding Text in Script View

To type text into the script box, click the box and begin typing. This text does not appear in sequences edited from the clips, only in print-outs of the bin in Script view.

You can use basic word processing procedures to highlight, delete, cut, copy, and paste text between script boxes.

If the notes or script you type extend beyond the size of the script box, you can use the Page Up or Page Down keys on the keyboard to scroll through the text.

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Playing Clips in Script View

Each clip is represented by a single frame in Script view. The head frame is the default, but you can play back the footage within any clip and select any frame to represent the footage.

To change the represented frame, press the J-K-L keys to move through the clip.

For more information about playing footage, see **“Controlling Playback” on page 299**.

Rearranging Clips in Script View

You can rearrange the order of clips in Script view in two ways:

- You can drag each clip up or down to a new location in the bin.
- You can sort and sift clips in Text view, then return to Script view to display selected clips in the sort order you want.



When you return to Text view, the order of the clips is changed there as well.

Printing Bins

The Avid application allows you to print entire bins or individual frames in hardcopy form.

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To print entire bins in Text, Script, or Frame view:

1. Make sure your printer is correctly set up. See the Windows NT Help or your system administrator.



To print a frame in Script or Frame view, you must use a printer capable of printing graphics.

2. Click the T (Text view), S (Script view), or F (Frame view) button in the lower left portion of the bin to select the view you want to print.
3. Choose Page Setup from the File menu. A Page Setup dialog box appears, reflecting specific options for the type of printer you have.
4. Select the appropriate options from the Page Setup dialog box, then click OK.
5. Choose Print Bin from the File menu. The Print dialog box appears, reflecting specific options for your type of printer.
6. Set the print options in the Print dialog box, then click OK.

   The system prints the active bin.

To print a single frame of a clip or sequence:

1. Load a clip or sequence into the Source or Record monitor.
2. Select the frame you want to print.
3. Choose Print Frame from the File menu.
4. Make any needed adjustments to the Print dialog box and click OK.

   The system prints the frame currently displayed in the active monitor.

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Gathering Format Elements

While organizing your project, you can gather various format elements into a single bin that you can open and use later during editing.

Some useful format elements might be:

- Bars and tone
- Head and tail leader
- Repeated titles
- Countdowns or SMPTE
- Graphic elements (repeated animations, and so forth)

This section describes techniques for creating digital bars and tone, as well as leader clips for use in sequences. For information on creating or importing graphic elements and titles, see the *Avid Media Composer and Film Composer Effects Guide.*

Preparing Digital Bars and Tone

If you expect to output your final sequence as a digital cut that requires calibration before playback (a digital cut that will be broadcast, for example), then in most cases you need a clip of color bars. You can add the clip to the front of the sequence, or you can output the clip separately as an assemble or insert edit onto tape during recording of a digital cut.

There are several ways to acquire a clip of bars, each with different advantages:

- **Digitize bars and tone from a house generator.** This method requires the least effort with good results because you capture high-quality bars and tone simultaneously, with a minimum of calibration. Not all facilities, however, have a house generator.

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- **Digitize bars and tone from a videotape.** This method allows you to capture bars and tone simultaneously, but you must calibrate carefully to ensure accuracy. In addition, the final clip reflects the quality of the source tape recording.
- **Digitize bars from an external color bar generator.** This method provides good results, but you must have a color bar generator available, and you must rearrange your system inputs to attach the generator. In addition, you must acquire tone separately and sync it with bars within the Avid application.
- **Import a PICT file of bars.** This method provides the highest quality results because the source image is already digital. If the PICT file is accurate, the quality of the clip is ensured. You must, however, acquire tone separately, and sync it with bars within the Avid application.

Importing Color Bars and Other Test Patterns

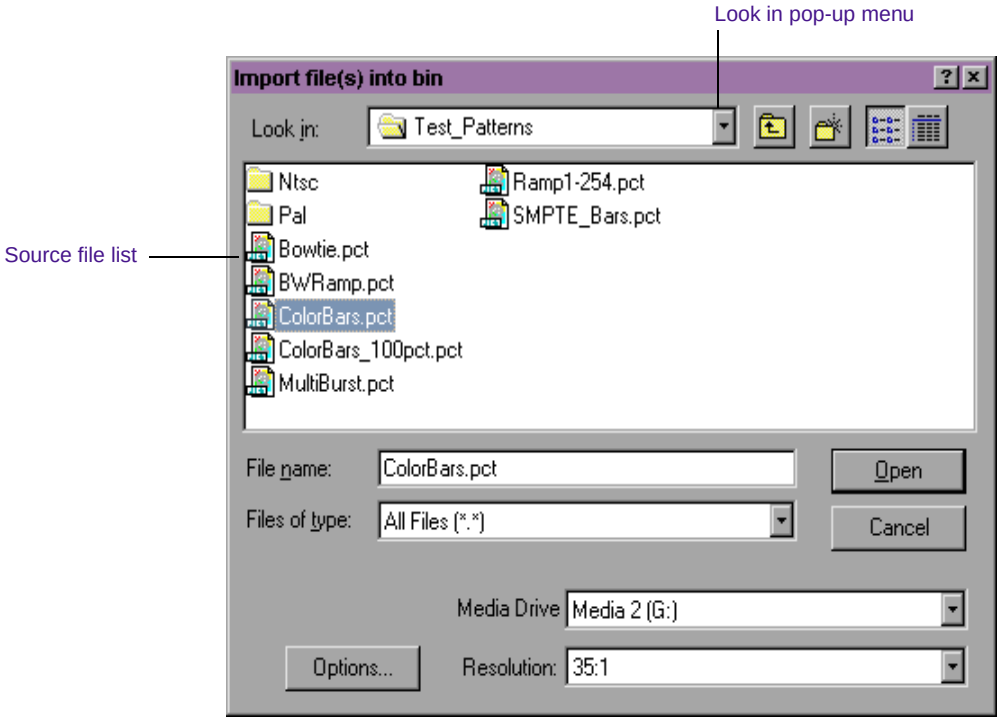
The following procedure describes the method for importing a PICT file. This method is available to all users because your Media Composer system includes a SMPTE bars PICT file.

To import a test pattern from a PICT file:

1. Open an existing bin or create a new one for the test pattern.
2. Select the destination bin.
3. Choose Import from the File menu.

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The Import file(s) into bin dialog box appears.



The location of the Avid folders is determined during the installation of Media Composer. These are the default folder locations.

4. Navigate to the folder containing the test pattern file that is located in the C:\Program Files\Avid\Avid Media Composer\SupportingFiles\ folder.
   a. Click a test pattern and click the Options button.
   b. Choose ITU-R 601, non-square from the Aspect Ratio, Pixel Aspect pull-down menu.
   c. Choose ITU-R 601 Video Levels from the File Color Levels pull-down menu.
   d. Click OK.
   e. Click Open.

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When you import SMPTEBars.pct, it will not exactly match the SMPTE bars generated by the Video Output tool. The I and Q blocks in the bottom portion of the pattern cannot be exactly represented in the RGB color space used when importing files. If you must have I and Q blocks correct in a sequence, do one of the following:

- Digitize SMPTE bars from a signal generator.
- Use the Video Output tool to generate SMPTE bars and record them to tape using the controls on the deck. Then digitize them back into the system from the tape.

5. Create a clip of tone media by using the Audio tool. For more information, see the *Avid Media Composer and Film Composer Input and Output Guide*.



Match the resolution of the tone to the audio resolution of the sequence.

6. Load the new color bars clip into the Source monitor, and create a subclip of appropriate length for use in sequences (1 minute is a common standard).
7. Select the new subclip, Ctrl+click the audio clip containing the tone, and choose AutoSync from the Bin menu.

   A new subclip containing bars and tone appears in the bin.
8. Rename the clip as necessary.

Creating Leader

Film editors traditionally use standard head and tail leaders for cueing and syncing material. You can use digital leaders in the Avid application to mark the beginning and ending of tracks, and to help you maintain sync, as described in **“Managing Sync with Multiple Tracks” on page 540**. You can create your own leader for video or film, as described in this section. Whatever you choose for specifications, be sure to make all your leader clips the same length, with common sync points.

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Creating Video Leader

To create leader for picture tracks:

1. Create a black screen in the Title tool for tail leader, or a white screen for head leader. For information on using the Title tool, see the *Avid Media Composer and Film Composer Effects Guide.*

   Optionally, you can type a title onto the screen that says Tail Leader or Head Leader.

2. Name this clip Head Leader or Tail Leader when you save the title.
3. Create a subclip, according to your chosen specifications.
4. (Option) Mark a sync frame in the subclip as follows:
   a. Load the clip into the Source monitor.
   b. Find an appropriate sync point and add a locator.
   c. (Option) Double-click the locator in the Source monitor to add a sync point notation that appears on the monitor.

Once the leader is prepared, you can splice the leader during editing onto the tracks that you want to keep in sync. You can use the sync points for visually aligning tracks.

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Creating Audio Leader

To create tail leader for audio tracks:

1. Load a clip that includes a section of digitized tone into the Source monitor.
2. Create a subclip according to your chosen specifications.
3. Name this new subclip Head Leader or Tail Leader.
4. Load this subclip into the Source monitor.
5. Prepare the sound levels by using one of the following options:
   - For leader without a sync point (no audio pop), open the Audio Mix tool and bring the audio level all the way down for the entire clip.
   - For leader that includes a sync point (audio pop), do the following:

     a. Find the appropriate sync point.

     b. Step one frame backward and place an add edit before the sync frame, then step two frames forward and place an add edit after the sync frame.

     c. Place the position indicator before the first add edit, and open the Audio Mix tool.

     d. Bring the audio level all the way down.

     e. Place the position indicator after the second add edit, and use the Audio Mix tool to bring the level all the way down.

For information on placing add edits, see **"Adding an Edit (Match Framing)" on page 407**.

Once the leader is prepared, you can splice the leader during editing onto the audio tracks that you want to keep in sync. You can use the sync points for visually aligning tracks.

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Storyboard Worksheet

- [ ] Make preliminary preparations such as synchronizing picture and sound, converting audio timecode, and modifying clip data.
- [ ] Set the bin display to show only the media objects you will use for your storyboard.
- [ ] Narrow down the clip selection by deleting, moving, copying, sorting and sifting clips.
- [ ] Select either Script view or Frame view to display your storyboard in the bin with or without a script box. Enter information into the script box if necessary.
- [ ] Rename clips to include additional information such as numbered ordering, or enter this information into the script box in Script view.
- [ ] Use the keyboard to step through each clip and display the reference frame you want to use for each clip.
- [ ] Rearrange the clips in sequential order by selecting and dragging one or several clips at a time to a new location.
- [ ] Enlarge or reduce the size of the frames as necessary.
- [ ] Align the rearranged frames along invisible grid lines when using Frame view.
- [ ] (Option) Change the font and background color for the storyboard.
- [ ] Choose Save Bin from the File menu when the storyboard is complete.
- [ ] Choose Print from the File menu to print the storyboard in its final form.

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CHAPTER 7

Managing Media Files

When you digitize footage, the system creates digital media files for the video and audio tracks on the media drives attached to your system. In addition to the bin tools that allow you to organize the clips that reference these media files, your Avid system provides useful tools and features for directly managing media files for storage and playback efficiency, for backup, and for transfer between systems.

These procedures are described in the following sections:

- **Using the Media Tool**
- **Freeing Storage Space**
- **Consolidating Media**
- **Backing Up Media Files**
- **Finding a Related Media File**
- **Relinking Media Files**
- **Unlinking Media Files**

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Using the Media Tool

The Media tool is your window into the digitized video and audio data files stored on your media drives. As an important counterpart to the bins, the Media tool provides similar database tools for manipulating digital media files in tandem with your organization of clips and sequences.

Basic Media Tool Features

The Media tool provides many of the same controls for viewing and managing information that you use with bins:

- The three display options in the Media tool function like those in bins: Frame view, Script view, and Text view.
- You can use the same Frame view options described in **“Using Frame View” on page 190**.
- You can use the same Script view options described in **“Using Script View” on page 194**.
- You can use Text View headings and 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 **“Using Text View” on page 169**.
- The Media Tool Fast menu gives you quick access to the same commands available in the Bin Fast menu.
- You can highlight, move, copy, duplicate, delete, sort, and sift clips in the Media tool. You can also select media relatives, sources, and unreferenced clips, as described in **“Basic Bin Procedures” on page 152**.
- Media Tool database and display options are saved as User settings. When you close the Media tool, the view you are in (Frame, Script, or Text) is saved and any customizations of columns are saved.

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- You have the option of saving a custom view of the Media tool. Any view created in the Media tool is available from all bins and all custom bin views are available in the Media tool from the Views pop-up menu. For more information on creating customized views, see **“Saving a Custom Bin View” on page 175**.



Media tool views are saved as User settings and appear in the Settings Project window as Bin Views.

- You can print Media tool data by using the same procedures for printing bins as described in “Printing Bins.”

The Media tool also has a number of unique functions:

- Unlike a bin, the Media tool can display 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 a bin.

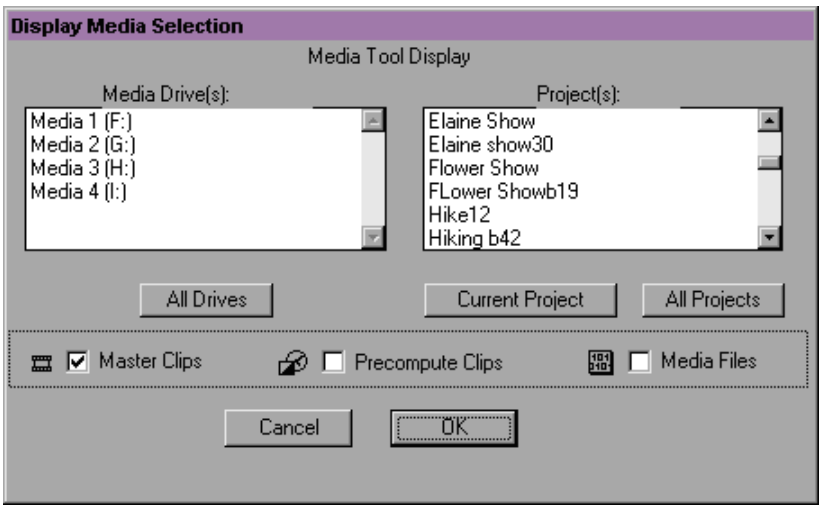
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Opening the Media Tool

To open the Media tool:

1. Choose Media Tool from the Tools menu.

   The Display Media Selection dialog box appears.



2. Select the desired display options as follows:

   - You can select individual media drives or all drives.

The Media tool loads the media database only for the drives you select. The more drives you select, the more memory is required for the Media tool to open.

   - You can display files for the current project, for selected projects, or for all projects.

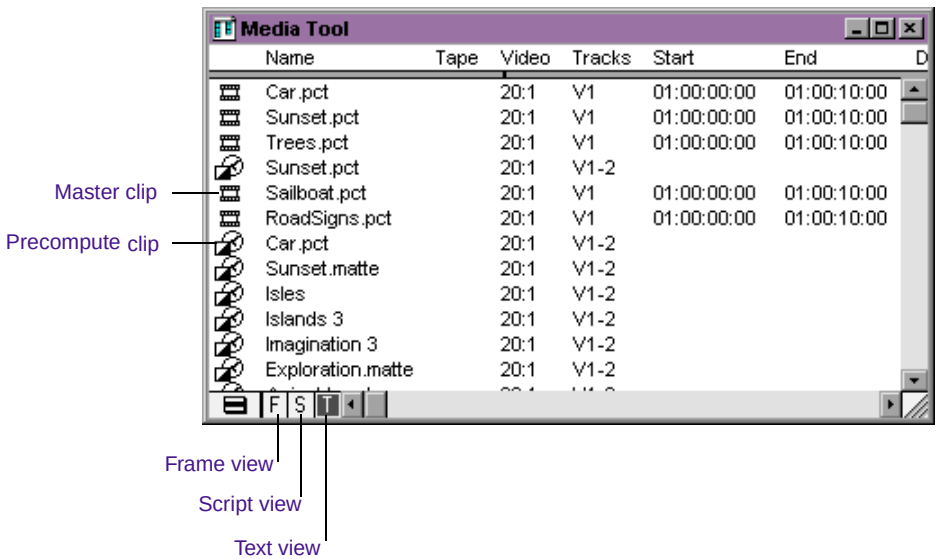
Only projects with associated online media and the current project appear in the Project(s) list in the Display Media Selection dialog box.

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- You can display only digitized master clips, precompute (rendered effect) clips, or media files, or any combination of the three.

3. Click OK.

   The Media tool opens.



Deleting Media Files with the Media Tool

You can use the Media tool to delete selected media files without harming the related master clips, subclips, and sequences.

If you use the Media tool to delete selected media files, you will no longer have access to visuals of the deleted material. If you load a clip for which a media file has been deleted, a black screen appears with the words "Media Offline." If you need to use those clips again, you must redigitize from tape or reimport graphics.

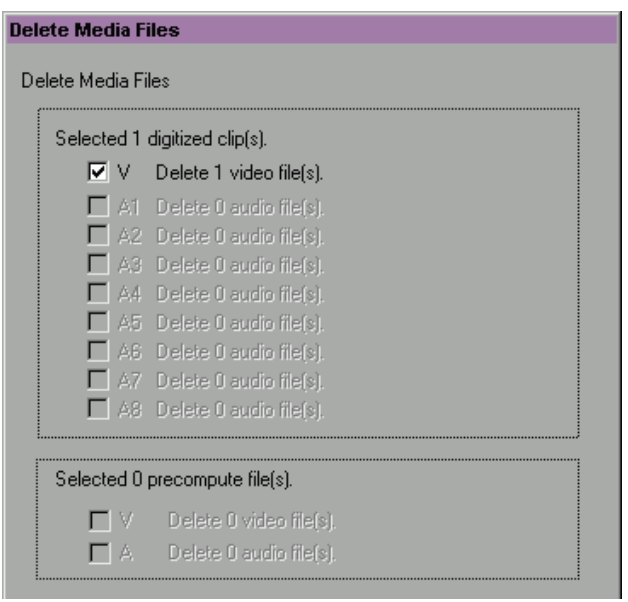
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Depending on your needs, you can do one of the following:

- Delete selected audio or video tracks and retain other tracks from a clip.
- Delete entire sets of media files and related clips from within the Media tool.
- Delete all unrelated media upon completion of a project, and retain only the media required for playback of a finished sequence as described in **"Consolidating Media" on page 212**.

To delete selected media files:

1. Open the Media tool. In the Display Media Selection dialog box, select the types of files (master clips, precompute clips, or media files) that you want to delete.
2. Select one or more media files (audio, video, or both) or master clips whose media files you want to delete.
3. Choose Clear from the Edit menu, or press the Delete key to open the Delete Media Files dialog box.



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4. Select the media objects that you want to delete:
    - **Audio media file (A1, A2, A3, A4, A5, A6, A7, A8)**. The master clip linked to that file is silent. Subclips and sequences created from the master clip are affected in the same way.
    - **Video media file (V)**. The master clip linked to that file is black, with the message “Media Offline” displayed. Related subclips and sequences are affected in the same way.
    - **Precompute media file (V, A)**. The section of the sequence with the effect is black, and the message “Media Offline” is displayed.
    - **Audio mixdown file (A)**. The section of the sequence with the mixdown is silent.
5. Click OK.

    A confirmation dialog box appears.
6. Click Delete.

Freeing Storage Space

To quickly view remaining storage on your media drives at any time, open the Hardware tool as described in **“Using the Hardware Tool” on page 138**.

Unlike the bin files stored in project folders, media files require considerable storage space. When you finish either a rough cut or a final version of a sequence, you can quickly free storage space by deleting the media and clips that are not referenced by the sequence. This procedure is performed on clips selected in bins only.

To delete all unreferenced clips and media files:

1. Select the sequence in the bin.
2. Choose Select Sources from the Bin menu. All source clips for the sequence are highlighted in the bin.
3. Click the bin containing the highlighted clips to activate it.

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4. Choose Reverse Selection from the Bin menu. All the clips in the bin that are not source clips for the sequence are now highlighted.



Motion effects are not counted as references by the sequence and will be deleted.

5. Press the Delete key, then click the check boxes in the Delete dialog box to select the clips or the media files to delete.
6. Click OK.

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 that 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

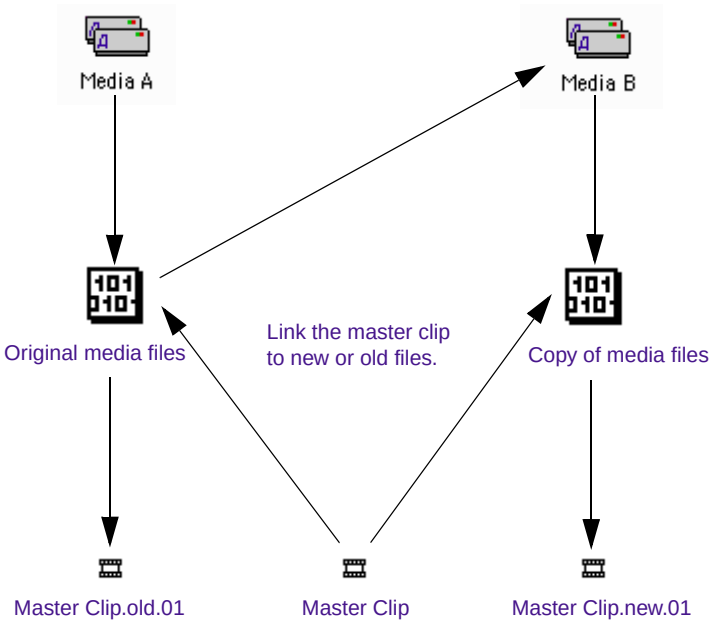
The Consolidate feature operates differently depending upon whether you are consolidating master clips, subclips, or sequences. There are also different advantages in each case, as follows:

- **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 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 media files.

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The new master 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.

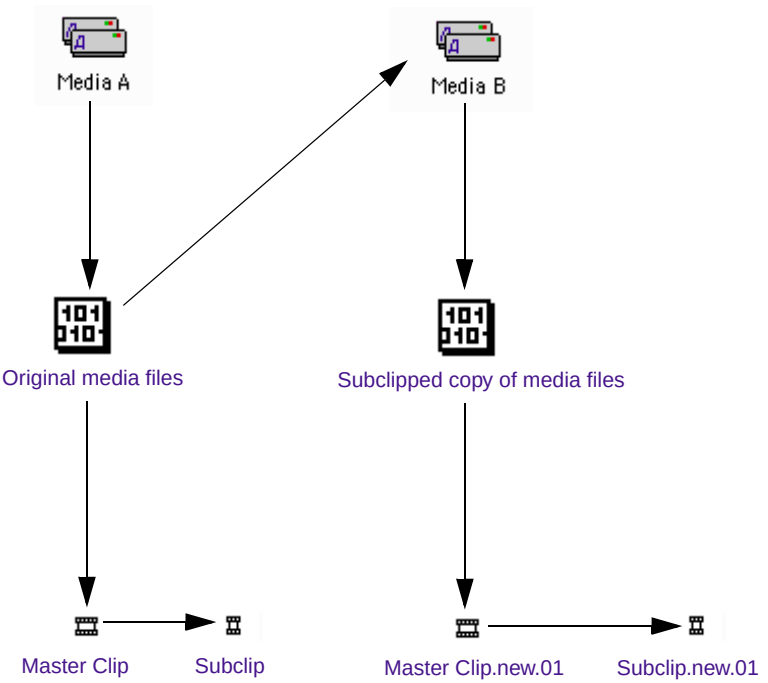
Consolidating a master clip



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- **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 new master clip that is the duration of the subclip and a new subclip. The file name extension .new is attached, along with incremental numbering beginning with .01.

Consolidating a subclip



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- **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 shot 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.

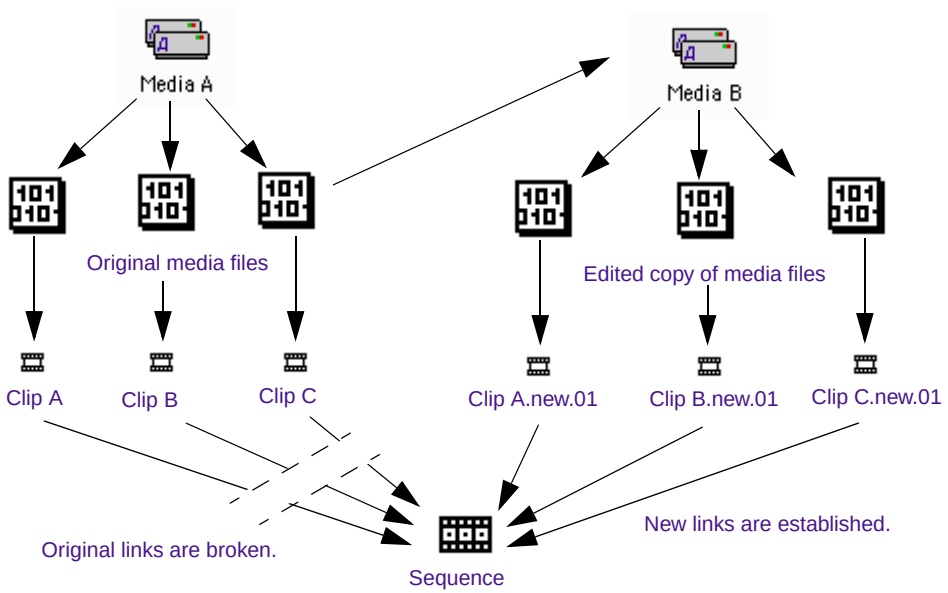
  Consolidate finished sequences to:

  - Create backup files
  - Preserve only the digitized media required for playback, and delete the rest to use less storage space
  - Gather dispersed media onto one drive for storage or transfer to another system



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.

Consolidating a sequence



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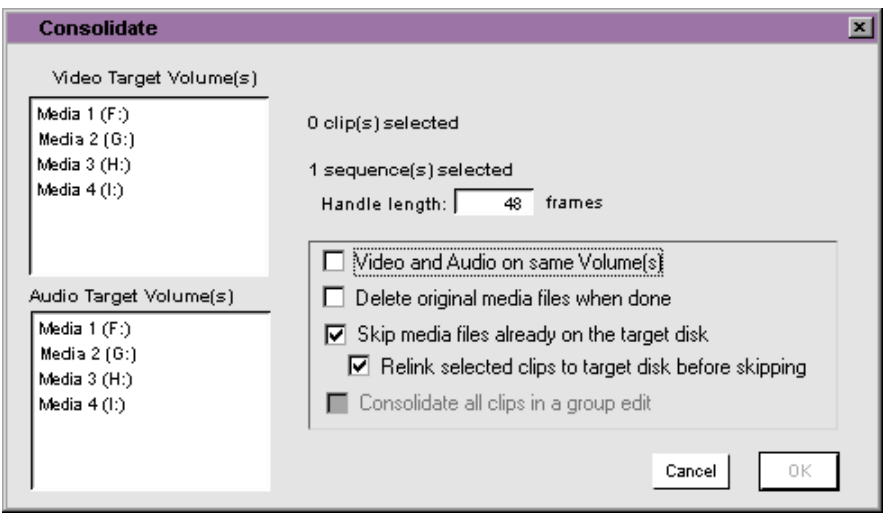
Using the Consolidate Command

To consolidate master clips, subclips, or sequences:

For more information on rendering effects, see the *Avid Media Composer and Film Composer Effects Guide.*

1. If you are consolidating a sequence, duplicate the sequence to maintain links to the original files, if necessary, and render any unrendered effects.
2. With the bin open, select the clips or sequence to consolidate.
3. Choose Consolidate from the Clip menu.

   The Consolidate dialog box appears.



4. (Option) Select one or more of the following:
   - “Video and Audio on same Volumes” to store the consolidated media files on the same target drives. Deselecting this option allows you to select separate drives for the audio and video media files.
   - “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.

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- “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 target disk.”

5. Select a target drive from the Target Volume(s) list. To select additional target drives, Ctrl+click the drive name.

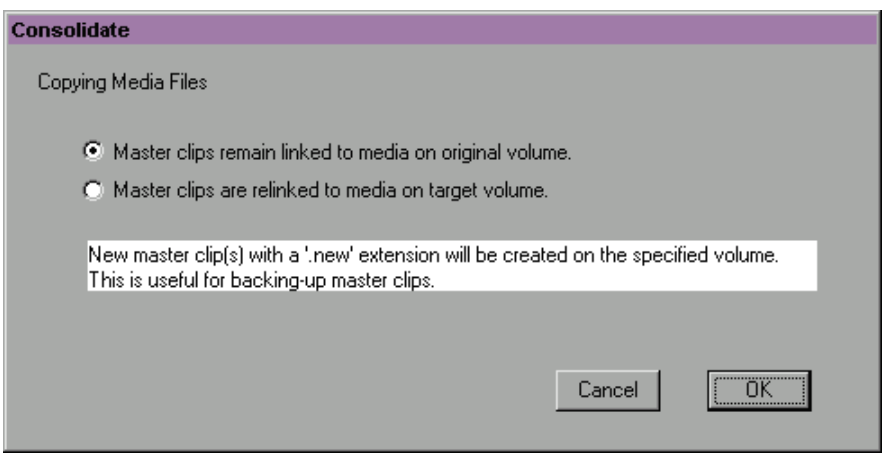
   Make sure that you choose a target drive with enough storage space for all the consolidated media files and the ability to play back media. Drive filtering does not apply to the consolidate process.

6. If you are consolidating subclips or sequences, enter a handle length for the new clips, or leave it at 60 frames (NTSC), 50 frames (PAL), or 48 frames (24p) to accept the default.

For more information on group clips, see **“Grouping and Multi-grouping Clips” on page 550**.

7. If you are consolidating a group clip or a sequence that contains group clips, select the option “Consolidate all clips in a group edit” to copy media for all the clips in the group.

8. Click OK. If you are consolidating master clips and did not choose to delete the original media files, a second dialog box appears and offers you a choice.



9. Link the original master clips to the new or old media files, according to preference.

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10. Click OK.

Another way to back up media files is to copy them directly onto another hard drive by using the Windows NT 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 NT 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.

Loading the Media Database

The media database is a catalog of master clips and precomputes stored on the external media drives. One use of the media database by the Avid system is to display master clips and precomputes in the Media tool.

Bins also contain references to some of the media files based on the contents of the bin. The Avid system does not maintain the entire database in memory at all times but instead builds up a partial database for the bins that have been opened in the current session to preserve as much memory as possible for editing.

If you store the master clips and the edited sequences for a project in separate bins, there are two cases in which you need to load the entire database to relink clips to their media files:

- **Redigitizing:** When you redigitize the master clips while the sequences bin is closed; quit the Avid application; restart the application and open the sequences bin only — the sequences might appear to be offline.
- **Consolidating:** When you consolidate the master clips and relink them to the consolidated media while the sequences bin is closed;

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quit the Avid application; restart the application and open the sequences bin only — the sequences might appear to be offline.

To update the offline sequences with the new media files, choose Load Media Database from the File menu to load all online master clips and precomputes.

You need not load the media database more than once during a single editing session because the database remains in memory until you quit the application or restart the Avid system.

If a bin continues to display the "Media Offline" message after loading the media database, either the media files are missing or the links have been broken. For more information, see "Relinking Media Files" on page 221.

Backing Up Media Files

The OMFI MediaFiles folders on your external media drives contain the individual media files created when you digitized 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 212, to make copies of selected media files on a target media drive connected to the system.
- You can back up smaller projects digitized at low video resolutions to a removable storage device, such as a hard drive.
- You can archive larger media files and folders to a network storage device.
- You can consolidate or make copies of media files for transfer to another system. For more information on transferring media files,

For information on archiving procedures, see your Windows NT operating system documentation.

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see the *Avid Media Composer and Film Composer Input and Output Guide* or the *Avid Products Collaboration Guide.*

Finding a Related Media File

The Reveal File command allows you to select a clip in a bin and automatically open up its related media file. This is useful if you want to delete, move, or label the media file.

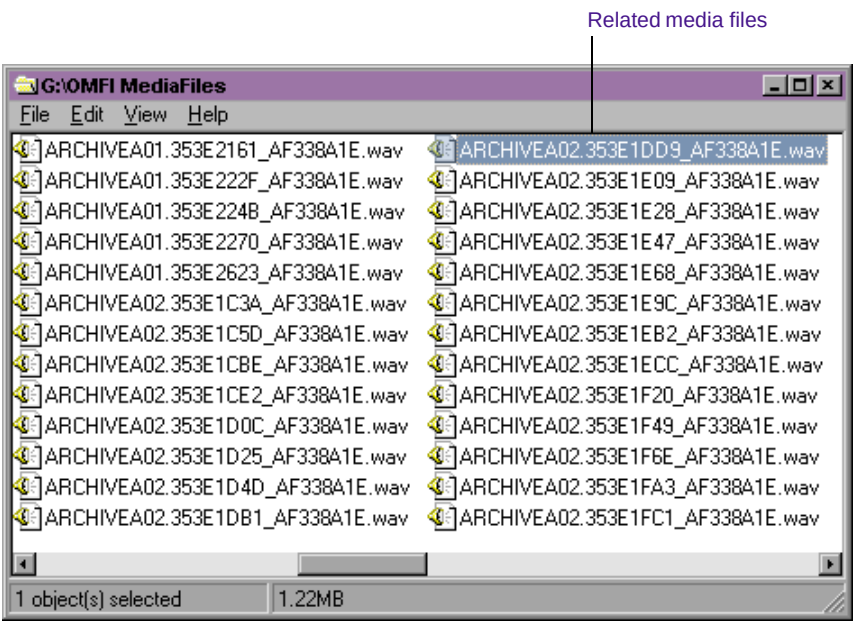
To find a related media file:

1. Select the clip in a bin for which you want to find the media file.

   The clip is highlighted.

2. Choose Reveal File from the File menu.

   The system searches all available drives, opens the Windows NT Explorer, and highlights related media files.



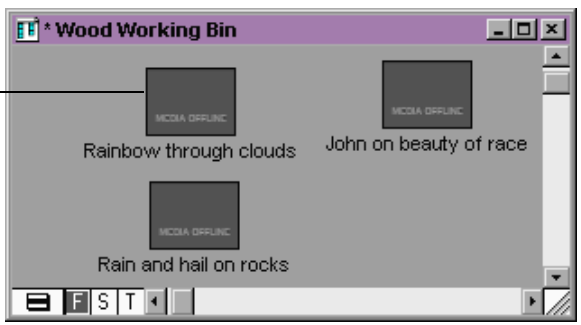
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If more than one file is related to the clip, a message asks if you want to see the next file. If you click OK, you need to bring the Exploring window forward by holding down the Alt key and pressing the Tab key until you select the OMFI MediaFiles folder.

Relinking Media Files

After you consolidate or move material between systems, the clips or sequences might lose their links to the original media files. When a clip becomes unlinked, it displays the message “Media Offline.” If the appropriate media exist online, you can use the Relink command to reestablish the link.

Media Offline message indicates a clip with no link to media files.



When you are finishing a sequence using a film-tape-film-tape workflow, the Relink command is used. For more information, see the *Avid Media Composer and Film Composer Input and Output Guide.*

When you select subclips, group clips, or sequences, and choose the Relink command, the system searches for master clips or subclips that contain the same material included in the selection. You can instruct the system to search specific drives or all available drives.

You can also relink master clips to appropriate media files. The system compares information such as source tape name, timecode

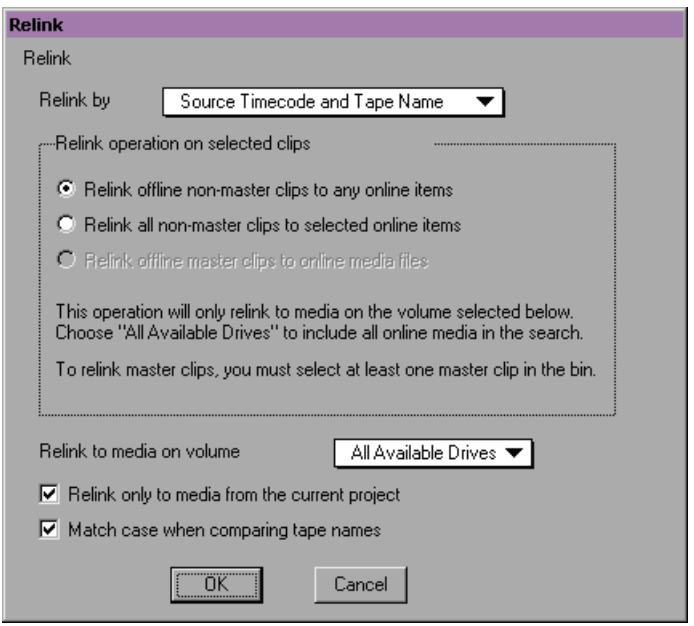
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information, and channels digitized. If the search is successful, the system establishes new links to the available media files.

To relink clips, subclips, or sequences:

1. Select the unlinked object or objects in the bin.
2. Choose Relink from the Clip menu.

   The Relink dialog box appears.



3. (Universal Editing option) Choose an option from the Relink by pop-up menu:
   - Choose “Key Number (KN Start) - picture only” to relink by using the key numbers.
   - Choose “Source Timecode and Tape Name” to relink by using source timecode and tape name.

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4. Select an option from the “Relink operation on selected clips” section depending on the type of object you are relinking, either non-master clips or master clips:

    - Select “Relink offline non-master clips to any online items” to relink only offline clips and sequences to the master clips that contain the same material.
    - Select “Relink all non-master clips to selected online items” to relink related subclips and sequences (online or offline) to the highlighted clip in the bin.
    - Select “Relink offline master clips to online media files” to relink master clips to media files that share similar database information.

5. Choose an option from the “Relink to media on volume” pop-up menu:

    - Choose All Available Drives to search across all media drives that are online.
    - Choose a specific drive volume if you know the location of the media or if you want to relink to media on a specific media drive.

6. (Option) Select “Relink only to media from the current project.”
7. (Option) Select “Match case when comparing tape names.”
8. Click OK.

    The system searches the selected media drives, and relinks clips and sequences if possible.

The system disregards capture rate, video resolution, and audio resolution when matching media files.



If you want to maintain the original capture settings for a subclip or sequence, use the Batch Digitize command; do not use the Relink command. Make sure you select the following options in the Digitize Settings dialog box: “Digitize the tracks logged for each clip,” “Use the audio sample rate logged

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for each clip," and "Use the video compression logged for each clip." For information on batch digitizing, see the Avid Media Composer and Film Composer Input and Output Guide.

Relinking to Selected Clips

You can also use the Relink command for connecting subclips or sequences to selected master clips and subclips.

To relink to selected master clips and subclips:

1. Move the subclips or sequences that you want to relink into the bin containing the clips.
2. Select the clips targeted for relinking.
3. Choose Relink from the Clip menu.

   The Relink dialog box appears.
4. (Universal Editing option) Choose an option from the Relink by pop-up menu:
   - Choose "Key Number (KN Start) - picture only" to relink by using the key numbers.
   - Choose "Source Timecode and Tape Name" to relink by using source timecode and tape name.
5. Select "Relink all non-master clips to selected online items" to relink related subclips and sequences to the highlighted clip in the bin.
6. Choose an option from the "Relink to media on volume" pop-up menu:
   - Choose All Available Drives to search across all media drives that are online.
   - Choose a specific drive volume if you know the location of the media or if you want to relink to media on a specific media drive.

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7. (Option) Select “Relink only to media from the current project.”
8. (Option) Select “Match case when comparing tape names.”
9. Click OK.

   The subclips and sequences are linked to the selected clips and subclips.

Relinking Consolidated Clips

If the appropriate media exists online, you can reconnect consolidated clips, subclips, or sequences to the new or old media files by choice.

For example, if you consolidated a sequence and forgot to create a duplicate, and later want to use the original media files instead of the consolidated media files, you can break the new link and reestablish the old link to the original files.



Because subclips and sequences do not point directly to the media files, you can perform this procedure only by using the source master clips.

To relink consolidated subclips or sequences:

1. Select the new master clips for a consolidated subclip or sequence (the clips will have the file name extension *.new*), and unlink them. For information on unlinking, see **“Unlinking Media Files” on page 227**.
2. Choose Relink from the Clip menu.

   The Relink dialog box appears.
3. (Universal Editing option) Choose an option from the Relink by pop-up menu:
   - Choose “Key Number (KN Start) - picture only” to relink by using the key numbers.
   - Choose “Source Timecode and Tape Name” to relink by using source timecode and tape name.

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4. Select “Relink offline master clips to online media files” to relink master clips to media files that share similar database information.
5. Choose a specific drive volume that contains the original media files from the “Relink to media on volume” pop-up menu.
6. (Option) Select “Relink only to media from the current project.”
7. (Option) Select “Match case when comparing tape names.”
8. Click OK.

   The clips are relinked to the original media files.

Relinking Moved Projects

If you move projects between systems with similar media existing at each site but digitized separately, your clips and sequences will display the message “Media Offline.” You can use the Unlink and Relink commands to reconnect the files at either site.

For example, if you have a project that requires sharing work between two different sites, you can digitize the source material once at each site and exchange only the project folder at each stage, rather than move large media drives back and forth. The project folder can be exchanged on floppy disks or instantly across a network. Because the media files maintain slightly different parameters at each site, you must relink the material each time.

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Unlinking Media Files

You can use the Ctrl and Shift keys to modify the Relink command for unlinking clips from their media files.

To unlink master clips from their current links:

1. Select the master clips to unlink.
2. Press Ctrl+Shift and choose Unlink from the Clip menu.

   The clips are unlinked and display the message “Media Offline.”



Because subclips and sequences do not point directly to the media files, you can perform this procedure only by using the source master clips.

If you have similar material from different sources, you can duplicate a set of clips, unlink the duplicates, and then modify the sources of the duplicates before digitizing the new source material.

For more information on working with multi-camera material, see **Chapter 15**.

For example, if you are working with multicamera material, you can digitize one reel, duplicate the clips several times, unlink the duplicated clips, and rename their source tapes to batch digitize the remaining reels.

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CHAPTER 8

Using Script Integration

The lined script is traditionally used as a tool for managing scene and take information during postproduction on a dramatic feature film or television production. With the Avid system, script integration allows you to adapt the lined script to the digital realm for use in any type of production, from drama to documentary to spot advertising. The following sections describe these methods:

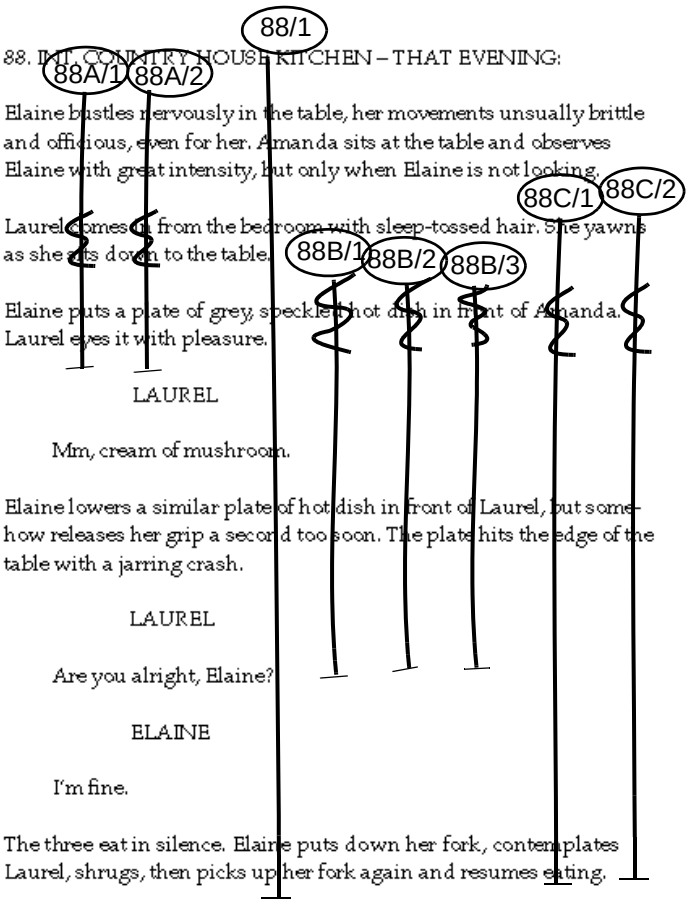
- **Line Script Basics**
- **Script Window Basics**
- **Manipulating Script Text**
- **Searching Through Script**
- **Linking Clips to the Script**
- **Interpolating Position for Script Integration**
- **Manipulating Slates**
- **Manipulating Takes**
- **Using Script Marks**
- **Finding Clips and Script**
- **Editing with the Script Window**

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Line Script Basics

The conventional lined script — which evolved during decades of trial and error in Hollywood — provides assistant editors and chief editors with a road map that helps them find the coverage they need to edit scenes in a film or television show.

Traditionally, the continuity person creates the lined script on the set at the time of shooting. All notes are handwritten. The following is an example of a scene from a lined script:



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Explanation of Symbols

Each vertical line drawn through the scene represents a single take from the moment the director says “Action” to the moment the director says “Cut.” Each scene might require several camera angles and positions, with one or more takes, all of which are lined and identified alphanumerically.

The following is a brief summary of the lining techniques and numbering system shown in the previous example:

- **Master shot:** The line labeled 88/1 is the master shot that usually covers all the action in a wide shot. The first number in the label indicates the scene number as written on the script (scene 88). The number following the slash indicates that this is the first take captured on film for the master shot. A second take of the master shot, for example, would be labeled 88/2.
- **Additional setups:** The lines for each subsequent camera setup within the scene are labeled with the scene number (88 in our example) followed by a letter for each setup (A, B, C, and so forth), followed by a slash and the number of the take within that setup. These lines can be any length, depending upon what portion of the script is covered by the particular shot.
- **Off-screen dialog**: The jagged lines in the script represent the parts of dialog where the actor is off screen. For example, the character Amanda is off camera during the action described in the second paragraph (when the character Laurel enters), so a jagged line is drawn through the shots that cover Amanda (88A/1 and 2).

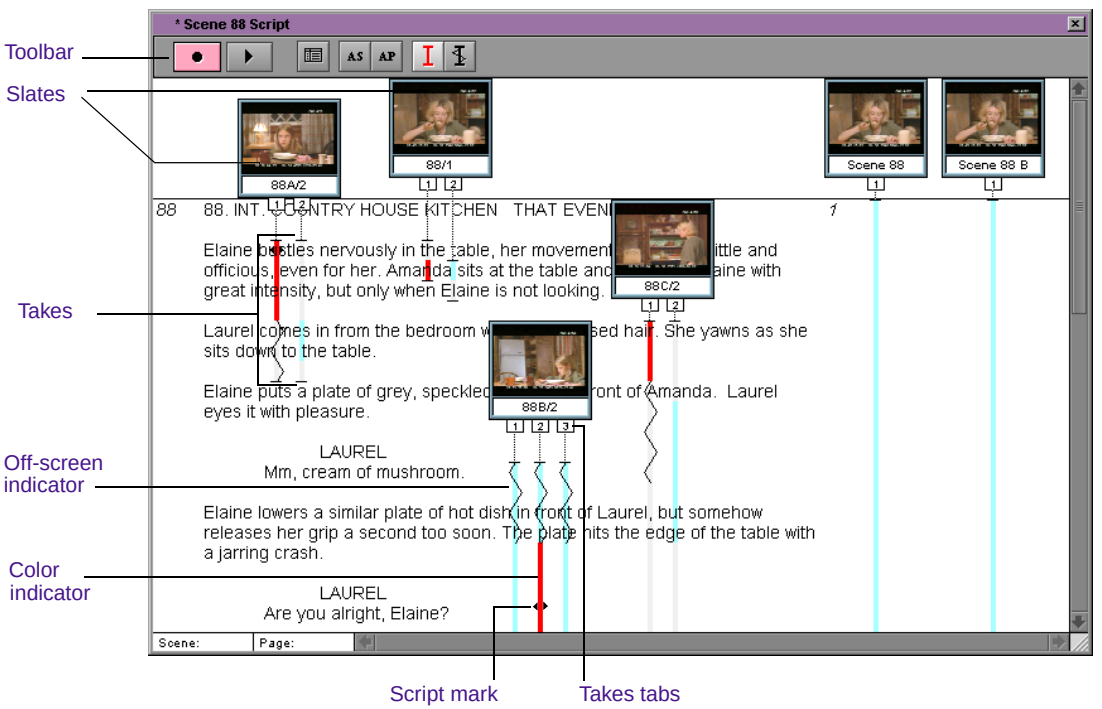
When the scene is recorded on videotape — in a sitcom shoot, for example — the line script can also include timecode notes written next to specific lines of dialog that represent a sync point between the dialog on the page and the recorded dialog on tape. These sync points provide assistant editors or chief editors with a quick path to specific points in the source material.

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Lining in the Digital Realm

Script integration in the Avid application provides a number of enhancements to this traditional system. These enhancements allow you to shorten dramatically the distance between the concepts captured on the page and the source materials used to assemble a finished program.

Unlike the traditional lining of a script, digital script integration is usually performed after the shoot — by the assistant editor, for example — using the notes of the continuity person. The following is an example of the script shown in the previous section, prepared and lined using script integration:



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In addition to the standard lining conventions, script integration includes the following enhancements:

- **Slates**: Takes are organized into slates that display a representative frame and clip name for the take that is currently selected.
- **Takes**: The take tabs and lines extending from the bottom of each slate indicate the number of takes for that scene. Click a take tab to select the take.
- **Indicators:** You can apply off-screen dialog indicators or colors to indicate such things as preferred takes, takes used in the current active sequence, or line changes in dialog.
- **Script marks**: The double arrows marking the takes at various points represent marked lines of dialog in the script that have been synchronized to matching dialog in the source clip. Script marks are especially effective during editing, allowing the editor to quickly locate dialog and piece together parts of a scene.

The Script window provides additional controls for matching back to clips in the source bins, loading and playing back takes, and searching for takes and script text.

Script Integration Workflow

The basic workflow for script integration is as follows:

1. The continuity person or an assistant creates the lined script in hardcopy form on the set during shooting.
2. Source footage from the shoot is prepared and digitized by using methods described in the *Avid Media Composer and Film Composer Input and Output Guide*.
3. The assistant editor uses the lined script from the shoot, a text file of the script itself, and methods described throughout this chapter to import and line the script, link clips to the script, place script marks, and customize the display of takes prior to editing.
4. The editor uses the fully prepared Script window to edit the program.

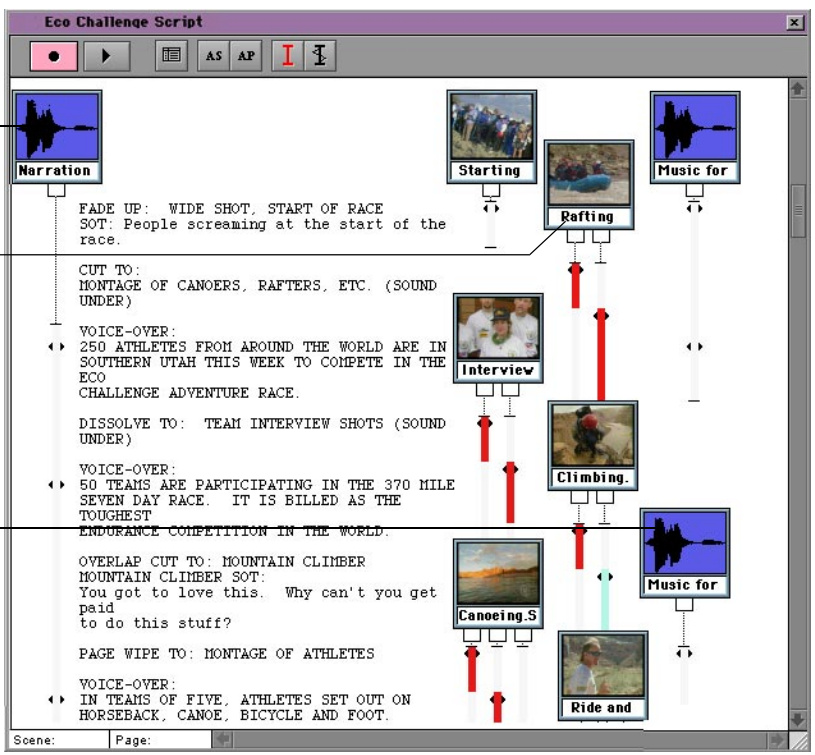
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Using Script Integration in Video Projects

Script integration can be an effective tool for editing any type of production, not just feature films and television drama. For example:

- You can adapt many of the procedures described in this chapter for use in audiovisual scripts for documentaries, corporate spots, news magazine segments, and spot advertisements.
- You can turn script integration into a quick storyboarding tool by positioning selected slates in the Script window and printing storyboard bins that include your script.

The following is an example of an audiovisual script for a news magazine piece imported into the Script window, with most of the basic features of script integration applied.



Narration track is synced to the script.

All possible B-roll shots are ready to be loaded and cued. Color indicates preferred shots.

Music cuts are linked to appropriate sections of the script.

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Script Window Basics

This section describes basic procedures for creating and manipulating script windows, including importing script text; navigating through the script; displaying clip information; opening, closing, and saving windows; and adjusting margins.

Before you begin creating script windows, make sure you have established the proper defaults in the Script Settings dialog box for font, margin, and display of frames and takes. For information on Script settings, see **"Script Settings Options" on page 234**. These parameters can also be changed manually, as described throughout this chapter.

Script Settings Options

You can modify Script settings in the Script Settings dialog box. Double-click Script in the Settings scroll list of the Project window to open the Script Settings dialog box.

Table 8-1 describes the Script Settings options.

Table 8-1 Script Settings Options

Option	Description
Font	This option selects the font for imported scripts.
Size	This option selects the font size. The default is 12 points.
Left Margin (pixels)	This option specifies the left margin size. The default is 40 pixels.
Take Coloring	This option specifies the color that the Avid system will apply to takes.

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Table 8-1 Script Settings Options (Continued)

Option	Description
Show Frames	When this option is selected, the system shows frames in take slates.
Show All Takes	When this option is selected, the system shows all takes in each slate. If you deselect this option, the Avid system will display only one take per slate.
Interpolate Position	When this option is selected, you can click in a take line within a script, and the image in the Source monitor updates to the approximate position in the take where you have clicked. If you deselect this option, the Source monitor does not respond when you click in a take line.

Importing a Script

The first step in script integration is to import a script in the correct format.



The imported script must be in ASCII text format. However, to maintain the original formatting, export the script from your word processor by using the "Text Only with Line Breaks" option. If you export the script as "text" only, the formatting will be lost.

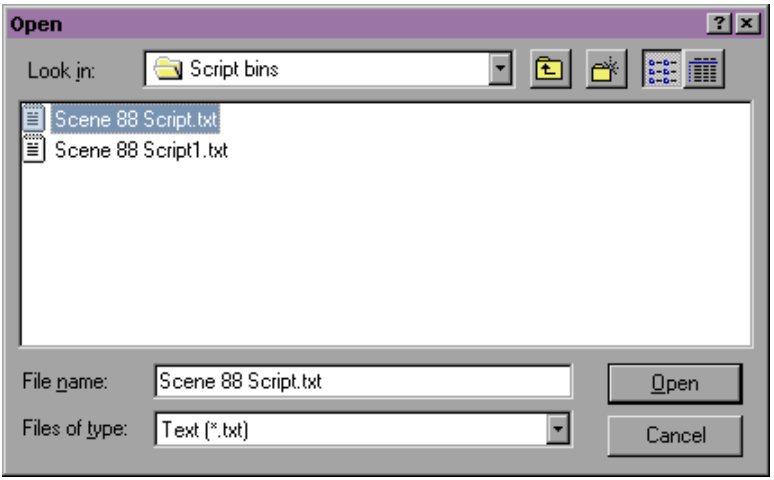
To import a new script:

1. Place the file in a directory that is available to your system in one of the following ways:
   - Transport the file on a floppy disk and copy it to your hard drive.
   - Place the file in a network location that you can access from your system.
2. From within the Avid application, click in the Project window to select it.

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3. Choose New Script from the File menu.

   The Open dialog box appears.



4. Locate the file and double-click it, or select the file and click Open.

   The system creates a new bin named after the project by default. The script, with its original layout, appears in the bin.

5. Change the name of the script bin by clicking the title in the Bins list in the Project window and typing a new name.

Opening, Closing, and Saving the Script Window

The Script window behaves in many respects like a bin:

- When you make changes in the Script window, a diamond appears in the title bar to indicate that the changes have not yet been saved.
- You save changes by choosing Save Script from the File menu.
- Auto-save functionality also applies to the Script window, based on parameters established in the Bin settings.

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- Script window files are saved in the folder for the project along with bins, and backup copies are automatically stored in the Attic folder.
- You can save a copy of the Script window by choosing Save a Script Copy As from the File menu.
- You can use the Open and Close commands in the File menu to open additional Script windows and add them to the Bins list in the Project window, or to close Script windows.

Displaying Clip Information in a Script Window

The Clip Information window displays statistical information about a clip. The window updates the information automatically.

To open the Clip Information window from a Script window:

1. Press the Alt key and click the take tab.
2. Drag the window to a new location to leave the window open.

Navigating in the Script Window

After importing a script, you can navigate to any point in the text by using basic techniques available in most word processors:

- Use the scroll bar on the right to scroll up or down.
- Resize the window by dragging the size box in the lower right corner.
- Press the Page Down or Page Up key to move one screen at a time.
- Press the Home or End key to move to the beginning or end of the script.
- Press the Up Arrow or Down Arrow key to move your line selection up or down by one line.

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*You can also use several search features, as described in **"Searching Through Script" on page 242**.*

Adjusting the Script Margins

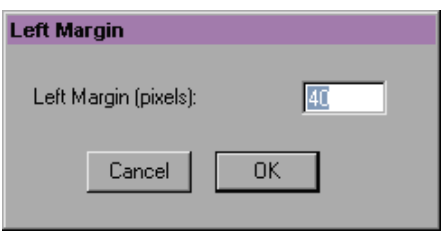
You can resize a Script window at any time to show more script or to enlarge the right margin by dragging the size box in the lower right corner.

The default size of the left margin is established on import, based on the current Script settings. You can also override the margin setting and adjust the left margin after importing the script.

To adjust the left margin of an imported script:

1. Choose Left Margin from the Script menu.

   The Left Margin dialog box appears.



2. Type a new margin size, in pixels, into the text box and click OK.

   The Script window reflects the new setting.

Manipulating Script Text

After importing a script, you can customize its appearance by changing the font and font size. You can also cut, copy, paste, or remove lines of script to reflect changes that might occur during the course of a project.

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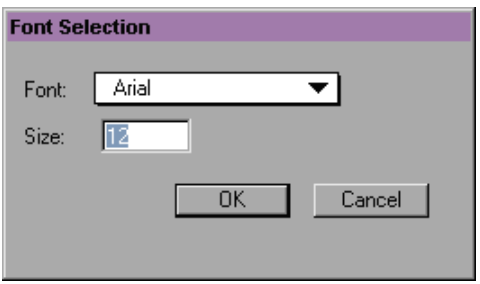
Changing the Font of the Script

The default font and font size used in the script are established on import, based on the current Script settings. You can also override the settings and change the font and size after importing the script.

To change the font and size of imported script:

1. Choose Set Font from the Edit menu.

   The Font Selection dialog box appears.



2. Choose a new font from the pop-up menu. The menu includes all fonts currently installed in the system.
3. Type a new font size into the text box and click OK.

   The Script window reflects the new settings.

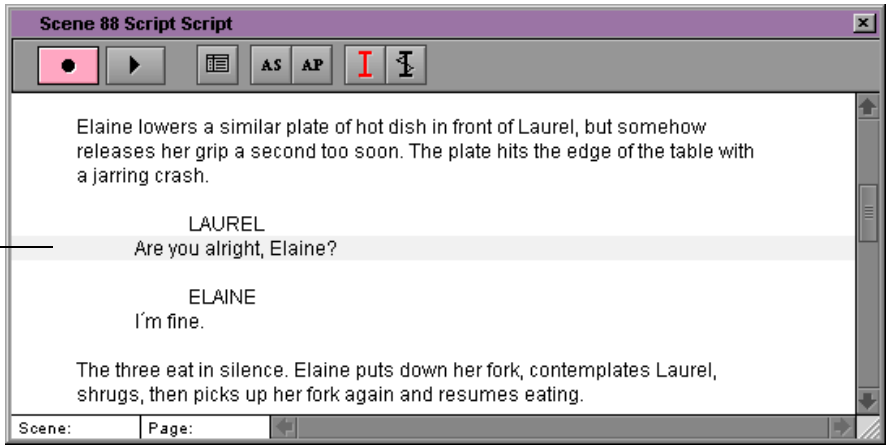
As you enlarge font size, the available sizes for the slate frames also increase. This can be useful for presentation or screening purposes, when you need to display extra-large text and slate frames for a large audience or across a room. For information on enlarging slate frames, see ***"Resizing a Slate" on page 250***.

Selecting Text

Selecting text in the Script window is similar to making selections in a word processor, except that the smallest unit you can select is an entire line of text.

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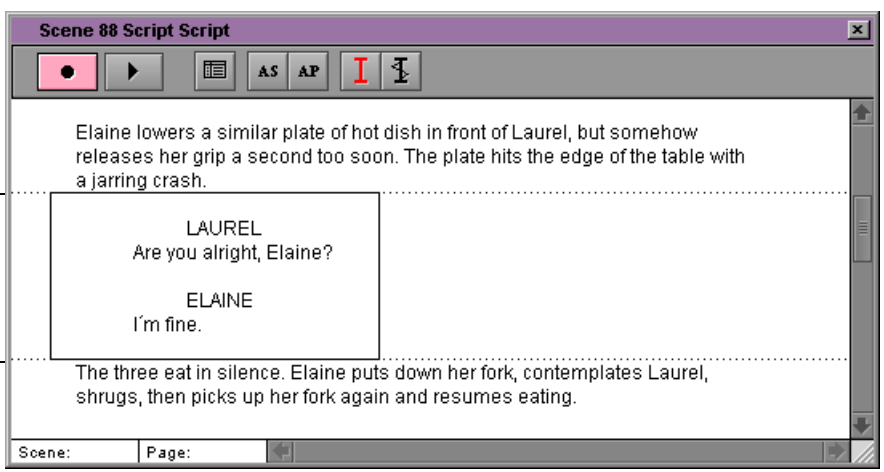
To select a single line of script, click anywhere in the line to highlight it.



Selected lines are highlighted.

To select several lines of script, use one of the following methods:

- Lasso the first line of the selection and drag through the text. As you drag, a box outlines your selection.



Lasso a portion of script to select it.

Release the mouse button when you finish lassoing the chosen lines. The text is highlighted.

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- Click the first line of the selection, then Shift+click the last line. The entire block of text is highlighted.



You can also extend a selection by pressing the Shift key and clicking a line of text preceding or following the current selection.

Cutting, Copying, and Pasting Script

You can cut, copy, and paste text in the script just as you would in a normal word processor. However, because you cannot select individual words or characters, you can only move lines or paragraphs.



You cannot undo cut, copy, or paste procedures in the Script window.

To cut or copy and paste lines of script:

1. Select the lines.
2. Choose Cut or Copy from the Edit menu.
3. Select the line below the location where you want to insert the text.
4. Choose Paste from the Edit menu.

   If only one line is selected at the insertion point, a message box asks if you want to replace the selected line.
5. Make a choice based on your needs:
   - Click Yes if you selected lines at the insertion point that you want to overwrite.
   - Click No if you want to insert the text above the selected line.

   The text is pasted into the script.

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To rearrange or rewrite individual words or characters in the script, you should make the changes in a word processor before importing them into a separate Script window. You can then use the procedures in this section to copy and paste the new lines into the existing Script window, overwriting the incorrect lines.

Removing Script Text

You cannot delete lines of text from the Script window by using the Delete key as you would in a normal word processor. Use the Cut command to remove the text instead.

To remove lines of script:

1. Select the lines of script you want to delete.
2. Choose Cut from the Edit menu.

Unlike a normal deletion, the text remains in the Windows NT Clipboard until the next time you copy or cut a selection.

Searching Through Script

You can use the Find Bin and Find Script buttons to match back and forth between script and clips. For more information, see **"Finding Script" on page 263**.

Script integration provides a number of search tools you can use during the preparation phase, during editing, or during screenings. You can apply and search for page or scene numbers, or you can conduct a full-text search.

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Using Page and Scene Numbers

When you add page and scene numbers to the Script window, you gain the ability to search for them during preparation of the script and during editing. You can customize page and scene numbering by adding, changing, and moving the numbers as necessary.

Adding a Page or Scene Number

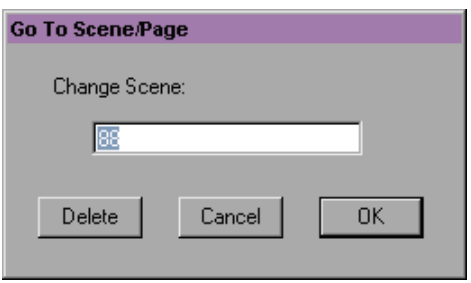
To add a page or scene number:

1. Select the line of the script at the beginning of the scene or page.



2. Click the Add Scene or the Add Page button in the Script window toolbar, or choose Add Scene or Add Page from the Script menu.

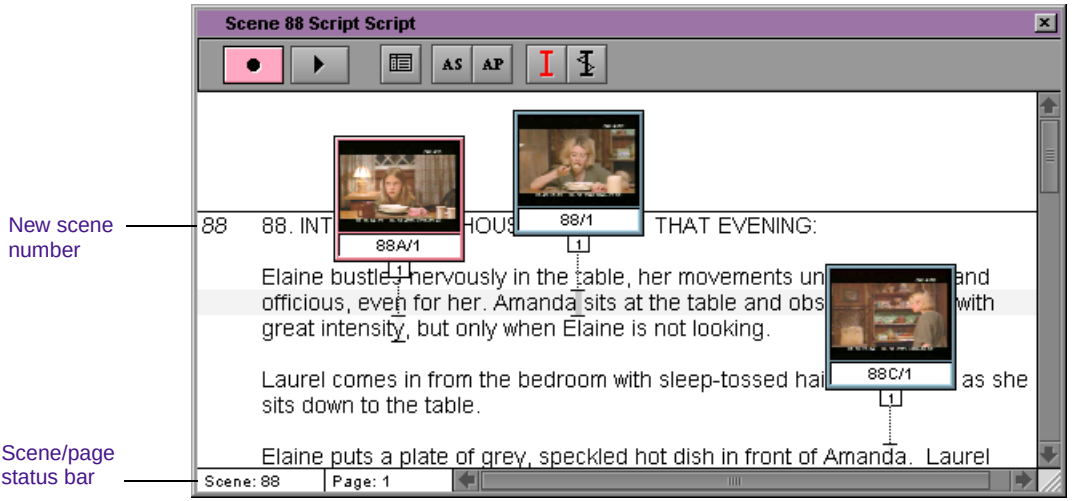
   The Change Scene or Change Page dialog box appears.



3. Type the number for the scene or page, and click OK.

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For a scene, the number appears in the left margin next to the first line of the selected region.



Scene and page numbers both appear in the status bar at the bottom of the Script window, and reflect your current position within the script. Each scene or page number will continue throughout the script until you mark another line as the beginning of a new scene or page.

Changing a Page or Scene Number

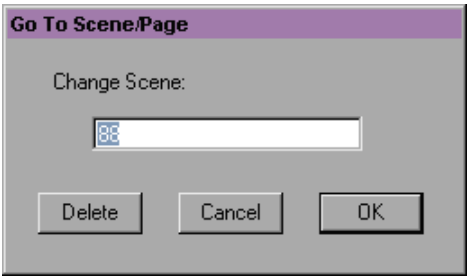
You can change a scene or page number to correct any errors that occur when adding numbers, and to reposition scene and page numbering to match script changes during postproduction.

To change a page or scene number:

1. Select the beginning line of the previous scene or page.
2. Click the Add Scene or Add Page button in the Script window toolbar, or choose Add Scene or Add Page from the Script menu.

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The Change Scene or Change Page dialog box appears.



3. Type a new number for the scene or page and click OK.
4. If the renumbering affects page or scene numbers that precede or follow the current change, then repeat these steps as necessary.

Deleting a Page or Scene Number

To delete a page or scene number:

1. Select the first line of the scene or page.

You can also delete all page or scene numbering throughout a range of the script by selecting the range of lines or the entire script.

2. Press the Backspace key.

   The Delete dialog box appears.

3. Select the options for Delete scene or Delete page break(s), as appropriate, then click OK.

   The numbering is deleted from the Script window.

Searching for a Page or Scene Number

Once you have added scene and page numbers, you can search for them quickly during editing.

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To search for a page or scene number:

1. Choose Go To Page or Go To Scene from the Script menu.



You can also click on the page or scene display in the status bar at the bottom of the Script window.

The Go To Scene / Page dialog box appears.

2. Type the number of the scene or page and click OK.

The Script window scrolls to the page or scene, and the first line of script is highlighted.

Conducting a Text Search

To search for text in the script:

1. With the Script window active, choose Find from the Edit menu.

The Find dialog box appears.

2. Type the text you are looking for.
3. Select one of the optional search parameters, when appropriate:
   - Choose Ignore case if you do not want the search to be case sensitive.
   - Choose Whole word if you do not want the search to highlight instances where your text is one part of another word.
4. Click OK.

The first occurrence of the text is highlighted in the Script window.

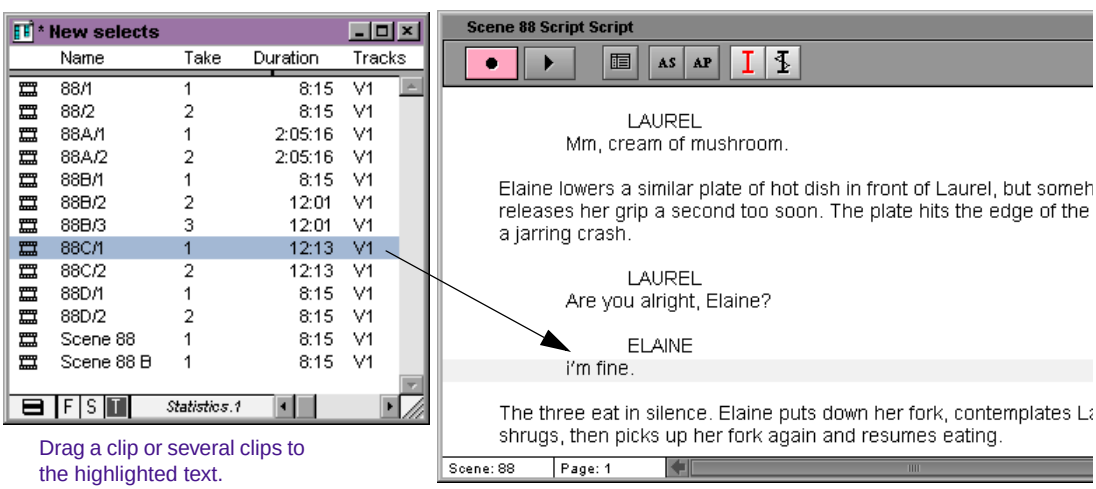
5. Choose Find Again from the Edit menu to search for the next occurrence of the text.

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Linking Clips to the Script

To link clips to the script:

1. Open the script bin.
2. Open the source bin for the clips that you want to link to the script.
3. (Option) Sort the source clips to make the job easier:
   - You can sort the Scene / Take column for an alphanumeric list of clips that matches their relative order in the script.
   - If you are not working with scene and take information (for example, in a video documentary project), you can provide your own numbering for the clips in a custom column, or you can sort the clips manually in Frame view according to their order in the script. For more information on adding a custom column, see **"Adding Customized Columns to a Bin" on page 174**.
4. Select the portion of the script that is covered by the first clip or clips.
5. Select the clip or clips in the source bin and drag them to the highlighted text.

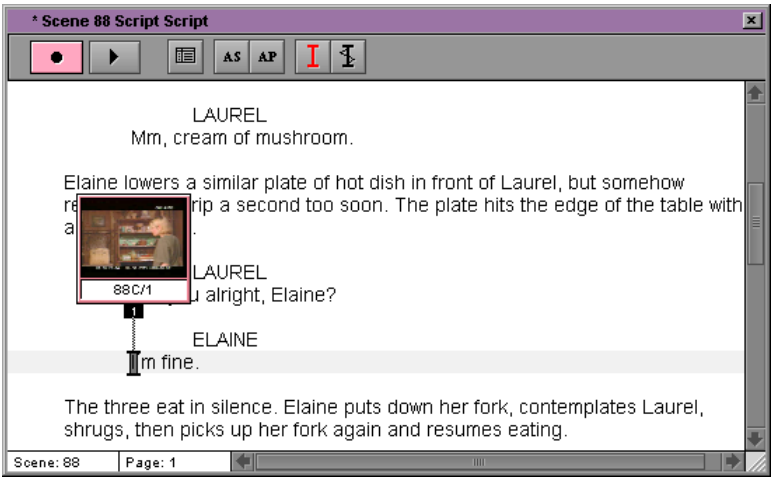


Drag a clip or several clips to the highlighted text.

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A slate frame appears above the text, with one or more of the takes covering the scene as lines.

The slate appears.



6. Continue to apply clips to additional portions of the script until you have finished creating all your slates.

   Alternatively, you can create slates one at a time, place script marks, and fine-tune the lining of each scene before proceeding to the next portion of the script.

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Interpolating Position for Script Integration

Interpolate Position matches a clip to a take and allows you to see where a particular line in the script would appear in the clip footage.

When you turn on Interpolate Position, the length of the take in the script is matched to the length of the clip in the Source monitor. The position indicator in the Source monitor corresponds to wherever you click in the take.

If you set a script mark in the take, the portions of the take on either side of the script mark are matched to the portions of the clip on either side of the IN mark in the Source monitor.

To turn on Interpolate Position, do one of the following:

- Choose Script from the Settings scroll list in the Project window, click Interpolate Position, and then click OK.
- Choose Interpolate Position from the Script menu.

Manipulating Slates

Once you create a slate by dragging a clip into the Script window, you can manipulate the slate's appearance and position.

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Selecting Slates

There are several ways to select slates:

- Click a slate to select it.
- Shift+click additional slates to select all the active takes.
- Drag a lasso through a region of the script containing slates. All slates and takes within the lasso are selected.



Selecting multiple slates is especially useful when you are adding or deleting color or off-screen dialog indicators across takes, as described in ***"Manipulating Takes" on page 253***.

Resizing a Slate

You can resize a slate the same way you resize frames in the bin in Frame view:

- To enlarge a slate, select it and choose Enlarge Frame from the Edit menu.
- To reduce a slate, select it and choose Reduce Frame from the Edit menu.



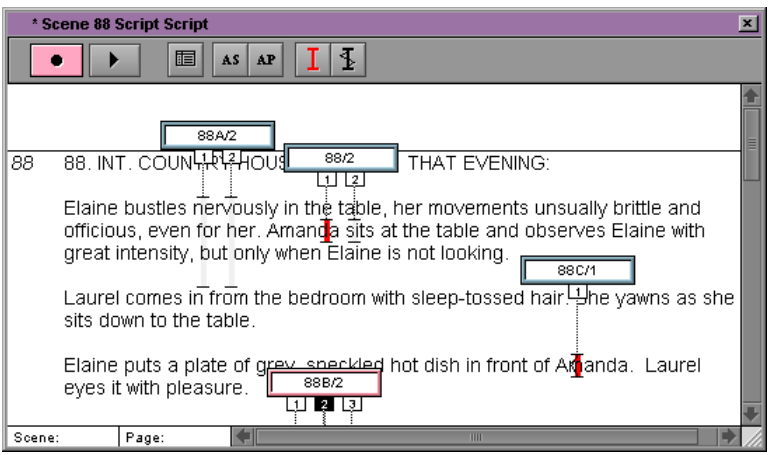
You can enlarge the font size of the script to increase the size of the slate frames. This can be useful for presentation or screening purposes when you need a large display for an audience. For information on resizing the font, see ***"Changing the Font of the Script" on page 239***.

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Hiding Slate Frames

By default, the system displays a representative frame for each take in the slates. You can hide this frame display and show only the clip name to simplify the interface or speed up scrolling and movement in a complex Script window.

To hide the slate frames, choose Show Frames from the Script menu. The Script window shows only the clip names for the takes.



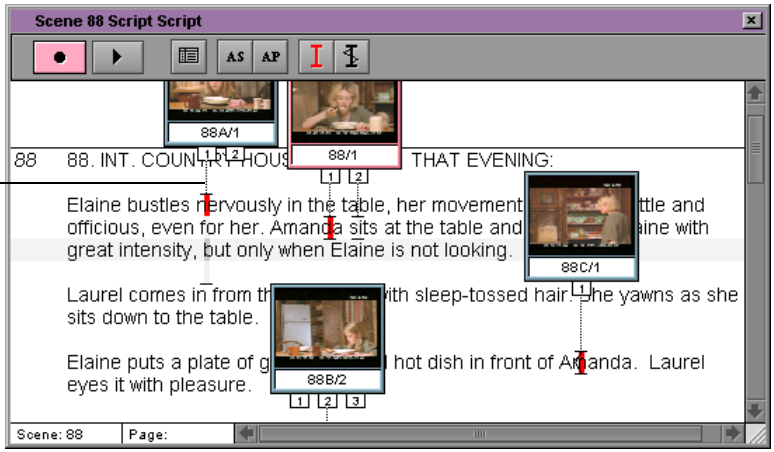
To restore the frames, choose Show Frames again.

Showing One Take Per Slate

You can display only one representative take per slate to minimize clutter on the screen.

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To show one take per slate, choose Show All Takes from the Script menu. The Script window shows only the first take in each slate.



To display all the takes, choose Show All Takes again.

Moving a Slate

You can adjust the position of slates to make room for more slates, to avoid blocking words, or to display takes over specific lines.

To move a slate, use one of the following methods:

- To move a slate horizontally, click the slate and drag it to the left or the right. (If necessary, resize the Script window by dragging the size box.)
- To move a slate vertically without moving the position of the take lines in the script, click the slate and drag it up or down. The take lines remain fixed over the text to which they have been previously linked.
- To move the slate and all its take lines vertically to a new location in the script, press the Ctrl key, and then drag the slate to the new location.

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As you move the slate, the takes continue to cover the same number of lines in the script. To lengthen or shorten the number of lines covered in the takes at the new location, see ***"Adjusting Take Lines" on page 256****.*

Deleting a Slate

Occasionally, you might need to delete a slate — for example, when you find that the takes in the slate are no longer needed.

When you delete slates and takes from the Script window, the digitized source clips remain in the source bins.

You cannot undo the deletion of slates. To restore a slate after deletion, you need to re-create the slate. See "Manipulating Slates" on page 249.

To delete a slate:

1. Select all the takes in the slate by pressing the Shift key and clicking the tab for each take.
2. Press the Backspace key.

   The Delete dialog box appears, indicating the number of takes to be deleted.
3. Click OK to delete the takes.

   The slate and all its takes are deleted from the script.

Manipulating Takes

Script integration provides a number of tools and techniques for manipulating the relationship between lined takes in the Script window and their source clips, as described in this section.

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Selecting Takes

To select takes, use one of the following methods:

- Click any take tab to select it. The outline of the take becomes bold to indicate that the take is active.
- Shift+click additional takes in the same slate or across slates to select them.
- Drag a lasso through an entire region of the script. All takes within the lasso are selected.



Selecting multiple takes is especially useful when adding or deleting color or off-screen dialog indicators, as described in ***"Indicating Off-Screen Dialog" on page 257*** *and* ***"Using Color Indicators" on page 258****.*

Adding Takes

To add another take to an existing slate:

1. Select the region of the script that the take covers.
2. Open the bin where the clip for the take is located.
3. Drag the clip to the slate.

   The new take appears in the slate and is applied to the selected region of the script.

Deleting Takes

As you screen clips, you might find that a take has been applied to the wrong scene and should be deleted from the slate. Or, you might decide to delete a bad take to simplify the script interface for the editor.



You cannot undo the deletion of takes. To restore a take after deletion, see "Adding Takes" on page 254.

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To delete one or more takes:

1. Select the takes.
2. Press the Backspace key.

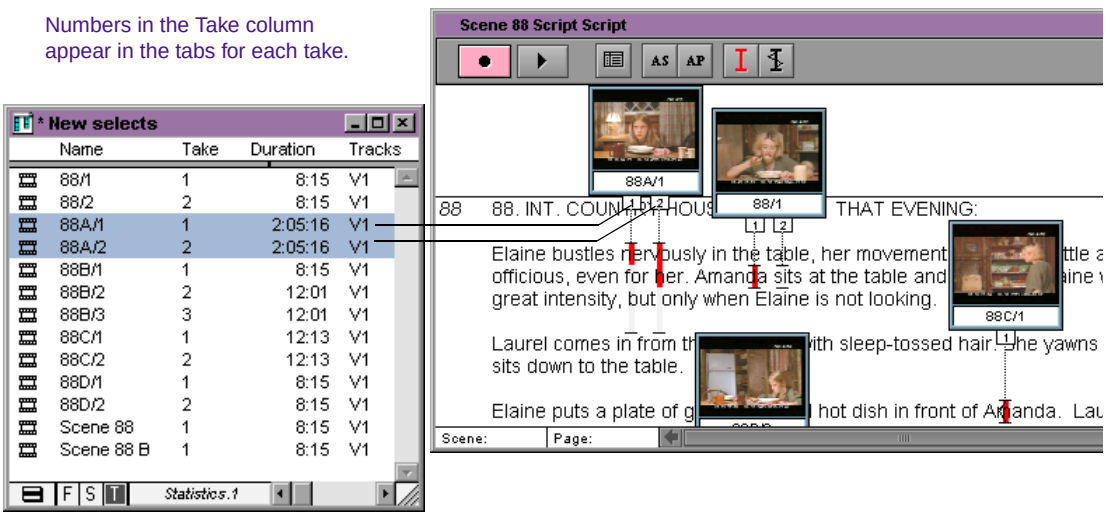
   The Delete dialog box appears.
3. Click the Delete Takes check box, and click OK.

   The takes are deleted.

Displaying Take Numbers

To display take numbers within the tab of each take, enter the numbers in the Take column of the source bin for the clips.

Numbers in the Take column appear in the tabs for each take.



Changing the Representative Frame for a Take

To change the representative frame that appears in the slate for a take:

1. Select the take.

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2. Press the appropriate J-K-L (step) keys on the keyboard to advance the footage displayed in the slate forward or backward to the frame you want.

You can also select multiple takes and advance them all at once.

Loading Takes

You can load individual takes into the Source monitor one at a time, or you can load multiple takes, as follows:

- Double-click any take tab.
- Select multiple takes, then double-click any take in the selection.

Playing Takes

There are two ways to play back a take:

- Double-click a take to load it into the Source monitor, then click the Play button or press the Play key.

  The clip plays back and stops when it reaches the end.

- Select a take in the script, then click the Play button at the top of the Script window.

  The clip loads and plays back in a continuous loop until you press the space bar. If you selected more than one take, each take will play in sequence.

Adjusting Take Lines

As you screen clips in the script, you might find that a take or group of take lines should begin earlier or end later in the script. You can adjust the take lines by moving the beginning mark, the end mark, or both.

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To change the length of a take line:

1. Press the Ctrl key.

   Notice the movement icon that appears when you point the cursor at either end of the take.

2. Click the end mark or beginning mark of a take and drag it until you reach the correct line in the script.

3. Press the Ctrl key and drag the opposite end of the take to a new location if necessary.

4. Repeat the procedure for other takes in the slate as necessary.

Indicating Off-Screen Dialog

In the traditional lined script, you indicate off-screen dialog by drawing a jagged line next to the dialog. You can apply a similar effect to lines in the Script window.

To indicate off-screen dialog:

1. Select the range of script containing the off-screen dialog.

2. Select one or more takes that you want to mark with the off-screen indicators.



3. Click the Set Offscreen button in the Script window toolbar.

   The indicators appear, superimposed on the selected takes. You can switch the indicators on or off by clicking the button repeatedly.

To remove one or more off-screen indicators:

1. Select the range of script containing the off-screen indicators.

2. Select only those takes that display the indicators.

3. Click the Set Offscreen button.

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Using Color Indicators

You can use color to indicate several pieces of information, including:

- Preferred takes or takes used in the current active sequence
- Picture versus audio track used in the current active sequence
- Line changes in dialog
- Use of multiple cameras

To apply color to takes:

1. Choose a color from the Color submenu of the Script menu.
2. Select the region of the script that covers the range within the take or takes that you want to highlight with color.
3. Select one or more takes.
4. Click the Set Color button in the Script window toolbar.



   The color appears only in the highlighted script region of the selected takes. You can switch the indicators on or off by clicking the button repeatedly.

To remove one or more color indicators:

1. Select the range of script containing the color indicators.

   The first take in the selected region determines the color indicator status displayed in the Set Color button.
2. Select only those takes that display the indicators.
3. Click the Set Color button.

Using Script Marks

Script marks allow you to synchronize individual lines of script with matching points in digitized clips. When you place a mark in the script, an IN mark also appears in the clip when you load it into a

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monitor for editing. This provides line-by-line control over alternative takes that the editor can instantly load and edit into the sequence.

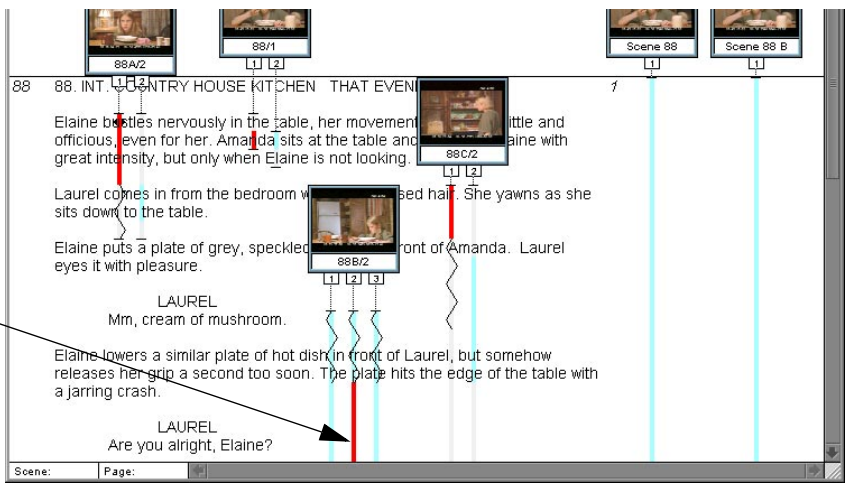
You can place script marks one take at a time, or you can automate the process of screening and marking selected takes in a playback loop.

Placing Script Marks Manually

To place script marks manually:



1. Map the Add Script Mark button from the Other tab in the Command palette to a user-customizable palette or to the keyboard.
2. Double-click in the Script window at the intersection of a take and the line of dialog that you want to mark.



Intersection of take and line of dialog

The take is selected in the slate, the chosen line of the dialog is highlighted, and the clip loads into the Source monitor.

3. Click or press Play. The take plays in the monitor.

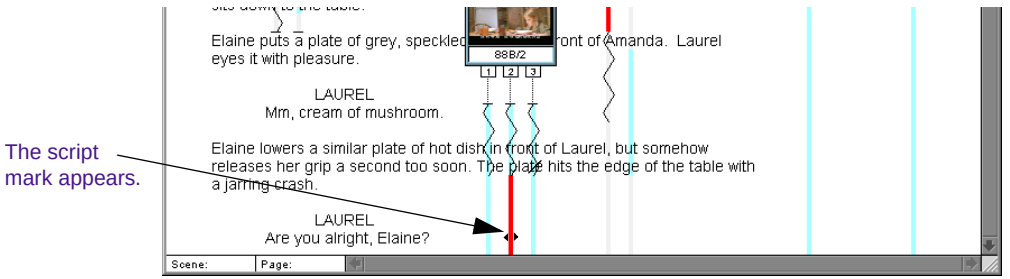
   Alternatively, you can step (jog) or shuttle through the footage, place the position indicator on the exact frame, or scrub the audio

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to find the exact line of dialog. The clip does not have to be playing.

4. When the playback reaches the chosen line of dialog, click the Add Script Mark button or key.

   The line is marked in the Script window with a small horizontal bar, and play stops.



5. Repeat these steps to add script marks.

Automating Screening and Marking

The Script window provides controls for automating the process of screening and placing script marks for a single take or across multiple takes.

To use automated screening and marking:

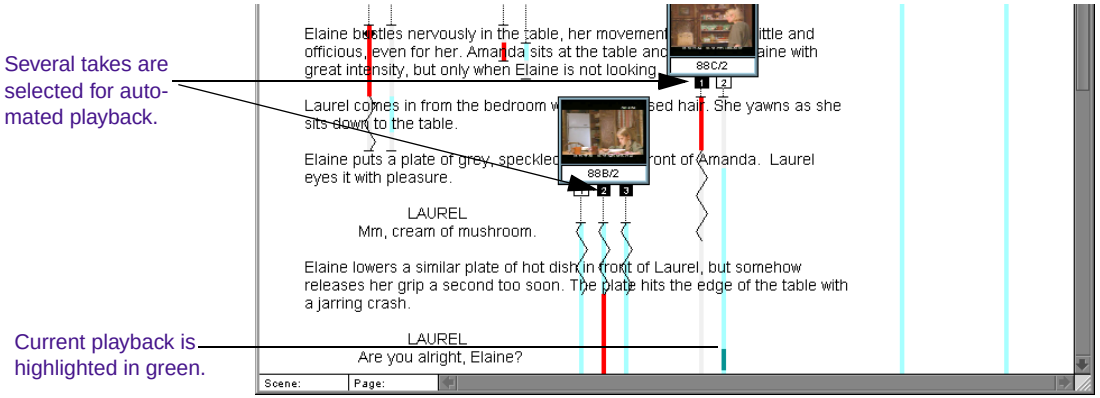
1. Select one or more takes.



2. Click the Record Marks button in the Script window toolbar.

   The first selected take changes to green in the Script window, the system automatically loads the clip into the Source monitor, and the clip begins to play.

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3. As you hear a line of dialog (or see a particular shot) that you want to mark, click the matching line in the Script window.

   A script mark appears at that location in the take, and the clip continues to play.

4. Continue to mark additional sync points by using one of the following methods:

You can scroll through the Script window without affecting playback.

   - Click a line that already contains a mark to replace the previous mark and update the sync point in the clip.
   - Click a line in the script before or after the range of the existing take line, and the mark will be added while the take line is extended to include the new line.
   - Use variable-speed play controls (J-K-L keys on the keyboard) to shuttle, step, or pause during playback.
   - Press the Tab or Shift+Tab keys on the keyboard to begin playback of the next or the previous take.

   As each take reaches its end, the system automatically loads and plays the next take.

5. Continue to place marks until all takes have been screened.

6. To stop the playback loop, press the space bar.

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Loading and Playing Marked Segments

Once you have placed marks syncing lines in your script to points in the source clips, you can quickly load and cue takes for selected lines of dialog. You can load a single take, or you can load all the coverage for any given range of lines.

To load the marked segment of a take, click the script mark at the line of dialog that you want to cue.

The take is loaded into the Source monitor and is cued to the synced line of dialog. An IN mark is placed at the sync location.

To load all the coverage for a range of lines:

1. Select the lines in the Script window, dragging through all intersecting takes.

   The script lines and takes are highlighted.

2. Click the Play button in the Script window if you want to screen the takes for those lines, or click the Record Marks button if you want to add script marks.

   The takes load and play back one after another. You can use the Tab key or J-K-L keys to jump between takes and control playback.

Moving a Script Mark

When you move a script mark up or down, the mark in the source clip remains at the same frame, but is resynced to a new line in the script.

To move a script mark:

1. Press the Ctrl key.

   Notice the movement indicator that appears when you move the pointer to a mark in the script.

2. Click the mark and drag it to the new position.

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Deleting a Script Mark

When you remove a script mark, you do not delete the marked portion of the take, only the sync point between the script and the source clip.

You cannot undo the deletion of script marks. To restore a script mark after deletion, see "Placing Script Marks Manually" on page 259.

To delete a script mark:

1. Click once on the mark. (If you double-click, you will load the clip and make the Source/Record window active.)
2. Press the Backspace key.

   The Delete dialog box appears.
3. Click OK. The mark is deleted.

Finding Clips and Script

After you have placed script marks, synchronizing lines in the script window to frames in the source clips, you can use the Find Bin or Find Script buttons to search back and forth between the two.

Finding Script

The Find Script button allows you to quickly match back from currently loaded clips to portions of script in the Script window to which the clip has been linked.

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To find the script linked to a loaded clip:

1. Place the position indicator in the clip at the line of dialog (or within a range of dialog) that you want to find.



2. Click the Find Script button.

   The Script window instantly scrolls to and highlights the portion of script that most closely matches the clip location.

Finding Clips and Bins from the Script Window

Script integration allows you to search instantly through bins and find the source clips for takes that have been linked to the script. You can search on a single take, or on multiple takes across several slates.

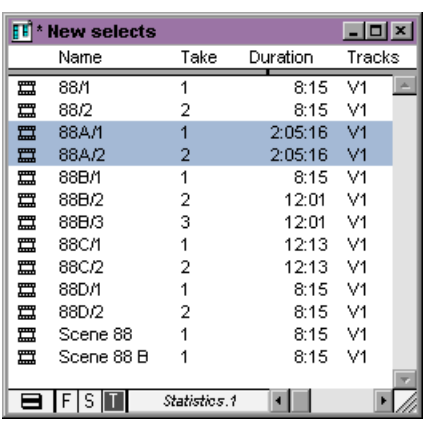
To find source clips and bins:

1. Select the takes that you want to find.



2. Click the Find Bin button in the Script window toolbar.

   The system searches through bins linked to the project, opens the bin containing the linked clips, and highlights them in the bin.



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Editing with the Script Window

Using the Script window in combination with the Single Mark Editing feature, an editor can conduct a highly streamlined form of editing. To use the Script window most effectively during a session, make sure:

- The Script window is fully prepared, including preferred takes, alternative takes (indicated with colors), and script marks for matching lines of text to sync points in the clips.
- The Single Mark Editing option is enabled in the Composer Settings dialog box. This option allows you to skip several steps by performing edits on-the-fly while playing back clips (without marking OUT points). For more information, see **"Using Single-Mark Editing" on page 342**.

Assembling a Rough Cut

To quickly assemble a rough cut from the Script window:

1. Open the Script window for the current cut.
2. Double-click the first preferred take and load it into the Source monitor. The IN point is already marked and cued.
3. Play the take until the appropriate OUT point is reached, and stop play.
4. Click the Splice-in or Overwrite button to make the first edit.
5. Prepare the sequence for the next edit:
    a. Create new tracks if necessary.
    b. Enable the appropriate source and record tracks.
    c. Patch the tracks if necessary.
    d. Mark an IN point in the sequence for the next edit.

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6. Double-click the next preferred take to load it.
7. Play the clip until you reach the appropriate OUT point, and stop play.
8. Perform the edit on-the-fly.
9. Repeat steps 4 through 6 until you have moved through the entire scene or segment.
10. Fine-tune the edits by using normal trimming and editing procedures. Continue to use the Script window to quickly load and cue alternative takes as necessary.

Splicing a Script Range

During editing, you can use the Ctrl key and Alt key to instantly splice clips linked to ranges of script directly from the Script window into the sequence. To use this feature with accuracy, you should carefully mark the ranges of script during the screening and marking phase.

To splice a range:

1. Mark an IN point or place the position indicator at the location in the sequence where you want to splice in the segment.
2. Press the Ctrl key and Alt key. Notice that the Splice-insert arrow appears when you point to a take.
3. Double-click the preferred take within the range of dialog that has been marked.

   The marked section of the clip is spliced into the sequence.

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Revising the Script

During or after each session, or when a scene or segment is completed, the editor or assistant editor can update the Script window to reflect the final edit decisions made during the day. In this way, you can maintain a complete record of the elements used to construct the scene or segment, as well as all existing alternatives. When further changes or repackaging are required, you can quickly retrieve all the source material in one window.

Interactive Screenings

The Script window can be an invaluable tool during screenings of work in progress, allowing you to:

- Quickly search for scenes and pages with clips attached for instant retrieval.
- Match back and cue source material to compare alternative takes.
- Quickly find and open bins for retrieval of additional material not included in the Script window.
- Enlarge script font and slate frames for better viewing by your audience.

Sequences cannot be loaded into the Script window. Alternatively, you can perform a video mixdown and load the resulting master clips instead. For more information, see the *Avid Media Composer and Film Composer Input and Output Guide*.

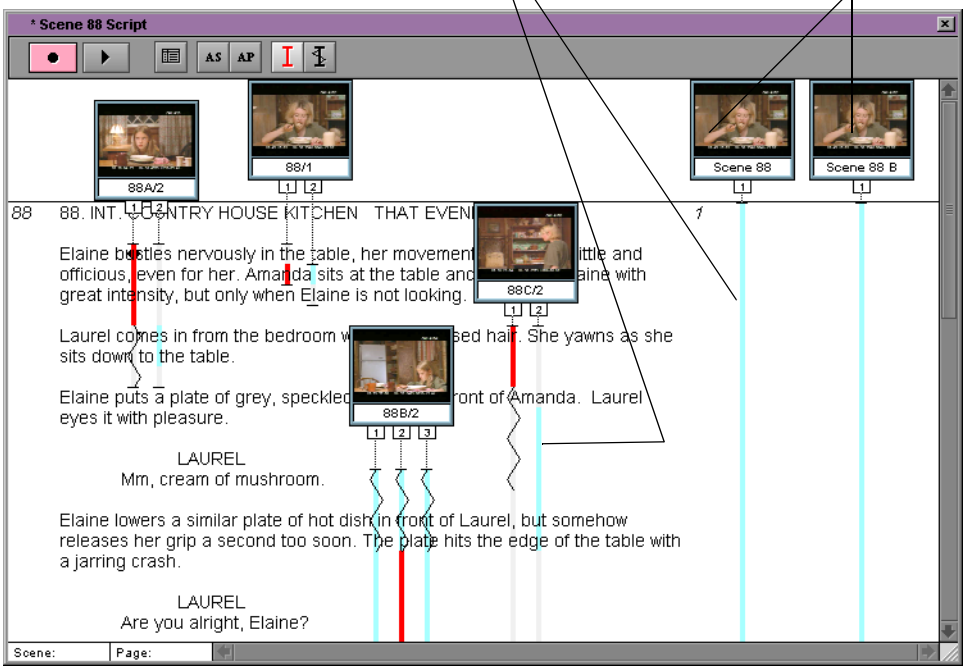
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The Script window provides a visual, interactive look at the content of the original script versus the elements in the final piece.

All alternative takes are available for viewing and comparing.

Matching colors indicate takes used in the preferred cut as well as alternative cuts.

You can mix down alternative cuts to form master clips and place them alongside the script.



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CHAPTER 9

Viewing and Marking Footage

Before making your first edit, you can review your footage, add locators and comments to clips, mark IN to OUT points, and create subclips. By viewing and marking your material in advance, you can concentrate on editing and refining your sequence at a later time without having to pause and set marks each time you load a new clip. Techniques for playing back, viewing, and subcataloging clips are described in the following sections:

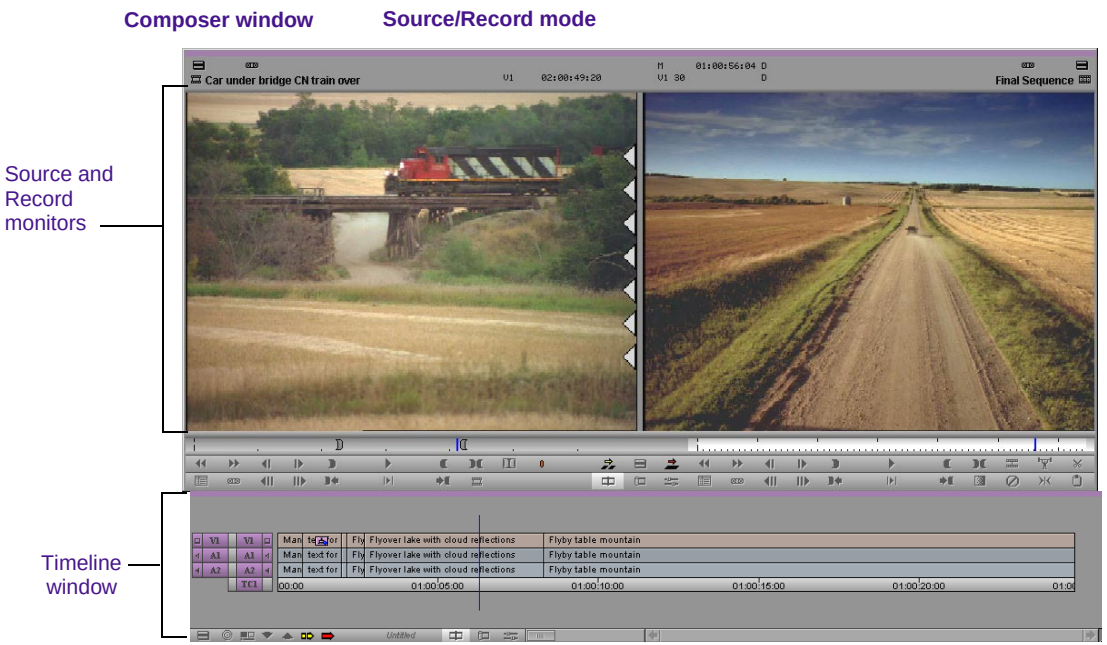
- **Customizing the Composer Window**
- **Viewing Methods**
- **Fast Frame Display in 24p Projects**
- **Loading and Clearing Footage**
- **Resizing Monitors**
- **Controlling Playback**
- **Marking and Subcataloging Footage**
- **Finding Frames, Clips, and Bins**

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Customizing the Composer Window

The Composer window is central to the editing process, providing all the essential controls for viewing, tracking, marking, and editing source and record footage.

In Source/Record mode, the Composer window includes the Source and Record monitors. The upper region of the screen constitutes Source/Record mode.

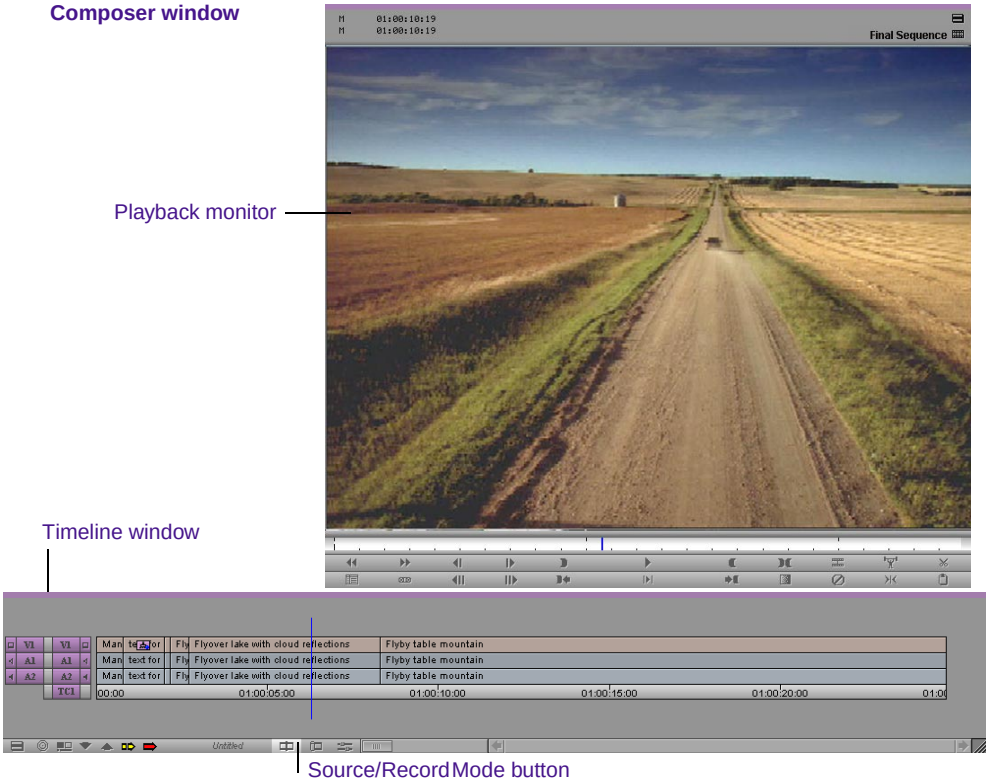




Source/Record Mode button

You can switch between displaying the Source and Record monitors or the Playback monitor by clicking the Source/Record Mode button. This feature is available depending on your Media Composer model and options.

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Use the Composer Window Settings dialog box and various menus within the Composer window to configure displays and functions in the Source and Record monitors and Playback monitor.

You can learn about Composer settings as follows:

- For information on Composer settings, see **“Composer Window Settings Options” on page 286**.
- For more information on the following settings, see the applicable chapters or sections in this guide:
  - Digital audio scrub parameters (see **“Using Digital Audio Scrub” on page 454**)

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- Sync Point Editing (see **“Using Sync Point Editing” on page 545**)
- Phantom Marks option (see **“Using Phantom Marks” on page 342**)
- Options for creating tracks in the Timeline (see **“Adding a Track” on page 405**)

In addition, you can:

- Map various buttons onto command palettes or the keyboard, as described in **“About Button Mapping” on page 130**.
- Display or hide labels on buttons by using Interface settings, as described in **“Reviewing Basic Settings” on page 92**.
- Use the Timeline Settings dialog box to configure displays and functions of the Timeline window. For more information about the Timeline window, see **Chapter 11**.
- Select the type of timecode or footage information to display above the monitors. For more information, see **“Displaying Tracking Information” on page 275**.

Changing the Composer Window Background Color

To change the background color of the Composer window:

1. Click in the Composer window to make it active.
2. Choose Set Composer Background from the Edit menu.
3. Choose a shade of gray for the background from the pop-up palette.

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Using the 16:9 Display Format

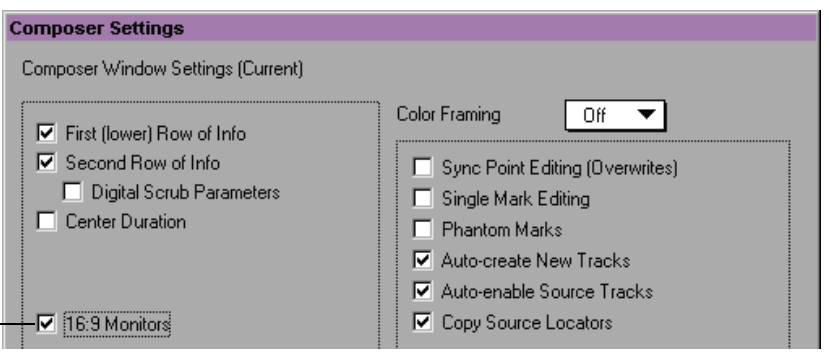
The Avid system supports the 16:9 aspect ratio for the display of wide-screen images used in the high-definition television (HDTV) standard as well as some feature film formats and video formats.

The 16:9 option allows you to offline edit wide-screen footage that was transferred anamorphically to NTSC or PAL tapes. Once you are finished with the offline phase, you can generate an edit decision list (EDL) or cut list using matchback for conforming the final master or cut using the original high-definition footage.

To enable the 16:9 display:

1. Click the Settings button in the Project window.
2. Double-click Composer in the Settings scroll list.

   The Composer Window Settings dialog box appears.



3. Select the option for 16:9.
4. Click OK.

To view the footage on a full-screen monitor, you need a 16:9 compatible full-screen NTSC or PAL monitor.

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Using 16:9 for 24p Editing

For 24p projects, you can use the 16:9 option to correctly display the 16:9 aspect ratio from the film transfer.

To display a larger film image:

1. During either shooting or the telecine process, use a 16:9 lens to squeeze the film images anamorphically to the 3/4 aspect ratio.
2. After digitizing the footage, select the 16:9 option to return the squeezed image to its normal aspect ratio.

The picture will be larger. Any masked letterbox area at the top and bottom of the footage will be smaller or might not be visible once it is set to 16:9.

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Displaying Tracking Information

Tracking information consists of any type of format used to identify clips, audio and video tracks, individual frames, or footage durations while you work. The Avid interface displays this information above the monitors in the Composer window. See **Figure 9-1**. This information is updated continuously to reflect your current position in the footage. You can choose various alternative tracking formats from the Tracking Information Display menu.

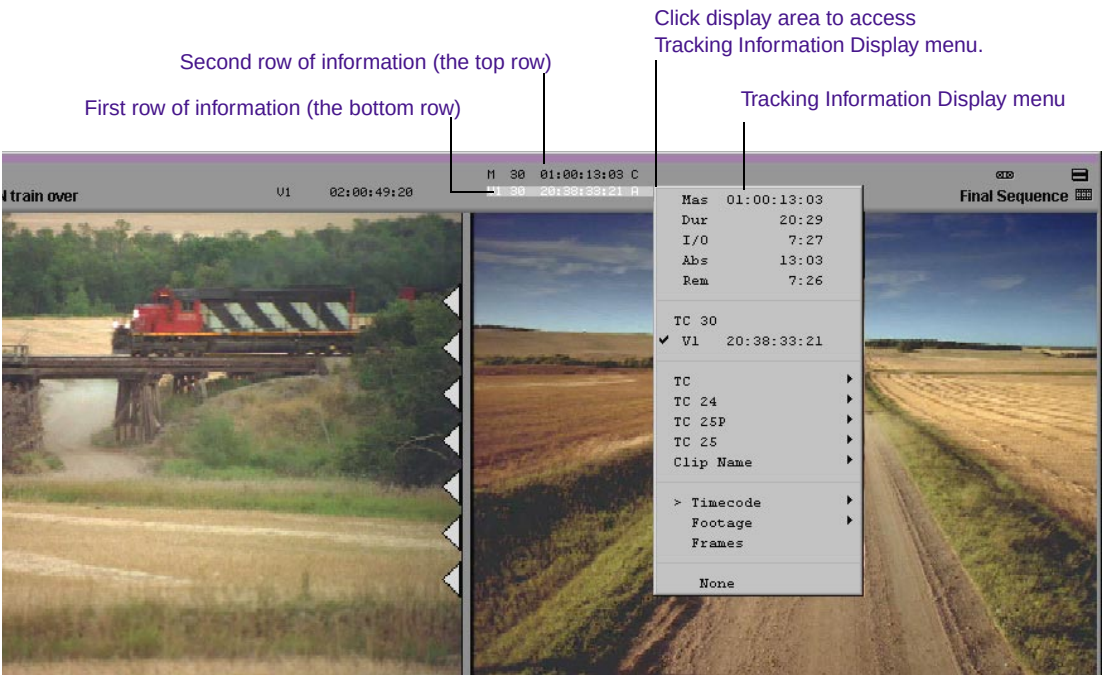


Figure 9-1 Tracking Information Display Menu

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By default, the tracking information area displays no information until you select a tracking format. In addition, there is no display of tracking data when there is no material loaded in the monitor. If you load a clip and no information is currently displayed, you can still open the menu by clicking in the area above a monitor.

To choose a tracking information format:

1. Load a clip or sequence into the monitor.
2. Click in the information display area in either the first or second row of information above the monitor and choose a format.

For more information on Composer Window settings, see **"Composer Window Settings Options" on page 286**.

If you select the option for two information rows above the monitors in the Composer Window settings, you can display two different types of tracking information for the footage in each monitor. For example, you can display both running timecode and IN to OUT durations for clips loaded in the Source monitor. You can display similar information for the sequence shown in the Record monitor.



To move through footage by entering timecode, make sure the top row of information displays timecode (for example, V1). For more information, see ***"Using Timecode to Find a Frame" on page 320***.

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Tracking Format Options

The Tracking Information Display menu contains options for information to be displayed above the monitors. **Table 9-1** describes the tracking format options.

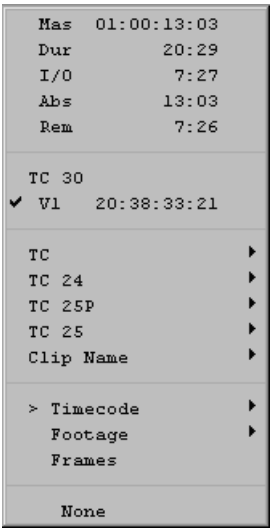
Table 9-1 Tracking Format Options

Option	Description
Mas	Displays master timecode at present location.
Dur	Displays total duration of the sequence.
I/O	Displays duration between IN and OUT marks.
Abs	Displays absolute time duration at present position.
Rem	Displays time remaining at present position.
TC, TC 24, TC 25, TC 25P, TC 30	For 24p projects only. Includes a submenu listing the source tracks of a specific track (V1, A1, A2, and so forth).
V1	Displays the source track of the video on track 1.
A1	Displays the source track of the audio on track 1.
A2	Displays the source track of the audio on track 2.
TC (or EC)	Displays timecode (or edgecode) for the chosen track.
Clip Name	Displays the name of the clip.
Timecode	Displays tracking information as timecode (24p projects include a submenu with the various timecodes).
Footage	For 24p projects and matchback projects only. Displays tracking information as feet and frames.
Frames	Displays tracking information as total frames.
None	Hides the display.

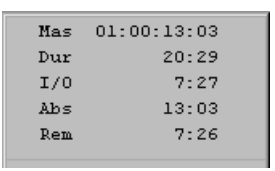
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The option you select from pane 1, pane 2, or pane 3 is displayed above the monitor. The following is a summary of the contents of the menu:

Tracking Information Display menu



- Pane 1 lists options for summary information, such as master timecode (Mas), duration of the entire clip (Dur), IN to OUT duration (I/O), absolute timecode (Abs), and time remaining (Rem). The format type that you select from pane 4 determines the tracking format to be displayed. The item you select in pane 1 is displayed above the monitor.

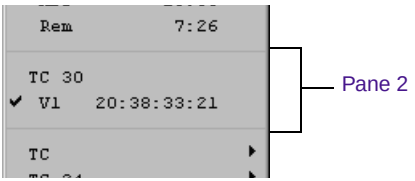


- Pane 2 lists the tracks with the type of information you selected from the pane 3. This list contains only information for the tracks existing in the currently loaded clip or sequence. For example, a

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clip with only one audio track does not show an option for A2. The item you select in pane 2 is displayed above the monitor.

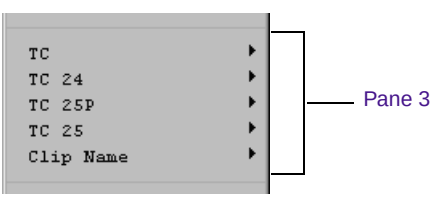
The items listed in pane 2 and pane 3 of the Tracking Information Display menu vary depending on the display information you select. For example, if you select Clip Name from pane 3, the Clip Name moves to pane 2.



- Pane 3 lists options for displaying the timecode or clip name for the source track of a specific track (V1, A1, A2, and so forth). The timecode options available from pane 3 depend on the columns displayed in the bin. When you are working with a 24p project, pane 3 lists options for displaying several timecode formats for the tracks. When you select TC 30, the pullin letter also is displayed. The information is continuously updated based on the location of the position indicator.

  Selecting an option in pane 3 affects the items in pane 2.

You need to add the timecode track to the clip or sequence before the timecode option appears in the Tracking Information Display menu. For more information, see ***"Displaying Timecodes in a 24p Project" on page 184***.

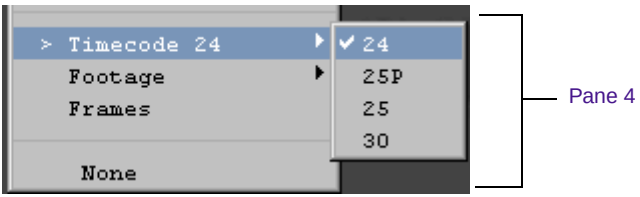


- Pane 4 lists tracking formats, such as timecode in hours, minutes, seconds, and frames (Timecode), feet and frames for 24p projects (Footage), a sum total of frames for either film or video (Frames), or None, which leaves the display area blank.

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Selecting an option in pane 4 affects the items in pane 1.

When you are working with a 24p project, the Timecode submenu allows you to choose an output timecode format, and the Footage submenu allows you to choose a supported film type.



Setting the Font and Point Size for Monitor Displays

You can change the font and point size of the clip or sequence name and the timecode information displayed above the monitors.

To set the font and point size for the clip or sequence name and the timecode displays:

1. With a monitor active, choose Set Font from the Edit menu.

   The Set Font dialog box appears.

2. Choose a font and type a point size.
3. Click OK.

The new font and point size are applied to the clip or sequence name, and to the timecode information located above the monitors.

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Displaying the Clip Information Window

The Clip Information window displays statistical information about a clip. You can open the Clip Information window from the Source monitor, the Record monitor, a pop-up monitor, a bin, or a Script window. The Clip Information window updates the information automatically.

If no clip is loaded in the Source monitor or Record monitor, the Clip Information window is not available.

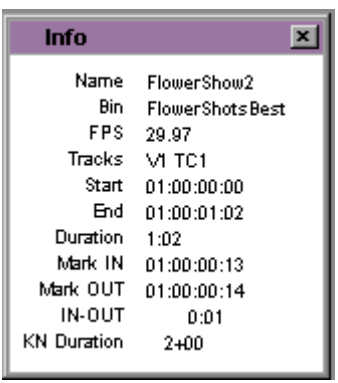
To display information about a sequence in the Record monitor:



1. Place the pointer in the gray area *above* the red Overwrite button.
2. Press and hold the mouse button to display a pop-up window with clip information.

   Only fields with data will be displayed.
3. Drag the window to a new location to leave the window open.

   The Info window opens.



As you move the position indicator through the sequence in the Record monitor, the information in the Info window is updated.

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To display information about the clip or sequence in the Source monitor:



1. Place the pointer in the gray area *above* the yellow Splice-in button.
2. Press and hold the mouse button to display a pop-up window with clip information.
3. Drag the window to a new location to leave the Info window open.

As you move the position indicator through the clip in the Source monitor, the information in the Info window is updated.

To display information about a clip in a pop-up monitor:

1. Place the pointer in the gray area to the right of the Clip icon.
2. Press and hold the mouse button to display a pop-up window with clip information.
3. Drag the window to a new location to leave the Info window open.

To display information about the clip or sequence in a bin:

1. Press and hold the mouse button over the Clip icon in the bin to display a pop-up window with clip information.
2. Drag the window to a new location to leave the Info window open.

For information on displaying clip information from the Script window, see **“Displaying Clip Information in a Script Window” on page 237**.

For information on changing the sequence name or starting timecode, see **“Changing the Sequence Name and Timecode” on page 331**.

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Copying Text from the Clip Information Window

You can cut, copy, and paste information from the Info window anytime, but you cannot edit or change any information within the window.

To copy text from the Info window:

1. Click the pointer and drag it over the information you want to copy.
2. Press Ctrl+C to copy the information.
3. To paste the information, place and click the pointer at the location you want to paste it, and press Ctrl+V.

Displaying Timecode in the Timecode Window

Each monitor has two lines available to display timecode as described in **"Displaying Tracking Information" on page 275**. In addition, the Timecode window allows you to display up to 48 lines of timecode in a separate window. You can view the timecodes from a distance by enlarging the Timecode window.

When you are working with a 24p project, you can display additional timecode information in the Timecode window. The output format timecodes TC 24, TC 25, TC 25P, and TC 30 are available from the Timecode pop-up menu, as are the source timecodes for clips and subclips.



You need to add the timecode track to the clip or sequence before the timecode tracking formats appear in the Timecode pop-up menu. For more information, see ***"Displaying Timecodes in a 24p Project" on page 184***.

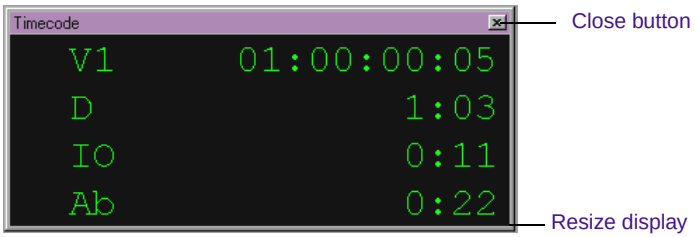
When displaying TC 30 source or M 30 timecodes, the pulldown phase for NTSC reference is displayed.

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To set a timecode display in the Timecode window:

1. Choose Timecode Window from the Tools menu.

   The Timecode window opens.



2. (Option) Drag the lower right corner of the Timecode window to adjust the display size.
3. Click anywhere in the Timecode window to display the Timecode pop-up menu.
4. Choose a display option from the Timecode pop-up menu. For a description of these options, see **Table 9-2**.

   The window displays the type of information you have chosen. The information is continuously updated based on the location of the position indicator and the monitor that is active.
5. Click the Close button to close the Timecode window.

Table 9-2 Timecode Display Options

Option	Description
Mas	Displays master timecode at present location.
Dur	Displays total duration of the sequence.
I/O	Displays duration between IN and OUT points.
Abs	Displays absolute time duration at present position.
Rem	Displays time remaining at present position.

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Table 9-2 Timecode Display Options (Continued)

Option	Description
TC, TC 24, TC 25, TC 25P, TC 30	For 24p projects only. Includes a submenu listing the source tracks of a specific track (V1, A1, A2, and so forth).
V1	Displays the source track of the video on track 1.
A1	Displays the source track of the audio on track 1.
A2	Displays the source track of the audio on track 2.
TC (or EC)	Displays timecode (or edgecode) for the chosen track.
Clip Name	Displays the name of the clip.
Timecode	Displays tracking information as timecode (24p projects include a submenu with the various timecodes).
Footage	For 24p projects and matchback projects only. Displays tracking information as feet and frames.
Frames	Displays tracking information as total frames.
None	Hides the display.
Add Display	Allows you to add another timecode display.
Remove Display	Deletes the selected timecode from the display.

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Displaying Multiple Timecodes

To display multiple timecodes in the Timecode window:

1. Choose Timecode Window from the Tools menu.

   The Timecode window opens.

2. Click anywhere in the Timecode window to display the Timecode pop-up menu.

3. Choose Add Display from the pop-up menu.

   A new line appears in the window.

4. Click the new line to display the Timecode pop-up menu.

5. Choose an option from the Timecode pop-up menu. For a description of these options, see **Table 9-2**.



You might need to resize the timecode display to see all the options. To do so, drag the lower right corner of the window.

6. Click the Close button to close the Timecode window.

Composer Window Settings Options

There are several options available from the Composer Window Settings dialog box. Double-click Composer in the Settings scroll list in the Project window to open the Composer Window Settings dialog box.

Table 9-3 describes the Composer Window settings.

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Table 9-3 Composer Window Settings Options

Option	Description
First (lower) Row of Info	When this option is selected, the system displays one row of tracking, duration, and clip or sequence title information above the Source and Record monitors.
Second Row of Info	When this option is selected, the system displays a second row of information above the first row. The second row includes Fast Menu icons, duration information, and when applicable, ganging and multicamera icons.
Digital Scrub Parameters	When this option is selected, the system displays the numbers for incoming and outgoing frames played during digital audio scrub. This information is displayed for both source-side and record-side material within the second row of information. These values are set in the Audio Settings dialog box.
Center Duration	When this option is selected, the system displays duration data (Mark IN / OUT) for the material loaded in the Source or Record monitor, depending on which monitor is active.
16:9 monitors	When this option is selected, the system displays media in the Source and Record monitors in 16:9 format for standard NTSC and PAL signals. This preference allows you to display the full aspect ratio of widescreen video and film transfers in the Source and Record monitors during editing.
First Row of Buttons	When this option is selected, the system displays only the top row of Monitor command buttons.
Second Row of Buttons	When this option is selected, the system displays a second row of buttons under the Source and Record monitors and includes mode buttons in the lower center of Source / Record mode beneath the Splice-in and Overwrite buttons.
Tick Marks in Position Bars	When this option is selected, the system switches the display of tick marks (duration indicators) that appear incrementally along the position bars located directly beneath the Source and Record monitors. When deselected, the tick marks are invisible.

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Color Framing Options

Use the Color Framing option if you are going to do online editing using 1-inch, reel-to-reel sources. The option enables the system to check each edit in a sequence as you edit, to ensure that transitions do not cut between the four fields (two frames) required to create a complete NTSC color-sync signal phase (or the eight fields — four frames — required for PAL).

Table 9-4 describes the Color Framing options. For more information on color framing, see "Tracking Color Frame Shifts" on page 414.

Table 9-4 Color Framing Options

Option	Description
Off	This option prevents the color framing indicator lights from appearing above the Overwrite and Splice-in buttons. Select this option if you are not performing an online edit with material digitized from 1-inch, reel-to-reel tapes. This value is the default. If you turn the Color Framing option Off, you may have to make adjustments during online editing if your edits interrupt the color-sync, signals-per-frame fields in the sequence.
4 field	For NTSC video.
8 field	For PAL video. These options display green indicator lights (similar to LEDs), called *color framing indicator lights*, above the Overwrite and Splice-in buttons. These indicator lights are off when the color-sync signal is not in phase for that frame. Steady green lights indicate a frame that is properly phased. If the green light is off, find the proper color phasing when editing by trimming the IN to OUT points by a frame or two until the light comes on and stays on.

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Miscellaneous Composer Window Options

Table 9-5 describes the miscellaneous Composer Window settings.

Table 9-5 Miscellaneous Composer Options

Option	Description
Sync Point Editing (Overwrites)	When this option is selected, the system overwrites material onto your sequence in such a way that a particular point in the source material is in sync with a particular point in the sequence.
Single Mark Editing	When this option is selected, you can mark an IN or OUT point in the Source monitor and then perform a splice, overwrite, or replace edit. The system uses the current position of the position indicator as the corresponding OUT or IN point.
Phantom Marks	When this option is selected, the system provides visual guidance when you set fewer than four IN or OUT points while editing. Phantom marks (shaded IN or OUT mark icons) appear, to indicate the remaining edit points calculated by the system to complete the edit. For more information on editing according to the three-mark rules, see "Using Phantom Marks" on page 342.
Auto-create New Tracks	When this option is selected, whenever you load new source material into the Source monitor, the system automatically creates any new tracks in the sequence that match existing tracks in the source material. This is the default setting.
Auto-enable Source Tracks	When this option is selected, whenever you load new source material into the Source monitor, the system automatically enables all existing source tracks. This is the default setting.
Copy Source Locators	When this option is selected, if you have locators in a clip in the Source monitor, the system copies the locators when you edit the clip into the Record monitor. This is the default setting.

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Fast Forward and Rewind

Table 9-6 describes the Fast Forward and Rewind options.

The Fast Forward and Rewind buttons in the Avid system monitors behave differently from the equivalent buttons on a tape deck. When you have a sequence loaded in a monitor, the Fast Forward or Rewind button causes a jump (forward or backward) to the next edit that is common to all selected tracks in the Timeline. When you have a clip loaded in a monitor, the Fast Forward or Rewind button causes a jump to the beginning or end of the clip.

Table 9-6 Fast Forward and Rewind Options

Option	Description
Stop at Head Frames	When this option is selected, the position indicator stops at the first frame (head frame) of the clip on the selected track. This option is the default Fast Forward and Rewind key setting. Each time you press either key, the position indicator moves to the next consecutive head frame.
Stop at Tail Frames	When this option is selected, the position indicator stops at the last frame (tail frame) of the clip on the selected track.
Stop at Locators	When this option is selected, the position indicator moves to the next consecutive frame containing a locator. For more information on using locators, see "Using Locators" on page 314.
Ignore Track Lights	When this option is selected, the system ignores the selected tracks and cues directly to the start (head) frame of the next edit, regardless of the track on which it occurs. The position indicator's final location depends on whether the Stop at Head Frames and Stop at Tail Frames options have been selected.

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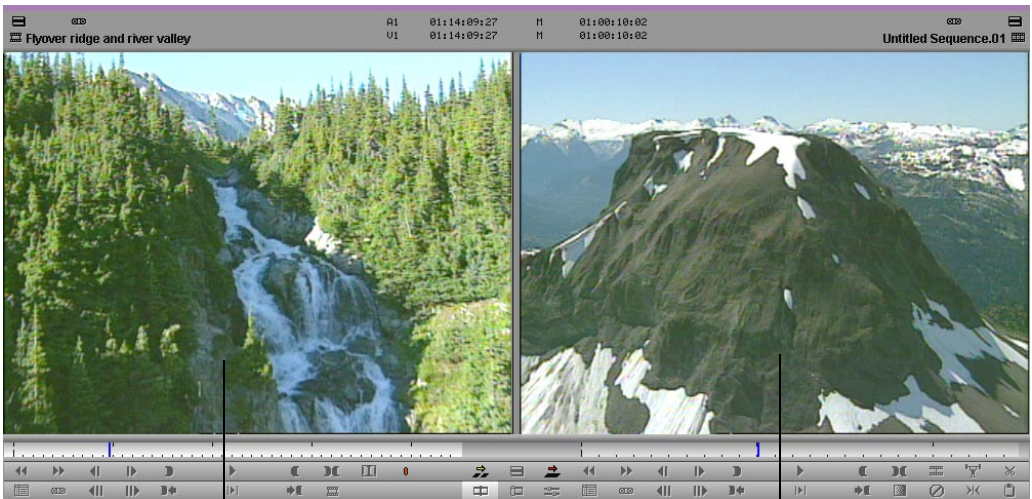
Viewing Methods

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:** You see pictorial images of the clips in your bins by using Frame view. You can also list the clips by name by using Text view. For more information, see **“Using Frame View” on page 190** and **“Using Text View” on page 169**.
- **Viewing in the Source monitor:** You can load clips and sequences into the Source monitor to view and mark or subcatalog shots for use in a sequence that you build in the Record monitor. For more information, see **“Loading and Clearing Footage” on page 294**.

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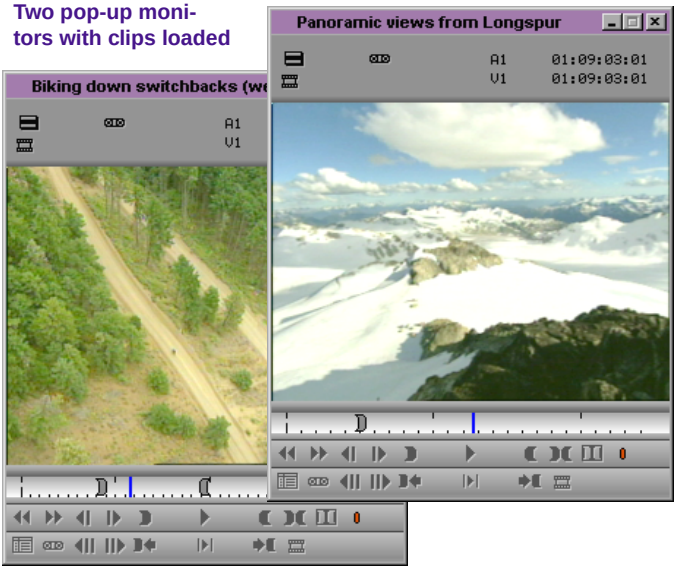
- **Viewing in the Record monitor:** You can load a sequence into the Record monitor to view, mark, or modify an existing sequence. In addition, you can load a series of clips into the Record monitor to create an “instant sequence (rough cut).” For more information, see **“Creating an Instant Rough Cut” on page 337**. You can also load a single clip into the Record monitor. For more information, see **“Loading and Clearing Footage” on page 294**.



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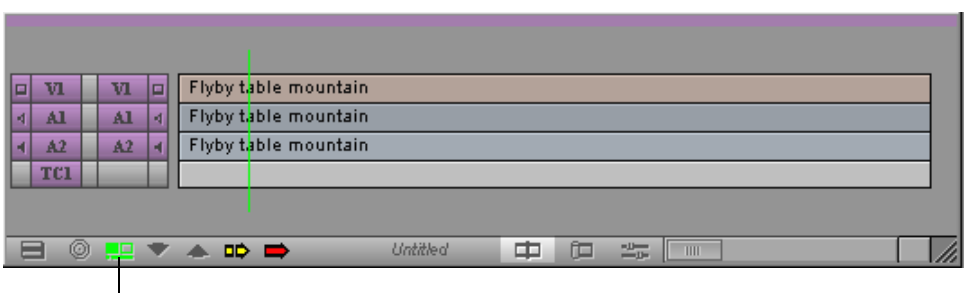
- **Viewing in pop-up monitors:** You can load several clips into pop-up monitors to view and mark clips in smaller, movable windows. See **“Loading and Clearing Footage” on page 294**.

Two pop-up monitors with clips loaded



- **Viewing in the Timeline:** Use the Timeline to view individual tracks for either a sequence or a source clip. Click the Toggle Source / Record in Timeline button to switch between displaying the sequence tracks and the source tracks.

Timeline in Source mode for viewing tracks



Toggle Source/Record in Timeline button

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Fast Frame Display in 24p Projects

You can display a full frame in the Record and Client monitors when stopped on a frame or when single-stepping through the frames, by deselecting Fast Frame Display from the Special menu. Although the frames are digitized and stored as frames, they display by default as a single field representation of the frame.

Deselecting Fast Frame Display does not affect playing a clip or sequence. The full frame only displays when the clip or sequence is stopped on a single frame.

Loading and Clearing Footage

You can load individual or multiple clips or sequences into the Playback monitor, Source monitor, Record monitor, or pop-up monitors by using different methods. You can also use the Clip Name menus to display or clear clips and sequences from the monitors, as described in this section.



The result of double-click might vary in the procedures in this section. The function of double-click is determined by the Double-click option in the Bin Settings in the Settings scroll list of the Project window. For more information, click the Bin Settings dialog box and see ***"Bin Settings" on page 96****.*

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Loading into Source, Record, and Pop-up Monitors

To load a single clip or sequence:



1. Click the Source / Record Mode button to enter Source / Record mode.
2. Open a bin and locate the clip or sequence.
3. Double-click the clip or sequence with one of the following results:
   - If you have set the “Loads clip into Source or Record monitor” option in the Bin Settings dialog box (the default setting), a clip loads into the Source monitor or a sequence loads into the Record monitor.
   - If you have set the “Opens new monitor for clip” option in the Bin Settings dialog box, the clip or sequence loads into multiple pop-up monitors.

Press and hold the Alt key, then double-click the clip or sequence to reverse the outcome.

You can also load a sequence into the Source monitor (for editing into another sequence, for instance) by dragging the sequence from the bin to the monitor.

You can load a single clip into the Record monitor by pressing the Alt key and dragging a single clip into the Record monitor. The clip will appear at the position of the position indicator in the Record monitor.

Loading Multiple Clips or Sequences

You can quickly load several clips and sequences into the Source and Record monitors, or into multiple pop-up monitors.

To load multiple clips or sequences:

1. Click the Source / Record Mode button to enter Source / Record mode.
2. Open a bin and Shift+click clips (Frame view), Ctrl+click (Text view), or lasso multiple clips.

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3. Drag the selected clips to the Source monitor or double-click one of the selected clips, with one of the following results:

Press and hold the Alt key, then double-click to reverse the outcome.

- If you set the “Loads clip into source or record monitor” option in the Bin Settings dialog box (the default), the clips load into the Source monitor.
- If you set the “Opens new monitor for clip” option in the Bin Settings dialog box, the clips load into multiple pop-up monitors.

You can also load a series of clips into the Record monitor to create an instant sequence (rough cut) by pressing and holding the Alt key while dragging the clips from the bin to the Record monitor. For more information, see **“Creating an Instant Rough Cut” on page 337**.

Using the Clip Name Menus

When you have clips loaded into a monitor, you use the Clip Name menu located above each monitor to switch between various loaded clips, or to clear clips from monitors.

Switching Between Loaded Clips

When you have loaded multiple clips or multiple sequences into the monitor, you will see only one clip displayed at a time. You can view an alphabetical list of the loaded clips and choose an alternate clip for viewing.

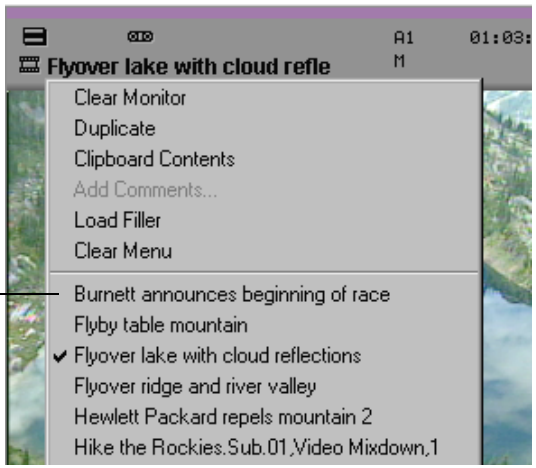


If you press and hold the Alt key while dragging multiple clips into the Record monitor, they appear as one sequence in the Clip Name menu. For more information, see ***“Creating an Instant Rough Cut” on page 337***.

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To switch between clips:

1. Click the name of the current clip displayed above the monitor to reveal the Clip Name menu. The list in the lower portion of the menu contains a list of all the clips or sequences currently loaded in the monitor.



The lower portion of the Clip Name menu contains a list of loaded clips.

2. Choose a different clip name from the menu. The selected clip will replace the current clip in the monitor display.

To see the list of clips or sequences sorted in the order in which they were loaded into the monitor, press the Alt key while opening the pop-up menu.

Clearing Clips from Monitors

There are two options for clearing clips:

- Remove the displayed clip and leave the monitor black but keep the clip loaded.
- Remove all the clip names from the Clip Name menu and leave only the displayed clip loaded.

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To clear the monitor or the clip names from the menu:

1. Click the monitor to select it.
2. Click the name of the clip currently displayed above the monitor to reveal the Clip Name menu.
3. Choose one of the following commands:
   - Clear Monitor removes the displayed clip from the screen, leaving black. The clips are still loaded.
   - Clear Menu deletes the list of all loaded clip names and leaves only the clip currently displayed.

Resizing Monitors

You can resize the Source/Record and any pop-up monitors to provide more area for displaying the Timeline or other windows.

Hiding the Video in a Monitor

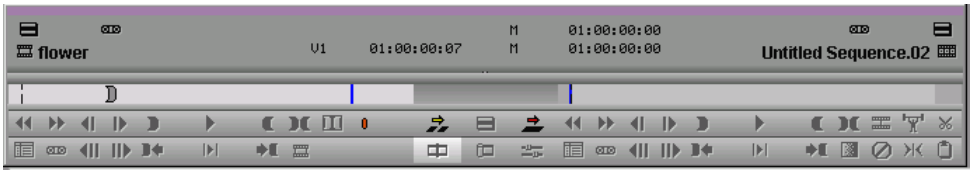
You can resize the Source/Record and any pop-up monitors, displaying only the position bars, the editing buttons, and the information portion above the monitors. No video is displayed (except on the Client monitor).

To hide the video in a monitor:

1. Right+click on the monitor.
2. Choose Hide Video from the shortcut menu.

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The video disappears. Only the position bars, the editing buttons, and the information portion above the monitors are displayed.



To redisplay the video in the monitor, Right-click on the monitor and choose Hide Video again.

Resizing a Monitor

You can resize the Source and Record monitors to a variety of sizes.

To resize the Source and Record monitors:

1. Click a monitor to make it active.
2. Drag the lower right corner of the window to the new size you want the monitor.

   The monitor is displayed with the new size.

Controlling Playback

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

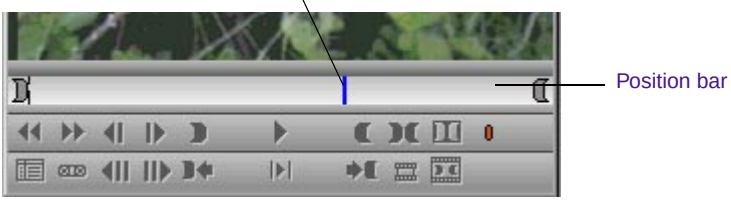
- Instantly access frames or move through footage by using the *position indicator* within the position bar under the monitors.
- Play, step (jog), or shuttle through footage by using user-selectable buttons.
- Play, step, or shuttle by using keyboard equivalents.
- Step or shuttle by using the mouse.

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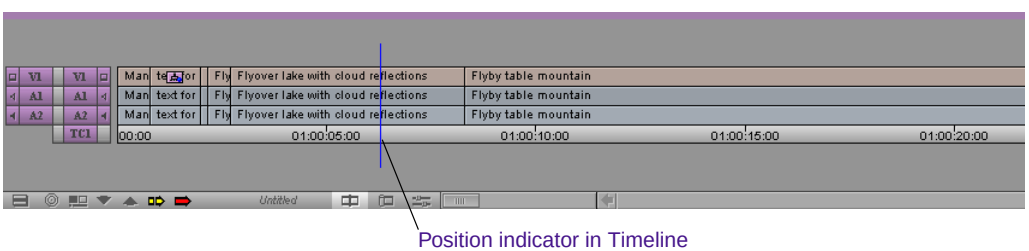
Using Position Bars and Position Indicators

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

- You can move the position indicator within the position bar by clicking anywhere in the position bar, or by dragging the position indicator 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 position bar of the Record monitor, and works in the same way: you can click anywhere in the Timeline to relocate the position indicator, or you can drag the position indicator 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 position bar or the Timeline, if the entire sequence is shown in the Timeline.

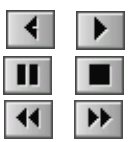
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Using Buttons

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

Aside from the default configurations, these buttons can be remapped from the Command palette in any configuration onto any of the user palettes and the keyboard. For more information about mapping user-selectable buttons, see **“About Button Mapping” on page 130**.

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.

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 Composer Settings dialog box:

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

The Play, Fast Forward, and Rewind buttons appear by default in the first row of buttons below the Source, Record, and pop-up monitors. You can map the Play Reverse, Stop, and Pause buttons from the Command palette. All of these buttons are mapped to the keyboard. For more information, see **“Using the Keyboard” on page 304**.



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

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When viewing sequences in the Source or Record monitor, you can play only video and audio tracks that are currently monitored in the Track Selector panel. For more information, see **"Using the Track Selector Panel" on page 397**.

Play a clip by using the following procedure:

1. Load a clip or sequence into a monitor.
2. Click the Video or Audio Track Monitor buttons in the Track Selector panel to make sure they are active.
3. If you want to go to the start of the clip or sequence, click at the start of the position bar under the monitor, or press the Home key.
4. To play the clip or sequence, click the Play button under the chosen monitor.
5. To stop playback, press the space bar or click the Play button again.

Play Standby Button



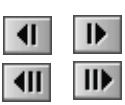
The Play Standby button places play in standby mode to prepare for playback. This is especially useful for long sequences. In the Command palette, the Play tab displays the Play Standby button.

To play in standby mode:

1. Click the Play Standby button.

   The Play button under the Source or Record monitor blinks yellow.
2. Click anywhere to play the sequence.

Step Buttons



You can also use the Step buttons under the monitors to play the clip backward or forward in 1-frame to 10-frame (NTSC and PAL) or 1-frame to 8-frame (24p) increments.

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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 while clicking either button, you can advance 10 frames (NTSC and PAL) or 8 frames (24p) forward and 10 frames (NTSC and PAL) or 8 frames (24p) frames backward.



To display all four Step buttons, you must display two rows of buttons under the monitors when configuring the Source/Record window in the Composer Window Settings dialog box. For more information on Composer Window settings, see ***"Composer Window Settings Options" on page 286***.

To step through footage:

1. Load a clip or sequence into a monitor.
2. Click the appropriate button to step 1 or 10 frames (NTSC and PAL) or 8 frames (24p) forward or backward.

Using Single-Field Step

The single-field step feature is not available when working with 24p projects.

Your Avid system enables you to locate defects on individual fields of a frame with the single-field step feature. By default, the first field of every frame is displayed when you step through material frame by frame.

With single-field step, you can view both fields of each two-field frame sequentially to locate a dropout from the source videotape, or dust and scratches from the original film footage.



You can map the Step Forward One Field and Step Backward One Field buttons to any monitor command palette, tool palette, or the keyboard. For information on mapping buttons, see ***"Using the Command Palette" on page 128***.

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To use single-field step:


Step Forward One Field


Step Backward One Field

1. Click the Step Forward One Field or Step Backward One Field button, which are available on the Move tab of the Command palette and can be mapped to any tool palette.

   A number 2 displays in the upper right corner of the monitor to indicate you are parked on field 2 of a frame. (The absence of the number 2 indicates you are parked on field 1 of the frame.) Subsequent single-frame steps will be based on this field.

2. Continue to click the Step Forward One Field or Step Backward One Field button to view each field of a frame.



To return to viewing only field 1 of each frame, make sure you park on field 1 of a frame before using the Step Forward or Step Backward buttons.



Any edits you make using the paint tools affect both field 1 and field 2 of each frame.

Using the Keyboard

The default keyboard contains all of the buttons mentioned, except the single-field step buttons. You can move and replace buttons on the keyboard or map menu commands by using the Command palette, as described in **"Using the Command Palette" on page 128**.

To view your keyboard settings, choose Keyboard from the Settings scroll list in the Project window.



*The keyboard settings vary depending on the type of keyboard attached to your Avid system. **Figure 9-2** shows the keyboard settings for a keyboard used in the United States. If an Avid-supported European keyboard is attached to your Avid system, then the keyboard settings will match that keyboard.*

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Figure 9-2 Keyboard Settings

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.

You can also use the J-K-L keys to perform smooth audio scrubbing of selected tracks. See **“Performing Smooth Audio Scrub” on page 453**.

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To shuttle through the footage by 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.
    - Open a pop-up 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. You can increase the speed according to the following table:

Press the L Key	To Play Footage at	NTSC Rate	PAL Rate	24p Rate
2 times	2x normal speed	60 fps	50 fps	48 fps
3 times	3x normal speed	90 fps	75 fps	72 fps
4 times	5x normal speed	150 fps	125 fps	120 fps
5 times	8x normal speed	240 fps	200 fps	192 fps

    - Press the J key to move backward at the same shuttle speed increments.
    - Press the K and L keys together for slow forward (8 fps for NTSC, 6 fps for PAL, and 6 fps for 24p projects).
    - Press the K and J keys together for slow backward.
    - Press the K key and tap the L key or the J key to step through footage one frame at a time.
3. Pause the shuttling by pressing the K key.
4. Stop the shuttling by pressing the space bar.

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Home, End, and Arrow Keys

You can also use the Home, End, and arrow keys (located to the left of the numeric keypad) 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 jog or shuttle by using the mouse.

Jogging with the Mouse

To jog by using the mouse:

1. Do one of the following:
   - Load a clip or sequence into the Source or Record monitor.
   - Open a pop-up 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 jogging.
   - Click the Mouse Jog button, which is available on the Play tab of the Command palette and can be mapped to any button under the Record monitor.



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

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Shuttling with the Mouse

To shuttle by using the mouse:

1. Do one of the following:
   - Load a clip or sequence into the Source or Record monitor.
   - Open a pop-up 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.
   -  Click the Mouse Shuttle button, which is available on the Play tab of the Command palette and can be mapped to an editing button under the Record monitor.
3. Move the mouse to the right to increase the shuttle speed, or to the left to decrease the shuttle speed.
4. Double-click the mouse button to pause shuttling.
5. To quit shuttling with the mouse, press the space bar.

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; 24, 48, 72, 120, or 192 fps for 24p projects). You can continue to change the shuttle speed and direction with the mouse.

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Marking and Subcataloging Footage

You can speed the editing process by marking clips with IN and OUT points, by subcataloging using locators, and by creating subclips. When subcataloging, you might want to create or open additional bins for storing and isolating specific subclips, marked clips, or sequences, as described in **"Using the Bins Display" on page 76**.

Marking IN to OUT Points

You can mark IN to OUT points for your clips while in the bin, 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, as described in **"Creating an Instant Rough Cut" on page 337**.
- You can play back and mark clips in the bin before loading a single clip, which saves several steps.

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

To mark IN to OUT points:

1. Load a clip or sequence from a bin into a monitor, or select a clip in the bin (Frame view).
2. Play, step, or shuttle through the material. Use the J-K-L keys when playing a clip in a bin (Frame view).



3. Mark an IN point by doing one of the following:
   - Click the Mark IN button under the monitor to mark an IN point and stop playback.

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- Press the Mark IN key on the keyboard when marking a clip in a bin. (Mark IN on the keyboard does not stop playback.)

In the Source or Record monitor, the Sawtooth icon indicates the IN mark frame.



4. Continue playing, stepping, or shuttling through the material.



5. Mark an OUT point by doing one of the following:

   - Click the Mark OUT button under the monitor to mark an OUT point and stop playback.
   - Press the Mark OUT key on the keyboard when marking a clip in a bin.

   The Sawtooth icon on the right side of the monitor indicates the OUT mark frame.

6. To clear a mark and set a new one, do one of the following:



   - To set a new IN point, you can either:
   - Click the Mark IN button or key when you reach a different frame.
   - Click the Clear IN Mark button or key to remove the IN point and then mark a new one.



   - To set a new OUT point, you can either:
   - Click the Mark OUT button or key when you reach a different frame.
   - Click the Clear OUT Mark button or key to remove the OUT point and then mark a new one.



   - To clear both the IN and OUT points, click the Clear Both Marks button or press the G key on the keyboard.

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Moving IN to OUT Points

You can move IN, OUT, Mark IN, Mark OUT, Audio Mark IN, or Audio Mark OUT points in the position bar of any monitor to a new location.

To move a Mark icon:

1. Alt+click the Mark icon.

   The mouse pointer changes to the hand pointer.

2. Drag the Mark icon to a new location and release the mouse button.

Marking an Entire Clip or Segment

Use the Mark Clip button to select an entire clip or an entire segment from a sequence. (A *segment* in a sequence consists of the material between any two edit points.)



The Mark Clip button chooses a segment between the first set of edit lines that line up on all the selected tracks.

To mark an entire clip or segment:

1. Load a clip or sequence into a monitor.
2. In the case of a sequence, place the position indicator on the segment that you want to mark.
3. In the Timeline, select the tracks corresponding to the cuts you want to mark.



4. Click the Mark Clip button under the monitor, or press the T key on the keyboard.



To ignore the current track selection and mark the smallest clip at the current position in the sequence, press and hold the Ctrl key while you click the Mark Clip button.

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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.

This procedure is similar to creating a pull reel of the selects or circle takes of your best footage before editing. Unlike outtakes, however, 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 media drives. As a result, none of the original footage is lost.

You can also create subclips while digitizing as described in the *Avid Media Composer and Film Composer Input and Output Guide*.

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

- **Use the Alt key:** Press and hold the Alt key, then drag the picture from the monitor to the bin in which you want to store the subclip.
- **Use the Subclip handle:** Click the subclip handle located above and to the side of the monitor; then drag the subclip handle to the bin in which you want to store the subclip.



The subclip handle changes to an icon of a hand pointing at a frame during the drag, and then becomes a Subclip icon when you release the frame in the intended bin.

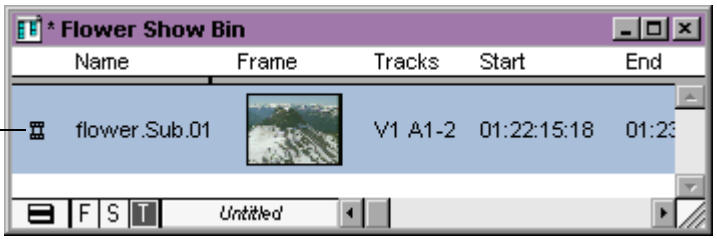


- **Use the Make Subclip button:** Click the Make Subclip button located in the Edit tab of the Command palettes to create the subclip and place it into the active bin by default. If you press the Alt key while you click the Make Subclip button, a dialog box allows you to select the destination bin for the subclip.

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The new subclip will be 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



For more information on trimming, see **Chapter 12**.

Subclips do not limit your access to the original, digitized master clip material when trimming. Therefore, if you must trim beyond the marked IN to OUT boundaries of the subclip to make it longer or shorter, your system does accommodate the boundary adjustments during the trim.

When subclips are created in 24p projects, they are always created as "hard" subclips. This means that you will not be able to trim past the edges of the subclip when adjusting transitions and edits. Hard subclips prevent film tracking information errors for editing and cut lists.

Subclips and Audio Sync for 24p Projects

The system allows for the 1/4-frame resyncing of audio in the event of telecine errors or for the purpose of adjusting audio sync for intended online mixing, but this subframe syncing can only be done to subclips. Avid recommends that you create subclips after you digitize your footage and audio *but before you begin editing* in order to check or adjust audio sync. It is easier to adjust the subclip's audio sync before you work the subclip into an edit. For more information about adjusting audio sync, see **Chapter 14**.

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Marking Audio Clips

You can mark audio and video separately for an edit by using the Audio Mark buttons. This feature is useful for creating an overlap edit for an audio clip.

To mark IN and OUT points on audio tracks:

1. Load a clip or sequence into a monitor.
2. Select the tracks corresponding to the cuts you want to mark.
3. Place the position indicator where you want to mark the audio clip.
4. Do one of the following:
   - Click the Audio Mark IN button to mark an IN point.
   - Click the Audio Mark OUT button to mark an OUT point.

   The Audio Mark IN and Audio Mark OUT buttons are located on the Edit tab of the Command palette.



Audio Mark IN

Audio Mark OUT

Using Locators

Locators are a type of electronic bookmark. They allow you to find and identify specific frames during editing. Key words that you enter into the comments attached to a locator allow you to use standard Find procedures to call up the clips quickly.

You can map Add Locator buttons, as described in **"About Button Mapping" on page 130**.

There are eight Add Locator buttons on the More tab of the Command palette. Each Add Locator button is a different color, which allows you to group locators by color. For example, you can use the red Add Locator button to identify color correction frames and use the blue Add Locator button to identify cutaway shots.

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Ways to Use Locators

There are many possible uses for locators. A few examples are:

- **Color correction notations:** Use locators to mark clips or specify frames that require color correction, noting the specific correction to perform if someone else does the job.
- **Visual track alignments:** Use locators at matching points in synchronized audio and video tracks so that if the tracks lose sync, you can visually realign the locators in the Timeline to restore sync. For more information on sync, see **Chapter 14**.
- **Music cues:** Use locators to mark the IN and OUT points for music.
- **Trim markers:** Use locators in the Timeline to return directly to an edit you have designated for further trimming at a later time.
- **Cutaway markers:** Use locators to identify cutaway shots with comments so that when you return to cover jump-frame edits with cutaway footage, you can quickly call up the shots using basic Find procedures.
- **Replace markers:** Use locators to mark filler segments with comments to identify the items that should replace the filler.

When you insert a locator, it appears as an oval in the Timeline, in the position bar, and at the bottom of the frame in the monitor. The color of the oval corresponds to the color of the locator button you used.



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You can add locators to your source material while you are in an editing session, as described in the following section. You can also add locators while digitizing, as described in the *Avid Media Composer and Film Composer Input and Output Guide*.

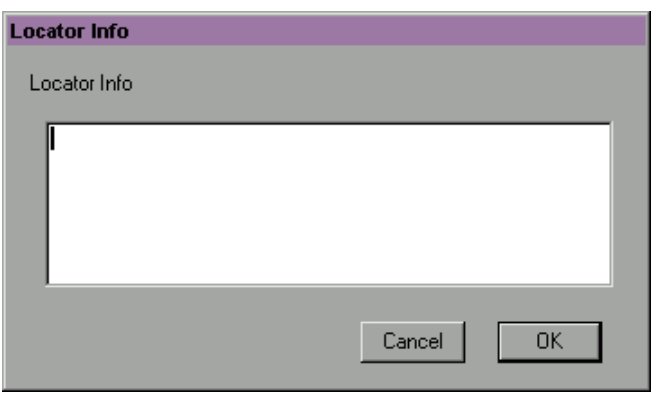
Adding Locators While Editing

To add locators while in an editing session:

1. Load a sequence or clip.
2. (Option) Select a specific track by using the Track Selector panel. See **"Using the Track Selector Panel" on page 397**.
3. 
   Cue to the frame and click an Add Locator button. The Add Locator buttons are found on the More tab of the Command palette.

   The locator oval appears in the Timeline, in the position bar, and at the bottom of the frame in the monitor.
4. Double-click the locator in the position bar under the monitor or click the large oval on the frame.

   The Locator Info dialog box appears.



5. Type the locator information and click OK. The amount of information you can enter is limited to 255 characters.

   The information is stored with the marked frame, and the first line of the information appears at the bottom of the clip in the monitor.

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6. To go quickly to a frame with a locator while editing, use the Find command in the Edit menu to search for a particular comment.

If you select the “Copy Source Locators” option in the Composer Window Settings dialog box, locators are copied from the Source monitor to the Record monitor when you edit clips and sequences.

Copying Locators from Source Clips

You can copy all locators currently placed in source clips directly into the sequence as you edit. The locators and the locator text appear in all sequence segments that reference the source clips.

To automatically copy source locators as you edit:

1. Double-click Composer in the Settings scroll list of the Project window to open the Composer Window Settings dialog box.
2. Select the Copy Source Locators option.
3. Click OK.

Marking Locators

You can mark the area between two locators by using the Mark Locator button.

To mark the area between two locators:

1. Move the position indicator between two locators.
2. 
Click the Mark Locators button located on the Edit tab of the Command palette.

   The area between the two locators is selected.

Using the Locators Window

The Locators window allows you to quickly add, delete, go to, and print a list of locators in the currently loaded clip or sequence.

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The following illustration shows a Locators window with three locators.



To view locators in the window:

1. Load the sequence containing the locators.
2. Choose Locators from the Tools menu.

Features of the Locators Window

Many features of the Locators window are similar to those of the bin window:

- The window displays information in text columns.
- A Fast menu allows you to modify and sort the display.
- You can print the Locators window. This is especially useful for identifying and listing specific frames — to be color corrected or used in an effect, for example. You can also make a list of marked IN to OUT points for adding music.

The Locators window also provides specific controls for manipulating locators in the sequence:

- You can double-click any locator to go to that locator in the sequence.
- You can select a single locator or Ctrl+select specific locators, and press the Delete key to delete them in one step.

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Locators Window Fast Menu

The following illustration shows the Locators Window Fast menu.



The Fast menu allows you to do the following:

- Display a timecode or footage column.
- Sort or reverse-sort (Alt key) the display by timecode, track, comment, or locator color. Choose the text at the top of a column to specify which column to sort.
- Display the frame associated with each locator.
- Change the color of the Locator icon. The Avid system uses the same color in the Timeline, position bar, and Record monitor display.

Finding Frames, Clips, and Bins

Once you have digitized, viewed, marked, and subcataloged numerous shots for a project, you might have difficulty relocating specific clips or frames among several bins. The Avid system provides a number of features for quickly locating and cueing footage, including

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conventional timecode and frame-offset techniques, text searches, and Match Frame and Find Bin commands.

Using Timecode to Find a Frame

You can cue a loaded clip or sequence to a specific frame by typing timecode values into the numeric keypad on the right side of the keyboard. In addition, you can cue backward or forward from the current location in the clip or sequence by a specified number of minutes and seconds or feet plus frames by using positive or negative frame-offset values.

For more information on selecting the display of tracking information, see **"Displaying Tracking Information" on page 275**.

The system interprets the numbers you type into the numeric keypad according to the type of tracking format you have chosen from the Tracking Information Display menu (timecode or frames). If you have two rows of information displayed above the monitor, the system looks to the top row.

To use timecode to find a frame, the top row of information must include timecode; for example, V1.

To cue to a frame based on a known timecode:

1. Click the monitor that is displaying the clip or sequence you want to search.
2. Choose a timecode tracking format from the Tracking Information Display menu that appears above the monitor. If two rows of information are displayed above the monitor, make sure the timecode format is in the top row.
3. Enter the timecode for the frame by using the numeric keypad on the right side of the keyboard.

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In this example, the interface displays master timecode. Use one of the formats described in the next two paragraphs.



- *SMPTE timecode* — Use two digits each for the hours, minutes, seconds, and frames. For example, type 01230200 to enter 01:23:02:00.
- *Current timecode* — If you want to find a timecode that starts at the same hour, minute, or second as the current timecode, type only the last digits. For example, if the current timecode is 1:05:12:13 and you type 4:25, the system finds the frame at 1:05:04:25.

4. Press Enter on the numeric keypad.

To cue a frame by using frame offset timecode:

1. Click the monitor that is displaying the clip or sequence that you want to search.
2. Using the numeric keypad, type a plus sign (+) to move forward or a minus sign (–) to move backward from the current position.

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3. Enter a number for the frame offset and then press the Enter key on the numeric keypad. Use the following formats:

   - *One or two digits* — Enter 1 through 99 to specify a number of frames forward or backward. For example, enter –42 to move backward 42 frames.
   - *Three digits* — Enter 100 or a greater number to move forward or backward a specified number of seconds and frames. The results vary depending on the tracking format you have chosen in the Tracking Information menu that displays above the monitor. For example, if you enter +100 and the master timecode is selected on the top line of the tracking information display, you move forward 1 second and zero frames. If you select frames to display above the monitor and enter +100, you move forward 100 frames.



You can always move by frames by adding an f to the end of the number. For example, if you have a timecode displayed in the Tracking Information Display menu and enter +100f, you move forward 100 frames.

Searching a Clip

You can use the Find feature to search a clip loaded in the Source monitor or the sequence in the Record monitor for:

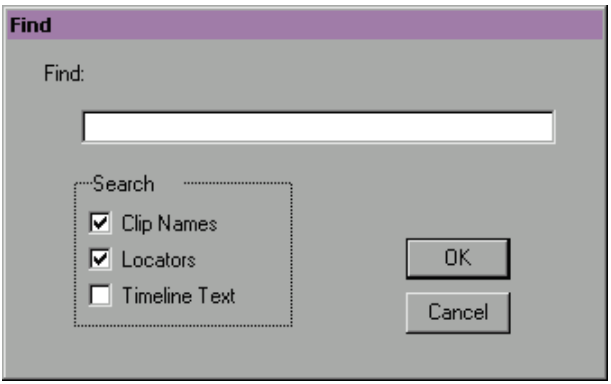
- Clip names
- Locator text
- Text displayed in the Timeline
- Comment text

To do a text search of a loaded clip or sequence by using the Find feature:

1. Load the clip or sequence into the monitor.
2. Choose Find from the Edit menu.

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The Find dialog box appears.



3. Enter part or all of the text for which you are searching. If the exact text is unknown, enter only a known word or portion of a word.
4. Select one or more options:
   - *Clip Names* causes the system to search for matching text in Clip names only.
   - *Locators* causes the system to search for matching text entered into locator comments only.
   - *Timeline Text* causes the system to search for matching text in any clip text displayed in the Timeline.
5. Click OK.

   If the system finds matching text, it cues to the head of the clip in the case of Clip Name or Timeline text, or it cues to the Locator frame in the case of Locators.
6. If the cue point is not the one you want, choose Find Again from the Edit menu to search for another incidence of matching text.

Using Match Frame

The Match Frame function locates the source footage for the frame currently displayed in the Record monitor, loads it into the Source

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monitor, cues to the matching frame, and marks an IN point. It removes the source clip's original IN and OUT points.

In addition to helping you relocate and reedit master clips during a session, the Match Frame feature can be used to locate clips quickly based on media relatives when you have forgotten their location.

To use Match Frame:

1. Load a sequence into the Record monitor.
2. Move to the frame that you want to match.
3. Make sure you select the correct track for the frame that you want to match in the Track Selector panel.
4.  Click the Match Frame button, which is located on the Other tab in the Command palette.

This action loads and marks the source clip in the Source monitor.



If you do not want to mark the source clip and remove the original marks, press and hold the Alt key when you click the Match Frame button.

Performing a Reverse Match Frame

To perform a reverse Match Frame:

1. Place the position indicator on the frame in the source footage.
2. Select the appropriate tracks in the Timeline.
3.  Click the Reverse Match Frame button, which is located on the Other tab in the Command Palette.

The system cues the sequence to the matching frame on the record side. If the shot exists in more than one place, the sequence cues to the first location of the match frame, and continues through the sequence to subsequent locations each time you click the Reverse Match Frame button.

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Finding a Bin

With a clip or sequence loaded into a monitor, you can quickly find the original bin in which it is stored by using the Find Bin button. This command finds the bin, opens it, and highlights the clip or sequence within the bin. This works for sequences, subclips or clips within sequences, or clips in the Source monitor.

To find the bin in which a specific clip is located:

1. Load a clip into the Source monitor.
2. Click the Source monitor to activate it.
3.  Click the Find Bin button. The system highlights the clip in the bin.

To find the bin in which a specific sequence is located:

1. Load a sequence into the Record monitor.
2. Click the monitor to make it active.
3. Click the Find Bin button. The system highlights the sequence in the bin.

To find the bin in which a specific clip in a sequence is located:

1. Place the position indicator on the clip within the sequence.
2. Press and hold the Alt key and click the Find Bin button. The system opens the bin and highlights the clip.

Locating a Master Clip from a Subclip in a Sequence

To find the original clip in the bin for a subclip that has been edited into a sequence, you can use the Match Frame and Find Bin buttons together.



For this operation, you must have the Match Frame button mapped below both the Source and Record monitors.

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To locate a master clip from a subclip:

1. Cue to the subclip in the sequence.
2. Click the Match Frame button to load the subclip into the Source monitor.
3. Click the Match Frame button in the Source monitor to load the original master clip into the Source monitor.
4. Click the Find Bin button in the Source monitor to open the bin and highlight the master clip.

Finding a Frame

The Find Frame button, located on the Other tab of the Command palette, allows you to trace a digitized frame of footage displayed in a sequence or source clip back to its analog source on tape. This is useful for finding frames for color correction, or for redigitizing specific clips to lengthen them or alter digitize parameters.

To find a frame:

1. Make sure the source deck is properly connected to the system and load the clip or sequence.
2. In the Timeline or position bar, place the position indicator on the frame you want to find.
3.  Click the Find Frame button. If the tape is not in the deck (for example, if you do not know which tape the footage is on), a dialog box prompts you to insert the appropriate tape.
4. Insert the tape. The system cues to the requested frame and displays the frame. You can redigitize as necessary.

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CHAPTER 10

Editing in Source/Record Mode

In addition to finishing projects created on offline systems, your Avid system provides tools designed to help you create new sequences. After you have viewed and marked your clips or created subclips, you are ready to create a sequence.

This chapter introduces you to procedures that you use in Source/Record mode to build a basic sequence, as described in the following sections:

- **Entering Source/Record Mode**
- **Setting Up a New Sequence**
- **Making an Edit**
- **Undoing or Redoing Edits**
- **Editing Additional Shots into the Sequence**
- **Using Phantom Marks**
- **Lifting, Extracting, and Copying Material**
- **Adding Comments to Sequence Clips**
- **Playing the New Sequence**
- **Fine-Tuning the Sequence**

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Illustrations of the Composer window show two button rows, two information rows, and Center Duration. For information about changing the default display, see ***"Customizing the Composer Window" on page 270***.

Entering Source/Record Mode

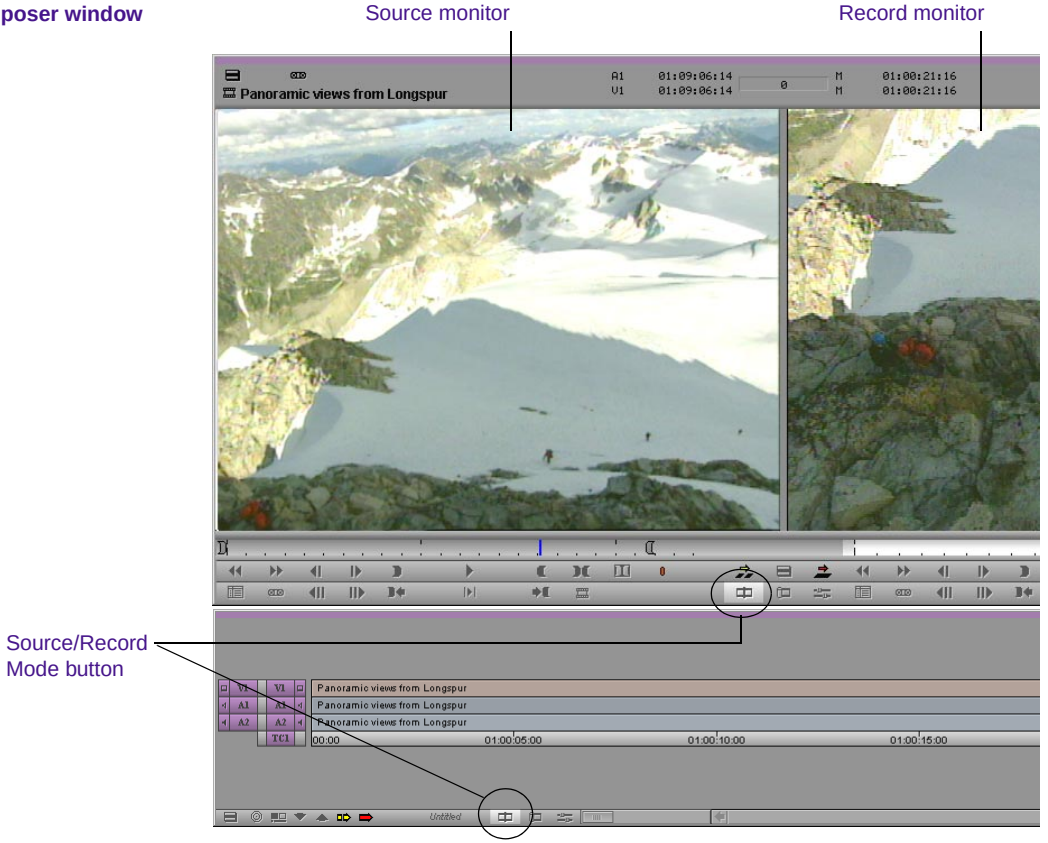
Source / Record mode is the default editing mode. It is composed of the screens and controls shown when the Source monitor and Record monitor are displayed in the Composer window. Use Source / Record mode to create new sequences from source clips.



To enter Source / Record mode from within another mode, click the Source / Record Mode button displayed in the Timeline toolbar or the monitor toolbars.

For more information about the Composer window, see **Chapter 9**.

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Setting Up a New Sequence

There are two ways to establish a new sequence:

- If you have specific parameters for the project that you want to establish first, you can create and name a sequence, set the start timecode, and determine the numbers and kinds of tracks to use before you make the first edit, as described in this section.

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- If you want to begin editing right away and build the sequence as you go without setting parameters ahead of time, proceed to **“Making an Edit” on page 335**.

To set up a sequence with the New Sequence command:

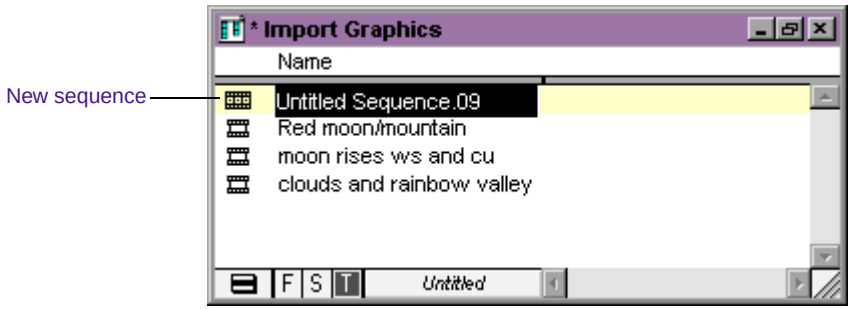
1. Choose New Sequence from the Clip menu. One of the following occurs:
   - If just one bin is open, or one of several bins is selected and you have clicked a specific bin to activate it, the new sequence appears in that bin. It also appears in the Record monitor and in the Timeline, with the generic title “Untitled Sequence *n*.” Each new sequence is numbered incrementally until you rename it.
   - If several bins are open but none is activated, the Bin Selection dialog box appears.



   Select the bin in which to store the new sequence, or click the New Bin button to create and open a new bin, and click OK.

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An untitled sequence appears in the bin, in the Record monitor, and in the Timeline.



2. To rename the new sequence, immediately type a new name while the Name field is active in the bin.

If you click anywhere in the interface after creating the new sequence, you deactivate the Name field. Click the sequence name again to rename the sequence.

Changing the Sequence Name and Timecode

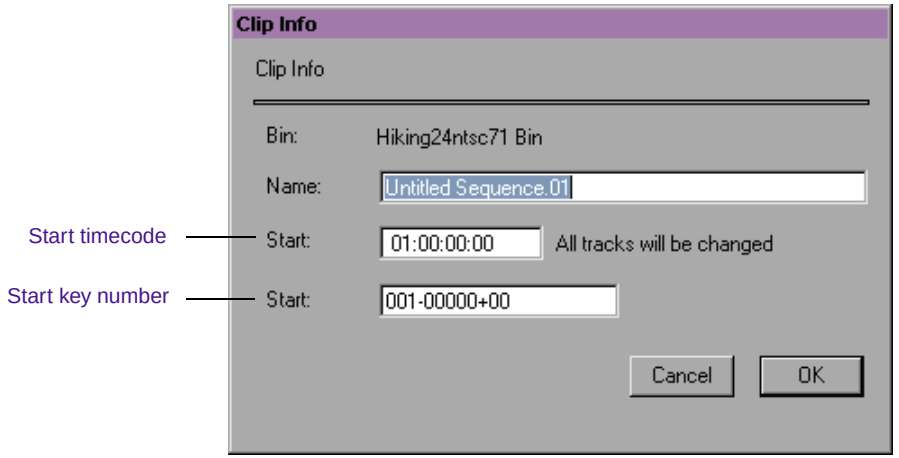
You can also change the default start timecodes for all new sequences by using General Settings. For more information on the general settings, see **"General Settings" on page 97**.

The following optional procedure allows you to rename the new sequence and set a customized start timecode by using the Get Clip Info command.

1. With your sequence loaded and the Record monitor active (click the Record monitor to make it active), choose Get Clip Info from the File menu to open the Clip Info dialog box.

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The Clip Info dialog box appears.



2. Drag the pointer across the sequence name in the Name text box, and then type a new name.
3. Drag the pointer across the start timecode, and then type a new timecode.

You only need to type the first colon (non-drop frame timecode) or semicolon (drop-frame timecode). For example, type 01:000000 for 01:00:00:00.

4. For 24p projects, drag the pointer across the start key number and type a new starting key number.
5. Click OK.

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Setting Up Tracks for the New Sequence

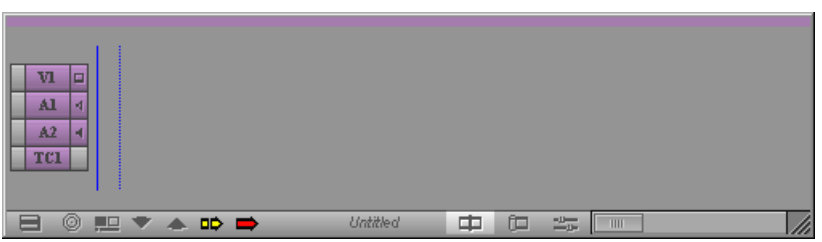
When you create a new sequence by using the New Sequence command, and no material is loaded into the Source monitor, the Timeline displays only the TC1 (master timecode) track. For 24p projects, the output timecode format tracks and EC (edgecode) track are also displayed.



You can add any number of audio or video tracks to the sequence before making the first edit, as follows:

- Choose New Video Track or New Picture Track from the Clip menu to add a video or picture track.
- Choose New Audio Track or New Sound Track from the Clip menu to add an audio or sound track.

The following illustration shows the Timeline after one video and two audio tracks have been added, with no material loaded in the Source monitor.



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User Preferences for Creating Tracks

For information on opening and changing settings, see **"Using the Settings Display" on page 86**.

Your Avid system provides two options in the Composer Window Settings dialog box that help automate the way tracks are created and enabled as you edit. You can adjust these settings in advance based on personal preference.

The default settings are:

- **Auto-create New Tracks:** Whenever you edit new source material from the Source monitor, the system automatically creates any new tracks in the sequence that match enabled tracks on the source side.
- **Auto-enable Source Tracks:** Whenever you load new source material into the Source monitor, the system automatically enables all existing source tracks.

Alternatively, you can do the following:

- Deselect the Auto-create New Tracks option to have the existing tracks in the sequence remain the same when you edit in new source material. This allows you to create new tracks selectively as you edit, which is often preferable at the more advanced stages of a project.
- Deselect the Auto-enable Source Tracks option to leave the tracks of newly loaded material in whatever state they were in when they were last loaded. This allows you to turn on the source tracks more selectively as you edit, which is often preferable at the more advanced stages of a project.

Adding Filler

You can add a small amount of black filler at the start of your sequence. A brief moment of black before the start of your sequence is sometimes useful during playback, or when recording a digital cut. You can also add filler to another part of the sequence at any time during editing.

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You cannot add filler to the end of a sequence. You can create black title media and insert it at the end of a sequence. For information about creating title media, see the Avid Media Composer and Film Composer Effects Guide.

To add filler:

1. Click above the Source monitor and choose Load Filler from the Clip Name menu. The system loads a 2-minute clip of filler into the Source monitor.
2. Mark the length of filler, as needed.
3. Click the Splice-in or the Overwrite button to edit the black into the sequence.

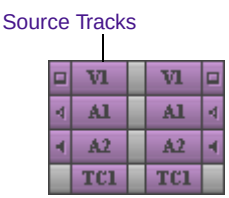
Making an Edit

This section explains one method of editing with your Avid system. As you learn how to use the various editing tools, you can develop an editing method that works best for you.

Whether you establish a new sequence in advance, or do not prepare a sequence and want to begin editing right away, use the following procedure to begin editing:

1. Load the first clip into the Source monitor. If you have not already marked IN and OUT points for the clip in advance or created a subclip, view and mark the clip as necessary.
2. Click buttons in the source Track Selector panel to select the tracks you want to include in the edit. Only the tracks that have been digitized for the clip appear as source tracks in the Timeline. For more information on using the Track Selector panel, see **"Using the Track Selector Panel" on page 397**.

   For example, with a talking head you might select tracks V1 (picture) and A2 (sound), if the voice was recorded on that track. You would deselect track A1, which might have unwanted wild sound picked up from a second microphone, or it might have no sound at all.



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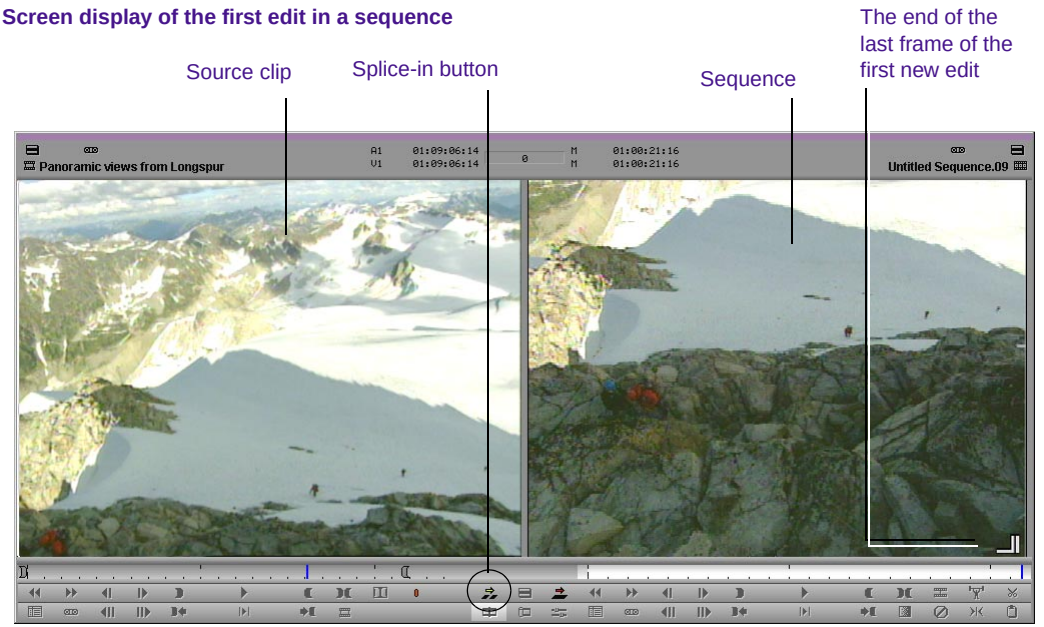
As another example, if you are first laying down a music track, you would select track A1 or A2 depending upon where the music was digitized, and deselect V1.


Splice-in button

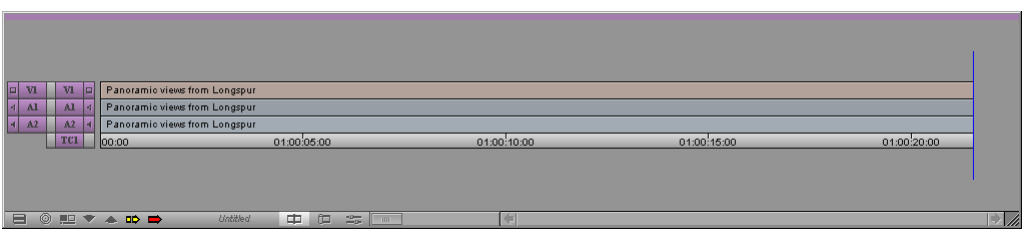
3. Click the Splice-in button to add the edit to the sequence in the Record monitor.

   The Record monitor displays the end of the last frame of the new edit. (You can scroll the position indicator in the Timeline or the position bar beneath the Record monitor to review the shot.) The edit also generates a graphical display of the cut in the Timeline.

Screen display of the first edit in a sequence



Timeline generated by the edit



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Creating an Instant Rough Cut

For additional information on editing directly from the bin into the Timeline, see **"Bin Editing into the Timeline" on page 391**.

As an alternative to creating a new sequence by editing shots one at a time, you can quickly create a rough cut by selecting and loading multiple clips directly from the bin into the Record monitor by using the Shift or Alt keys. You can load clips that have been sorted in a bin in Text view, or you can create a storyboard in Frame or Script view and then load these clips directly.

To create a rough cut from a bin:

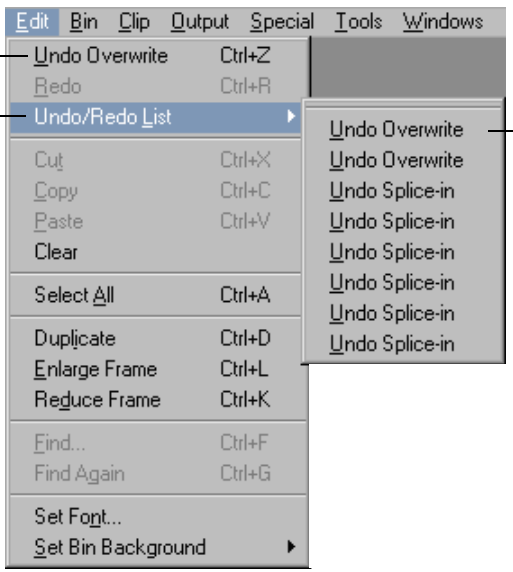
1. To create a more accurate rough cut, screen and mark clips in the bin in advance, as described in **"Marking IN to OUT Points" on page 309**.
2. In the bin, sort the clips in the order in which you want them to appear in the sequence:
   - In Text view, alphabetic or numeric sorting of clips might not provide you with the clip ordering that you want. You can create a new bin column for numbering the clips in the order in which you want them to appear, then sort the column numerically.
   - In Frame or Script view, rearrange frames and prepare a storyboard as described in **"Storyboard Worksheet" on page 204**.
3. (Option) Select the source and record tracks for the edit.
4. Select the clips in the bin. Choose Select All from the Edit menu if there are no other clips in the bin.
5. Press and hold the Alt key and drag the highlighted clips to the Record monitor to splice the clips into place. Alternatively, press and hold the Alt+Shift keys and drag the clips to overwrite them into an existing sequence.

   The clips are spliced together to form a new sequence based on the order in which they are listed in the bin. If there is a sequence already loaded into the Record monitor, the new clips are spliced or overwritten in the sequence, beginning at the location of the position indicator or at an IN point marked in the sequence.

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Undoing or Redoing Edits

You can undo or redo up to 32 previous actions listed in the Edit menu. You can quickly undo or redo a just completed command, or you can search through a submenu to undo or redo all commands leading back to a particular command.



Undo/Redo commands for previous edit

Prior Redo commands appear in the upper portion of the Undo/ Redo List submenu.

Prior Undo commands appear in the lower portion of the submenu.

- To undo only the previous edit or function, choose Undo from the Edit menu.
- To redo only the previous edit or function, choose Redo from the Edit menu.
- To undo or redo everything back to a particular command, choose a command from the Undo/Redo List from the Edit menu. All of the previous commands, back to and including the command chosen from the submenu, are undone or redone as appropriate.

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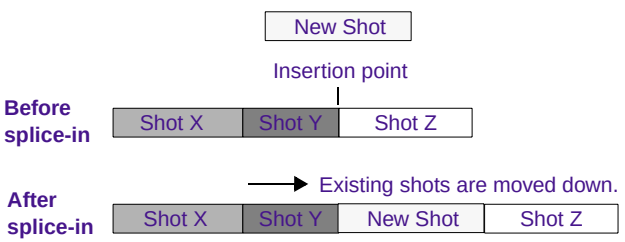
Editing Additional Shots into the Sequence

You can use two or sometimes one mark to complete an edit by using phantom marks. For more information, see **"Using Phantom Marks" on page 342**.

The three primary edit functions for adding material to your sequence are the *splice-in*, *overwrite*, and *replace* commands. In most cases, you perform three-point edits in which you set three marks — two in the source material and one in the sequence, or the reverse. The fourth mark is determined automatically. The way you set marks depends on the type of edit you perform, as described in this section.

Performing a Splice-in Edit

A splice-in edit inserts the material marked in the Source monitor into the sequence without replacing material already in the sequence. Existing material moves down beyond the spliced material, lengthening the overall duration of the sequence.



To perform a splice-in edit:

1. Load a clip into the Source monitor.
2. Mark an IN and OUT point.
3. Mark an IN point in the sequence as follows:
    a. Move the position indicator in either the Timeline or the position bar of the Record monitor to the point where you want to splice the shot into the sequence.
    b. Click the Mark IN button or press the Mark IN key on the keyboard.

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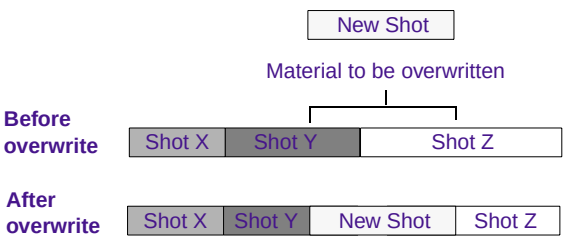
If you do not mark an IN point, the system splices the new shot into the sequence at the current location of the position indicator.

Splice-in button

4. Click the Splice-in button (yellow) to complete the edit.

Performing an Overwrite Edit

An overwrite edit replaces a section of the sequence with the material you select in the Source monitor. Unlike a splice-in edit, an overwrite edit replaces existing material and therefore does not lengthen the overall duration of the sequence.



To perform an overwrite edit:

1. In the Source monitor, mark an IN or OUT point, but not both, to show the start or end of the shot you want to use.
2. In the Record monitor, mark both an IN and OUT point to select the material in the sequence you want to overwrite, or you can mark an OUT point and move the position indicator in the Timeline or position bar to the IN point.

Overwrite button

3. Click the Overwrite button (red) to complete the edit.

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Performing a Replace Edit

For information about mapping buttons, see **"About Button Mapping" on page 130**.

You use the Replace button (blue) to replace a clip in the sequence (video, audio, or both) with new material from the Source monitor, while maintaining the original IN and OUT points of the previous edit. The Replace button must be mapped to a button under the Record monitor before you begin to edit.

To perform a replace edit:

1. Choose a sync frame in the source clip by moving the position indicator to display that frame in the Source monitor.

   The sync frame can be an IN point, an OUT point, or any frame in between that you want to sync to a frame in the existing shot in the sequence.

2. Choose the sync frame in the sequence for the edited shot that you want to replace by moving the position indicator in either the Record monitor position bar or in the Timeline to that frame.


Replace button

3. Click the Replace button (blue).

   The system calculates IN and OUT points for the source material by using the sync frames and the existing IN and OUT points in the sequence for the previously edited shot that you are replacing.



If you are replacing a clip in an overwrite edit and the position indicator falls within the overlap, you might end up replacing the wrong material unless you select the entire segment you want to replace. See ***"Selecting and Deselecting Segments" on page 380***.

For more information on Sync Point Editing, see **"Using Sync Point Editing" on page 545**.

Similar to replace editing, Sync Point Editing allows you to overwrite material in the sequence based on the alignment of position indicators in the source material and in the Timeline. The difference is that sync point edits end at the nearest marks in either the source or record material, and replace edits always fill the IN to OUT portion of the clip in the sequence.

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Using Single-Mark Editing

Single-mark editing (also called mark-and-park editing) allows you to establish a single mark, then use the location of the position indicator to determine the second mark when making the edit. You can use this procedure in several ways to save steps:

- You can mark an IN point in the Source monitor and then perform a splice-in, overwrite, or replace edit without adding a mark OUT.
- You can mark an OUT point, then locate a frame for the mark IN, and perform the edit without marking the IN point.
- You can mark the IN or OUT point, play, step (jog), or shuttle through the clip forward or backward, then press the Splice-in, Overwrite, or Replace button to perform the edit on-the-fly without adding the second mark.

To enable single-mark editing, open the Composer Window Settings dialog box from the Settings list in the Project window and select the Single Mark Editing option.

Using Phantom Marks

Phantom marks provide visual guidance when editing according to the three-mark rules described in **“Editing Additional Shots into the Sequence” on page 339**.

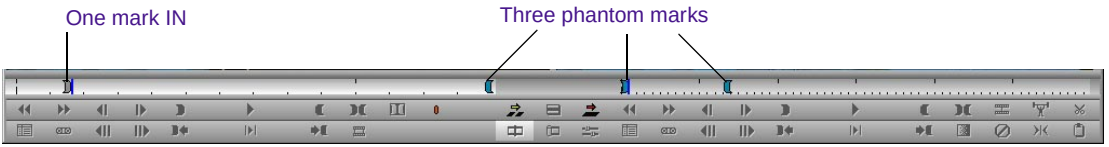
To enable phantom marks, open the Composer Window Settings dialog box from the Settings scroll list in the Project window and select the Phantom Marks option.

When you enable phantom marks, the system displays blue mark IN or mark OUT icons in the position bars below both the Source monitor and the Record monitor. These phantom marks can indicate one, two, or sometimes three edit points calculated by the system to complete an edit. The following are a few sample scenarios.

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Setting One Mark

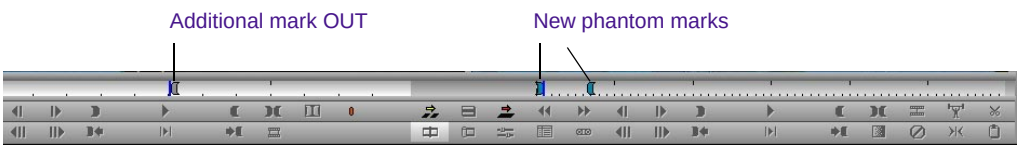
In this example, you set only the mark IN on the source side. By default, the system uses the location of the position indicator as the mark IN for the sequence, and calculates both OUT points based on the length of the source clip.



You can see the system calculations instantly and can make the edit after setting just one mark, when appropriate.

Adding a Second Mark

If you decide that a mark OUT is required — to shorten the source clip, for example — then the system recalculates and displays new phantom marks.



Phantom marks can help you see the results of marks you set before you complete the edit, and is especially useful when doing Sync Point Editing or other complicated replace edits in which two or more marks are calculated automatically.

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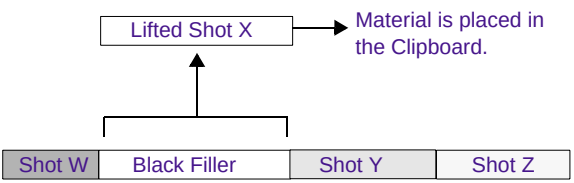
Lifting, Extracting, and Copying Material

Extract / Splice-in and Lift / Overwrite are Segment mode functions you can also use to remove and reposition segments. For more information, see **"Using Segment Mode" on page 379**.

Lifting, *extracting*, and *copying* allow you to remove or reposition material quickly in your sequence. For example, you can move a clip from the end of your sequence to the beginning; or you can remove the material from the sequence altogether. Lifting, extracting, and copying place the removed material into the Clipboard. You can then paste the material elsewhere in the sequence, or in another sequence altogether. These procedures are described in this section.

Lifting Material

The Lift function removes selected material from a track in the sequence and leaves black filler or silence to fill the gap. You can later move or fill this gap with other footage. When you lift material, the overall duration of the track (or sequence) remains the same.



To lift material:

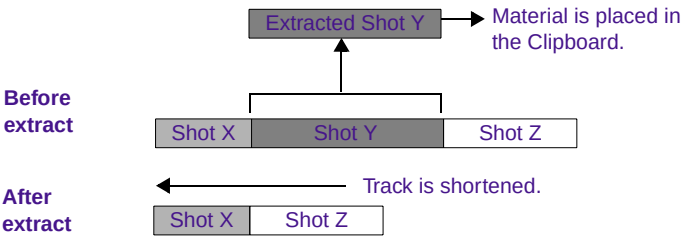
1. Mark IN and OUT points at the start and end of the material in the sequence that you want to lift.
2. Select the tracks containing the material. The system will perform the function on selected tracks only.
3. Click the Lift button to complete the edit.


Lift button

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Extracting Material

The Extract function removes selected material from a track in the sequence and closes the gap left by its removal. As a result, when you extract material, you shrink the duration of the track or sequence.



To extract material:

1. Mark IN and OUT points at the start and end of the material in the sequence that you want to extract.
2. Select the tracks containing the material. The system will perform the function on selected tracks only.
3. Click the Extract button to complete the edit.


Extract button

Copying Material

For more information on using the Clipboard, see **“Using the Clipboard” on page 346**.

The Copy to Clipboard function makes a duplicate of selected material in the sequence and leaves the material intact. When you copy material, the sequence remains unaffected. The material can then be inserted elsewhere in the sequence or into another sequence.

To copy material to the Clipboard:

1. Mark IN and OUT points at the start and end of the material in the sequence that you want to copy.
2. Select the tracks containing the material. The system will perform the function on selected tracks only.

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Copy to Clipboard button

3. Click the Copy to Clipboard button.

   The system copies the selected material to the Clipboard, and leaves the sequence untouched.

Using the Clipboard



The Avid Clipboard is a cut, copy, and paste tool adapted to the special needs of the editing environment. You can place a marked section of the sequence into the Clipboard at any time by clicking the Lift, Extract, or Copy to Clipboard buttons.

The Copy to Clipboard function is useful for moving or repeating material in a sequence without moving multiple segments in Segment mode, or rebuilding the section at another location. For example, you can:

- Copy a portion of a sequence for pasting into another sequence.
- Isolate and copy a portion of an audio track for looping music or repeating a sound effect.
- Copy graphic elements for repeating at other locations in a format cut.

Preserving Clipboard Contents

The Clipboard stores only one clip at a time; each time you copy, lift, or extract additional material, you delete and replace the previous contents.

To keep the Clipboard contents throughout a session, do one of the following:

- Choose Clipboard Contents from the Clip Name menu above the Source monitor.

  The contents appear as a clip in the Source monitor, and the name “Clipboard Contents.*n*” appears above the monitor and in the Clip

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Name menu. The *n* is an incremental numbering of clips placed in the Clipboard during the session.

- Press the Alt key when you copy, lift, or extract the material. The contents appear as a clip in the Source monitor, and the name "*Sequence name*. Sub" appears above the monitor and in the Clip Name menu.

Repeat these procedures each time you want to preserve copied, lifted, or extracted material during a session. All the clips remain available in the Clip Name menu until you choose Clear Menu or close the project.



Material placed in the Clipboard does not appear as a clip in the bin, and is deleted when you close the project. To save a portion of a sequence for future use, mark the section and create a subclip.

Recovering Material from the Clipboard

The Clipboard allows you to restore lifted or extracted segments quickly. This is especially useful if you have performed one or more edits since removing the material. In contrast, if you restore the material by using the Undo function, the system also undoes all edits performed in the meantime. The Clipboard provides the benefit of restoring the material while maintaining subsequent edits.

To restore material from the Clipboard:

1. Load the Clipboard contents in one of two ways:
   - Choose Clipboard Contents from the Clip Name menu above the Source monitor to place the contents into the Source monitor and the Clip Name menu list of clips.

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- Open the Clipboard as a pop-up monitor by choosing Clipboard Monitor from the Tools menu.



2. Click the Mark Clip button to mark the entire segment.



Toggle Source/Record in Timeline button

(Option) You can view the sequence segment as a source Timeline by clicking the Toggle Source / Record in Timeline button in the Timeline toolbar to mark and select specific tracks.

3. Locate the IN point in the sequence from which the segment was removed. Place the position indicator here, or mark an IN.
4. Splice or overwrite the material back into the sequence.

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Adding Comments to Sequence Clips

You can add comments to sequence clips to appear in the Timeline or in lists that you create, such as an EDL or a cut list. Comments can include instructions for color correction or for adjusting an effect.

To add comments to the clips in a sequence:



Segment Mode buttons

1. Click one of the Segment Mode buttons (located below the Timeline) and highlight the clip to which you want to add a comment in the Timeline.
2. Choose Add Comments from the Clip Name menu. The Comments dialog box appears.
3. Type your comments in the text box and click OK.

You can display the comments in the Timeline by using the Clip Text option in the Timeline Fast menu.

4. Click one of the Segment Mode buttons again to leave Segment mode.

Playing the New Sequence

After completing a rough cut, you can play the new sequence to see the results of your editing. You can view the sequence in the Record monitor or in the Client monitor.

If you need to prepare a screening of the current cut or sequence away from the system, see the Avid Media Composer and Film Composer Input and Output Guide *for information on preparing a videotape version of the sequence, or the* Avid FilmScribe User's Guide *for information on preparing a conformed cut or preview reel from workprint.*

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To review your work so far:

If you have several tracks of audio, you might need to mix them down and adjust levels before playback. For more information, see **Chapter 13**.

1. Make sure that the Video Track Monitor icon is located on the uppermost video track in order to display all video tracks and effects during playback.
2. Make sure the Audio Track Monitor button for the audio track is enabled to ensure proper playback of the audio tracks.
3. Go to the start of the sequence in the Record monitor by clicking the left side of the position bar to reposition the position indicator at the beginning, or press the Home key on the keyboard.
4. Use the position indicator, buttons, mouse, or keyboard to play, step, or shuttle through footage. View the sequence in the Record monitor or in the Client monitor.

Starting a Playback Loop

You can play back your sequence in a continuous loop by augmenting the Play IN to OUT command with the Alt key. You must set marks in the sequence to determine the range of the playback loop.

You can also use this technique to isolate and continuously play back a small portion of the sequence during a difficult edit.

To start a playback loop:

1. Place IN and OUT marks in the sequence. To play back the entire sequence, place the IN mark at the beginning and the OUT mark at the end.


Play IN to OUT button

2. Press the Alt key and the Play IN to OUT key or button.

   The playback loop begins and continues until you press the space bar on the keyboard or click anywhere with the mouse.

You can also press the Alt key and the Play to OUT button. The location of the position indicator acts as the IN point for a continuous loop.

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Playback Performance Tips

As you continue to edit, you might find the playback performance of the system diminishing as the sequence grows in length and layers. This can happen when you are using a great deal of system memory for playback of large and complex sequences. The following are a few tips for improving playback performance:

- Check the number of media objects in use for your project in the Memory window, as described in **"Viewing Memory" on page 116**. If this number is large, reduce the number of media objects by doing one of the following:
  - Close bins that are not in use.
  - Reduce the number of clips in the open bins.
  - Unmount drives that are currently not in use. See **"Mounting and Ejecting Media Drives" on page 60**. You can remount the drives at any time by choosing Mount All from the File menu.
- Restart the computer once a day to refresh the system memory.
- Split the sequence into two or more segments, if possible.

Using the Play Length Toggle Feature

Long sequences with many effects can be time-consuming to work with in the Timeline. Working with a smaller sequence can save time. The Play Length toggle feature allows you to switch between playing the entire sequence and playing a limited duration centered around the current position of the sequence.



Play Length toggle button

When you use the Play Length feature, first map the Play Length toggle button from the Play tab of the Command palette to a Monitor Command palette, and then set the value for the Play Length toggle button. For information about mapping buttons, see **"About Button Mapping" on page 130**.

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Changing the Value for the Play Length Toggle Button

To change the value for the Play Length toggle button from the default:

1. From the Tools menu, choose Console.
2. In the Console window text box, type

   playlength *n*

   Where *n* is the duration (in minutes) you want mapped to the Play Length toggle button.



The n variable must be a whole number set to 1 or higher.

3. Press Enter.

   The Console window displays the value for playlength. For example, if you set playlength to 1, the Console window will display playlength = 1 (half forward / half backward).

Playing a Sequence Using the Play Length Toggle Button

To select the Play Length toggle button to map to the Play button:



1. Click the Play Length toggle button. It switches between play entire sequence and play length 1 minute.
2. Set the Play Length toggle button to play length 1.

   With the Play Length toggle button activated, press the L key or the Play button. The sequence will play from the position indicator forward 30 seconds (half forward). If you press the J key or click the Play Reverse button, the sequence will play from the position indicator backward for 30 seconds (half backward).

3. To set the Play Length back to play the entire sequence, click the Play Length toggle button again.

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Fine-Tuning the Sequence

If you have finished a rough cut and are ready to fine-tune the sequence, proceed with the following:

- To learn about the Timeline and Segment mode editing techniques, see **Chapter 11**.
- To make frame-accurate adjustments to your edits by using Trim mode, see **Chapter 12**.
- To edit with audio or mix audio tracks in preparation for playback or output, see **Chapter 13**.
- To edit with synced tracks, see **Chapter 14**.
- To edit with multicamera material, see **Chapter 15**.
- To add effects to your sequence, see the *Avid Media Composer and Film Composer Effects Guide.*
- To apply final correction and adjustments, see the *Avid Media Composer and Film Composer Effects Guide*.

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CHAPTER 11

Using the Timeline

Your Avid system represents each edit and effect in a graphical timeline structure to help you track and manipulate the elements of your sequence. The Timeline continuously updates as you work, displaying an extensive array of icons and information that you can customize in various ways.

In addition, the Timeline has its own set of editing tools that you can use to create and revise edits and transitions across multiple tracks. These features are described in the following sections:

- **Customizing Timeline Views**
- **Navigating in the Timeline**
- **Using Segment Mode**
- **Using Advanced Timeline Techniques**
- **Working with Multiple Tracks**
- **Additional Offline Aids**
- **Printing the Timeline**



Illustrations of the Composer window in this chapter show the full set of two button rows, two information rows, and Center Duration display, as selected in Composer Window Settings. For more information, see ***"Customizing the Composer Window" on page 270***.

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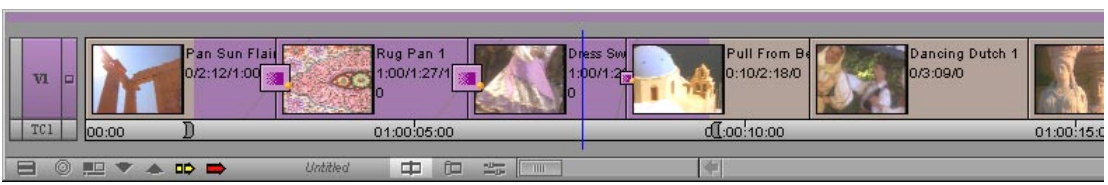
Customizing Timeline Views

There are also a number of on-the-fly procedures for changing your view of the Timeline (such as the Zoom and Focus functions) that are not saved as part of a Timeline view.

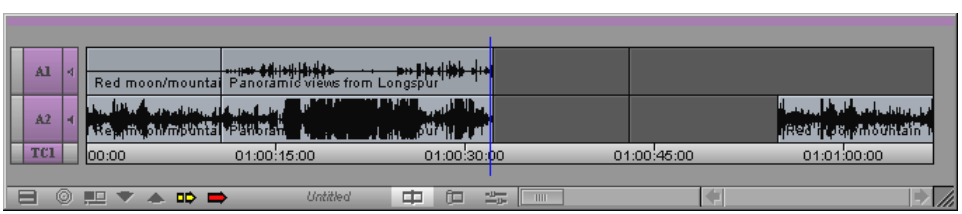
You can customize your view of the Timeline to display a variety of information about your sequence as well as the clips and transitions it contains. You use the Timeline Fast menu to change the display. You can also save different custom views that you can call up instantly in various circumstances.

The following are a few examples:

- **Effects editing:** If you are editing complex visuals with multiple tracks and effects, you can display Effect contents, Effect and Dissolve icons, Clip Frames, and Clip Transition Durations within enlarged video tracks in the Timeline.



- **Complex audio work:** If you are doing advanced audio work with multiple tracks, or fine-tuning difficult audio edits, you can hide video tracks and enlarge audio tracks while displaying waveform plots.

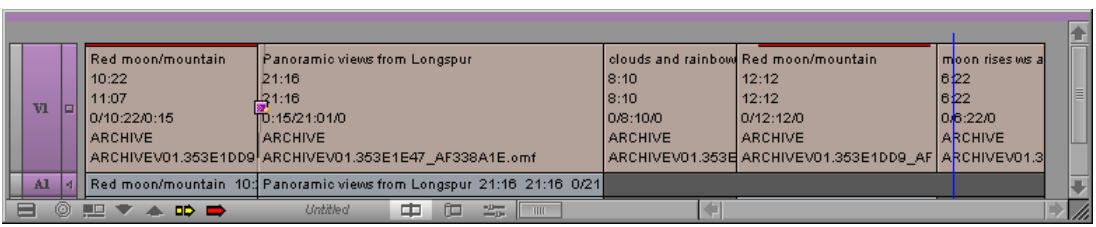


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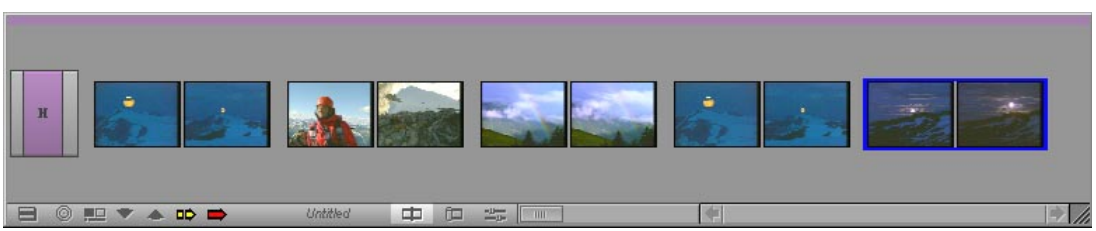
- **Film and animation editing:** If you are working on a film or animation project, you can display the film track, show several frames in the sequence, and display sync breaks where they occur.



- **Editing for online:** If you are editing offline with plans to generate an EDL and finish the sequence in an online videotape suite, you can track detailed clip and dupe-reel information by displaying clip text and enabling Dupe Detection.



- **Basic trimming:** If you are fine-tuning and trimming simple edits at the early stages of a project, you can view the sequence in Heads and Tails view to see a display of the first and last frame of every shot.



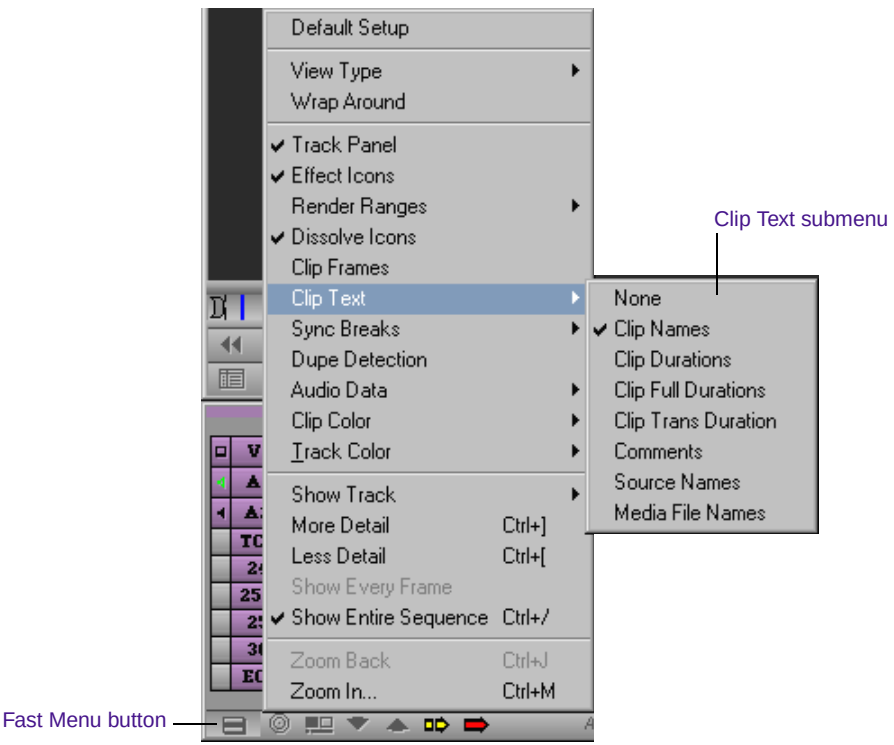
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Using the Timeline Fast Menu

To create a custom Timeline view, you choose various options from the Timeline Fast menu. The Timeline Fast Menu button appears in the bottom left corner of the Timeline toolbar.

To select an item from the Timeline Fast menu, click the Fast Menu button and scroll through the menu to select or deselect an option. Selected options have check marks next to them. You must select some options from a submenu.

Timeline Fast menu



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You can learn about the various Timeline view options as follows:

- For an overview of all Timeline Fast menu options, see **Table 11-1 on page 358**.
- For more information on effect icons and displays, see the *Avid Media Composer and Film Composer Effects Guide*.
- For information on different view types, see **“Customizing Timeline Views” on page 355**.
- For information on Dupe Detection in the Timeline, see **“Detecting Duplicate Frames” on page 411**.
- For information on displaying the film track, see **“Editing with the Film Track” on page 392**.
- For more information on displaying sync breaks in the Timeline, see **Chapter 14**.
- For more information on displaying energy and waveform plots in audio tracks, see **Chapter 13**.
- For more information on manipulating the height of tracks or moving tracks as part of a view, see **“Additional Procedures for Customizing the Timeline” on page 360**.

Table 11-1 Timeline Fast Menu Commands

Command	Description
Default Setup	Returns Timeline display settings to the system default settings
View Type	Displays a submenu for selecting a custom view
Wrap Around	Allows the Timeline to wrap around in the Timeline window
Track Panel	Displays or hides the Track Selector panel
Effect Icons	Switches the display of effect icons

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Table 11-1 Timeline Fast Menu Commands (Continued)

Command	Description
Render Ranges	Indicates unrendered effects; see the *Avid Media Composer and Film Composer Effects Guide*
Dissolve Icons	Switches the display of dissolve icons
Clip Frames	Switches the display of start frames for each of the segments in the Timeline
Clip Text	Displays a submenu of clip text display options
Sync Breaks	Displays a submenu of sync break display options
Dupe Detection	Enables color-coded dupe material display; used in 24p projects and matchback projects
Audio Data	Displays a submenu for customizing audio tracks with waveforms or volume gain automation
Clip Color	Displays local and source colors assigned to clips
Background Color	Displays a palette for changing the background color of the Timeline
Show Track	Displays a submenu for displaying tracks
More Detail	Expands the Timeline horizontally
Less Detail	Shrinks the Timeline horizontally
Show Every Frame	Displays every frame in the Timeline if you chose Film from the Show Track menu
Show Entire Sequence	Shows the entire sequence within the Timeline window
Zoom Back	Restores the Timeline to the previous view before zoom
Zoom In	Zooms the Timeline into a detailed view

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Additional Procedures for Customizing the Timeline

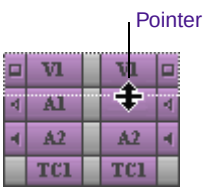
In addition to the options provided in the Timeline Fast menu, you can customize a Timeline view by enlarging or reducing the size of tracks, or by moving tracks up or down in the Timeline hierarchy.

Enlarging and Reducing Tracks

You can enlarge or reduce the height of one or more tracks to improve visibility and display more information within the tracks. You can save these changes with a Timeline view.

To enlarge or reduce the height of tracks:

1. Select the tracks that you want to resize.
2. Do one of the following:
   - Choose Enlarge Track or Reduce Track from the Edit menu.
   - Press and hold the Ctrl key and move the pointer to the bottom edge of the track selector until it appears as a bar intersected by double-headed arrow. Drag the edge up or down to make the track narrower or wider. This method applies to only one track selection at a time.
   - Press Ctrl+L to Enlarge Track or Ctrl+K to Reduce Track to change the height of all highlighted tracks quickly in the Timeline.



You can use this enhancement to:

- Reduce and view all the tracks in a multilayer sequence, and enlarge them when finished.
- Enlarge all tracks to view waveform plots or other displays in multiple tracks.

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Moving a Track

You can move a track to reposition it vertically relative to the Timeline. Surrounding tracks are repositioned above or below the track. You can save these changes with a Timeline view. Moving tracks is especially useful when you are working with multiple-layer effects and discover that the tracks are built in the wrong hierarchy to apply the effect correctly.

To move a track, press and hold the Ctrl key, click the Track button for the track that you want to move, and drag the track to its new position.



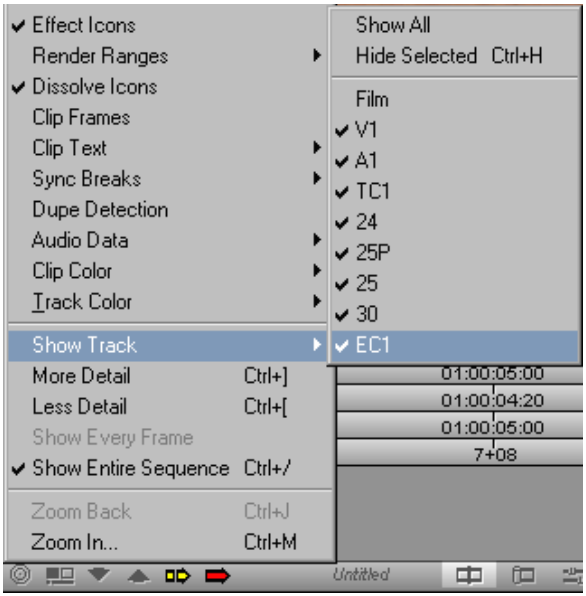
Do not move a track when patching to another track would be more appropriate. Moving whole tracks can throw effects and track monitoring out of place.

Displaying Timecode Tracks in the Timeline

When you are working with 24p projects, you can display separate tracks for 24, 25, 25P, and 30 timecodes in the Timeline. You can also display an edgecode track in the Timeline. By default, the Timeline displays all of the tracks. You can hide the timecode tracks by deselecting them in the Show Track submenu of the Timeline Fast menu.

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To customize the tracks to be displayed in the Timeline, choose the tracks from the Show Track submenu of the Timeline Fast menu.



The TC1 track represents the timecode of the project in which you are working. For example, when you are working in a 24p NTSC project, the TC1 track displays the same timecode as the TC 30 track.

Changing the Timeline Background Color

To change the background color of the Timeline, you also have to change the background color of the monitors.

To change the background color of the Timeline:

1. Click in a monitor to activate it.
2. Choose Set Composer Background from the Edit menu.
3. Choose a shade of gray for the background from the pop-up palette.

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Changing the Timeline Track Color

To change the track color in the Timeline:

1. Click in the Timeline to activate it.
2. Choose Track Color from the Timeline Fast menu.
3. Choose a color for the tracks from the pop-up palette.

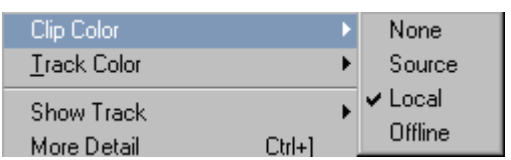
If you want to choose a custom color for the tracks, press the Alt key while performing this procedure. When you release the mouse button on the pop-up palette, the Windows Color dialog box appears.

Assigning Local Colors to Clips in the Timeline

You can assign local colors to clips in the Timeline to indicate shots that should be grouped together.

To assign a local clip color:

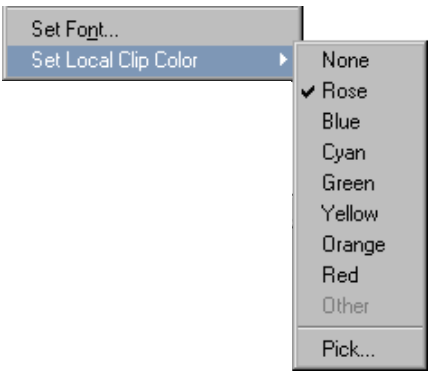
1. Click one of the Segment buttons and select a clip.
2. Choose Clip Color from the Timeline Fast menu, and choose Local from the Clip Color submenu.



A check mark indicates that Local is active.

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3. Choose Set Local Clip Color from the Edit menu, and choose a color for the clip from the submenu.



   The assigned local color appears on the clip in the Timeline.

4. Click the Segment button. The clip displays the color you chose.

Displaying Local and Source Colors in the Timeline

You can display source colors and local colors for clips in the Timeline. Source colors are assigned to clips in bins and local colors are assigned to clips in the Timeline. By default, the Timeline is set to display no colors.

Displaying source colors and local colors overrides any track color assigned from the Timeline Fast menu.

Displaying Source Colors

To display source colors in the Timeline:

1. Choose Clip Color from the Timeline Fast menu.
2. Choose Source from the Clip Color submenu.

   The source colors assigned to clips in the bin appear in the Timeline.

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Clip colors assigned to sequences, groups, motion effects, and title clips do not appear in the Timeline.

Displaying Local Colors

To display local colors in the Timeline:

1. Choose Clip Color from the Timeline Fast menu.
2. Choose Local from the Clip Color submenu.

   The assigned local colors appear in the Timeline.

If both Source and Local are selected in the Clip Color submenu, the local color overrides the source color.

Highlighting Offline Media Clips

You can highlight the clips in the Timeline that have offline media. The clips appear red, indicating their media is offline. Choosing offline overrides any previous source or local color selections.

To highlight the clips that have offline media:

1. Click in the Timeline to activate it.
2. Choose Clip Color from the Timeline Fast menu.
3. Choose Offline from the Clip Color submenu.

   Any offline media is displayed in red in the Timeline.

When working with nested layers, a clip that contains offline media appears red even if the missing media is nested many layers deep.

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Saving a Customized Timeline View

You can save a customized Timeline view. Timeline views appear in the Settings scroll list in the Project window. You can save, rename, and copy several views.

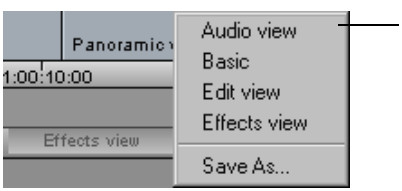
The system saves the following Timeline information with each view:

- Displayed tracks, track sizes, track positions
- Clip names and frames
- Audio waveforms
- Type of view (Time, Heads, or Heads and Tails)

Once you have created and saved several Timeline views, you can choose alternate views at any time from the Timeline View pop-up menu located in the Timeline toolbar at the bottom of the Timeline. The Timeline view is labeled *Untitled* until you name and save a customized Timeline view.

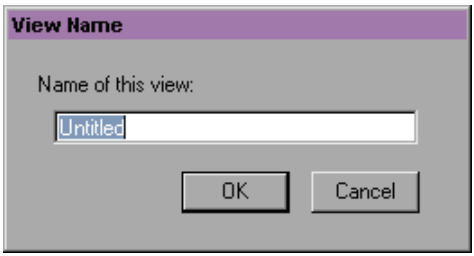
To name a Timeline view or to change a view's name:

1. Choose Save As from the Timeline View pop-up menu.



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The View Name dialog box appears.



2. Type a name for the view and click OK.

Replacing a Timeline View

If your saved views become extensive and there are views you no longer use and would like to replace, use the following procedure:

1. Press and hold the Alt key while you click the Timeline View button to display the list of saved view names, each appended with the Replace command.
2. Select a saved view name that you want to replace from the list.

The current Timeline view is applied to the selected name, and that name is displayed in the Settings scroll list in the Project window. You can change the View Name in the Project window if you want.

Setting the Scroll Option for the Timeline

You can have the Timeline scroll over the position indicator while you play a sequence.

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To set the scroll option:

1. Click the Settings button in the Project window to display a list of your current settings.
2. Double-click Timeline to display a list of your current Timeline settings. For more information on Timeline settings, see **"Restoring the Default Timeline View" on page 368**.
3. Select the Scroll While Playing option.

To turn off scrolling while you play, deselect the Scroll While Playing option in the Timeline Settings dialog box.

4. Click OK.

   When you play a sequence in the Timeline, the sequence scrolls over the position indicator. When the Timeline has passed the playhead and the end of the Timeline is revealed, the Timeline stops moving and the blue position bar travels the remaining distance.



For the Timeline to scroll, you might need to display more detail in the Timeline to expand the sequence. Click the scale box and drag it to the right to expand the Timeline. All effect icons are hidden as you scroll.

Restoring the Default Timeline View

To restore the default view in the Timeline, choose Default Setup from the Timeline Fast menu.

Timeline Settings Options

In addition to the Timeline options available from the Timeline Fast menu, there are several options available from the Timeline Settings dialog box. Double-click Timeline in the Settings scroll list in the Project window to open the Timeline Settings dialog box.

Table 11-2 describes the Timeline Settings options.

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Table 11-2 Timeline Settings Options

Option	Description
Dupe Detection Handles	Choose the size of the handles, in frames, to use for dupe checking. The chosen number of frames is added at the beginning and the end of each clip before checking for overlap. The handles are used only for internal calculations.
Show Position Bar	When this option is selected, the blue position bar is displayed in the Timeline.
Show Effect Contents	When this option is selected, the system displays effect information.
Show Marked Region	When this option is selected, the system highlights the region from the IN to OUT mark.
Show Marked Waveforms	When this option is selected, the system shows waveforms drawn between a marked IN or OUT point instead of over the entire composition.
Show Four-Frame Display	When this option is selected, the system shows the head and tail of incoming or outgoing frames of video when you drag a segment.
Scroll While Playing	When this option is selected, the Timeline scrolls over the position indicator while you play a sequence.
Double-Click to Show Nesting	When this option is selected, the system allows you to double-click segments in the Timeline to display the nested effects.
Auto-Patching	When this option is selected, the system automatically patches the enabled source tracks to the tracks enabled in the Timeline.
Auto-Monitoring	When this option is selected, and you delete a video track with the video monitor activated, the system automatically activates the video monitor for the next available track. This option is selected by default.
Segment Drag Sync Locks	When this option is set and you click the Sync Lock buttons in the Track Selector panel, you can drag clips in Segment mode while maintaining audio and video synchronization. The Avid system adds filler where necessary. For more information, see **"Maintaining Sync in Segment Mode" on page 385**.

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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 use the position indicator, the Timeline scroll bar / position bar, the scale bar, Zoom In and Zoom Back commands, or the Focus button. In addition, marked sections of the sequence can be highlighted for visual reference.

Figure 11-1 shows the Timeline window.

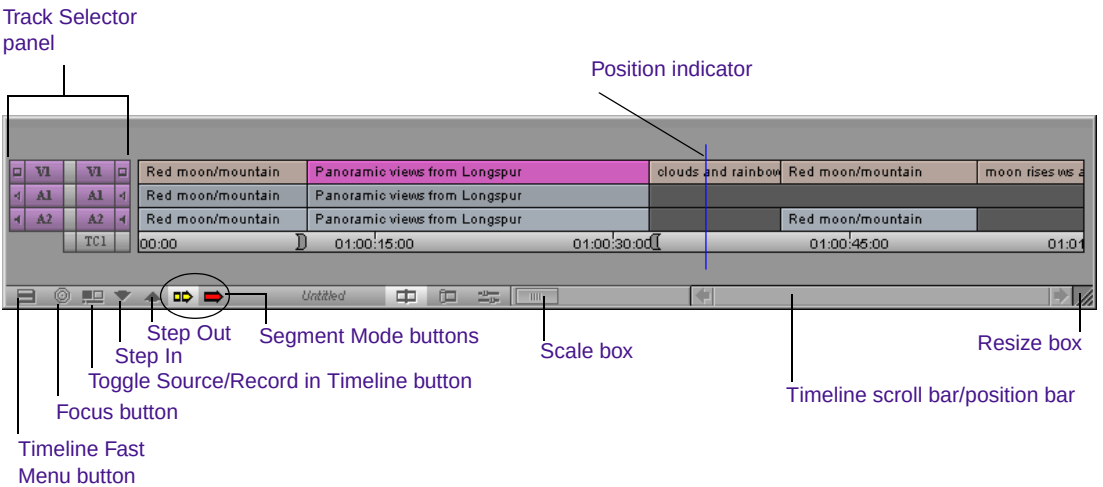


Figure 11-1 Timeline Window

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Using the Position Indicator

The position indicator 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 IN point 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 Timeline Scroll Bar/Position Bar

By default the Timeline scroll bar appears along the bottom of the Timeline window, on the right side of the Timeline toolbar, as shown in **Figure 11-1**.

The Timeline scroll bar functions like any standard scroll bar. You can drag the scroll box to reposition yourself within the Timeline, or click the arrows to scroll left or right.

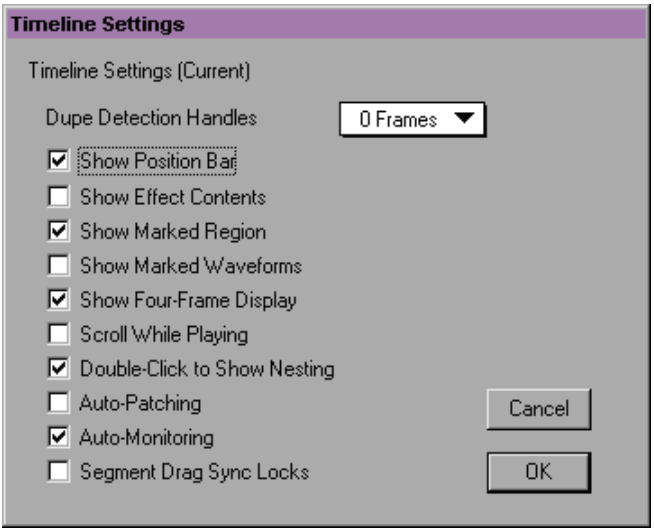
You can change the Timeline scroll bar to a position bar that acts like the position bar in the Record monitor, except that you can manipulate it without deactivating the Timeline window.

To use the Timeline position bar:

1. Double-click Timeline in the Settings scroll list in the Project window.

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The Timeline Settings dialog box appears.



For more information on the Timeline settings, see **"Restoring the Default Timeline View" on page 368**.

2. Select Show Position Bar.

   A check mark appears in the box. To deselect an option, click it again.

3. Click OK.

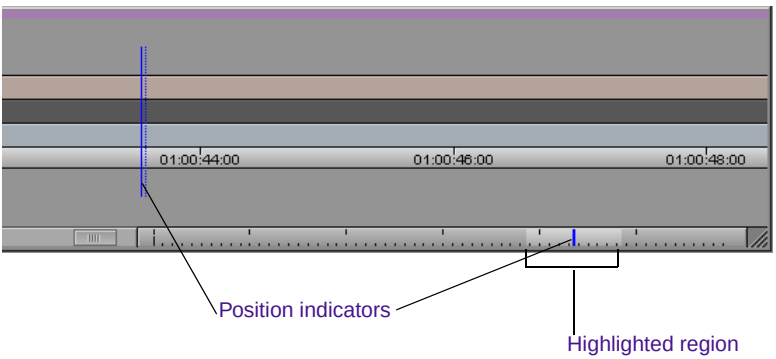
   The scroll bar changes to a position bar.



An advantage of the position bar is that when you focus on only a portion of the sequence, both the Timeline and Record monitor's position bars show a highlighted region around the position indicator. This represents the range of material displayed in the window.

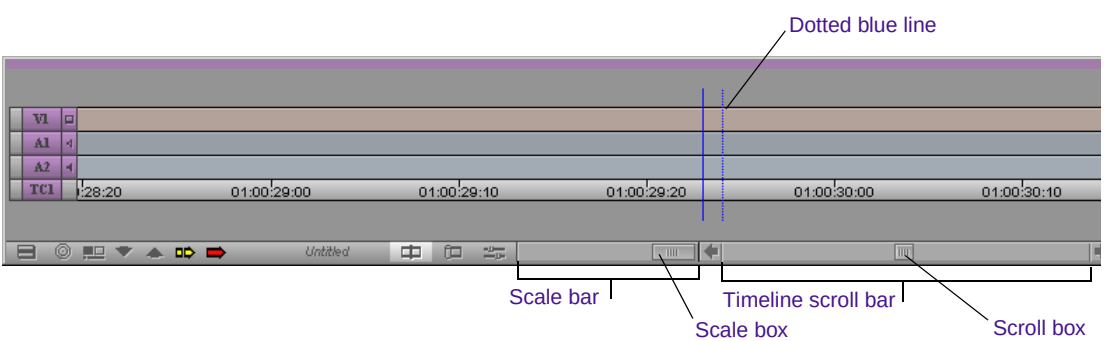
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Displaying Detail in the Timeline

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



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To zoom in on a section of the Timeline at the position indicator and then zoom back to your original display:

1. Click the scale box and drag it to the right.

   The following happens:

   - The Timeline expands horizontally.
   - The Timeline track shows more detail.
   - The position indicator splits into a solid blue line and a dotted blue line (or “shadow”), marking the beginning and end of the current frame. You can click either the line or the shadow to move exactly one frame forward or back.

2. Move the scale box back to the left.

   The Timeline shrinks to its original size.

Zooming In and Out

The Zoom In and Zoom Back commands in the Timeline Fast menu stretch out the Timeline like an accordion to allow you to focus on detail, but with the following differences:

- The Zoom In command does not expand the Timeline incrementally, but allows you to select a portion of the Timeline of any size to instantly expand to fill the window.
- The Zoom Back command does not shrink the Timeline incrementally, but instantly restores it to its former size.
- The Zoom In and Zoom Back commands are not dependent on the position indicator. You can select any portion of the Timeline to expand and contract.

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To zoom in on a section of the Timeline and then zoom back to your original display:

1. Choose Zoom In from the Timeline Fast menu. The pointer arrow changes to a selection bar.
2. Position the pointer at either the start or end of the place you want to zoom in on, and drag to select the chosen section.

   When you release the mouse button, the material inside the Zoom In box expands to fill the Timeline window.
3. To return to the previous Timeline display, choose Zoom Back from the Timeline Fast menu.

Focusing the Timeline

The Focus button also allows you to zoom in on a section of the Timeline. It is located in the Timeline toolbar next to the Fast Menu button.



Focus button

The Focus button allows you to center the position indicator quickly and expand the Timeline. The Focus button always expands the Timeline to a scale of 90 pixels per second. 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.

To focus the Timeline:

1. Place the position indicator at the frame or transition you want to expand.
2. Click the Focus button.

   This centers and enlarges the region of the Timeline immediately surrounding the position indicator.
3. Click the Focus button again to return to the previous view.

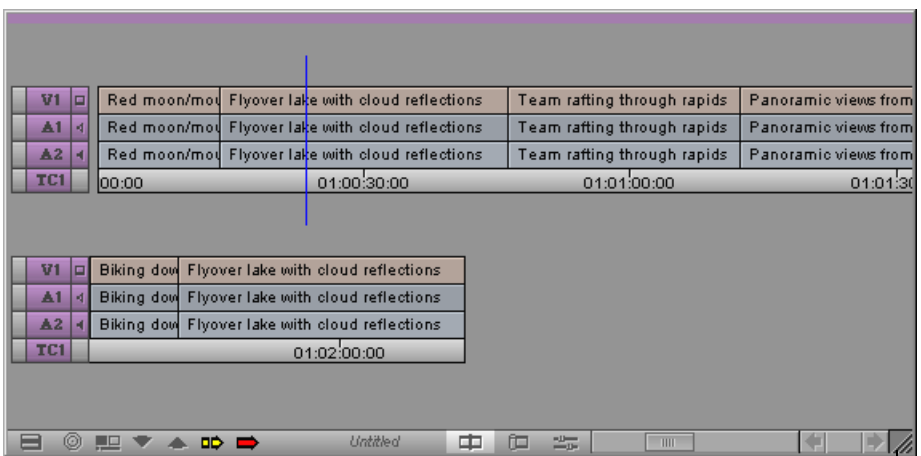
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Using Full-Screen Timeline

As an alternative to constantly scrolling through the Timeline window or resizing tracks to get a view of the material, you can resize the Timeline window to full-screen display.

Click the Resize box at the lower right corner of the window and drag it.

To restore a resized Timeline window to its default position, click the Timeline and choose Home from the Windows menu.



Notice that a Timeline with reduced tracks wraps around to show more of the sequence. As you reduce tracks in a full-screen Timeline, the sequence wraps around, allowing you to examine a long sequence in greater horizontal detail.

If you want the Timeline to wrap around in the Timeline window, make sure Wrap Around is selected in the Timeline Fast menu.

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You can also enlarge the tracks to view complex audio or video layers in greater vertical detail. To enlarge tracks, select them and press Ctrl+L.

You can also continue to work in Source/Record mode by resizing the Timeline window so that the two windows overlap.

You can click in either window to activate it and bring it forward at any time, or you can click in the title bar of the Timeline window and drag it to the Bin monitor to place each window in its own monitor.

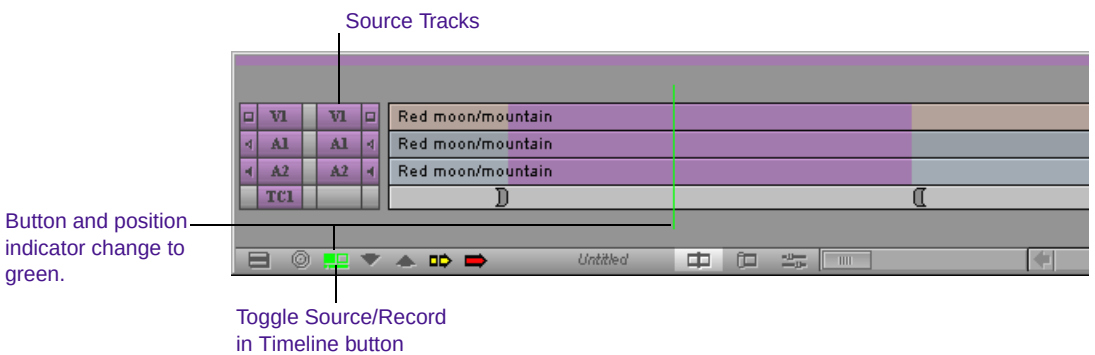
Displaying Source Material in the Timeline



The Toggle Source/Record in Timeline button allows you to view multitrack source material quickly in the Timeline for selecting and marking specific tracks.

By default, the Timeline displays only the available tracks for source material.

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



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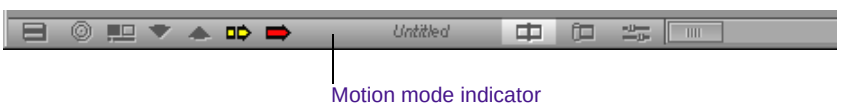
This feature is particularly useful when you are editing with a sequence or subclip created from a sequence; you can also use it to look at the contents of any source clip in a Timeline display.

Heads or Tails views are disabled when you are displaying material from the Source monitor.

Controlling Movement in the Timeline

While working in the Timeline window, you can use the Ctrl and Alt keys to control the movement of both the position indicator and any segments that you move in Segment mode.

The Timeline provides a small icon window called the motion mode indicator in the Timeline toolbar.



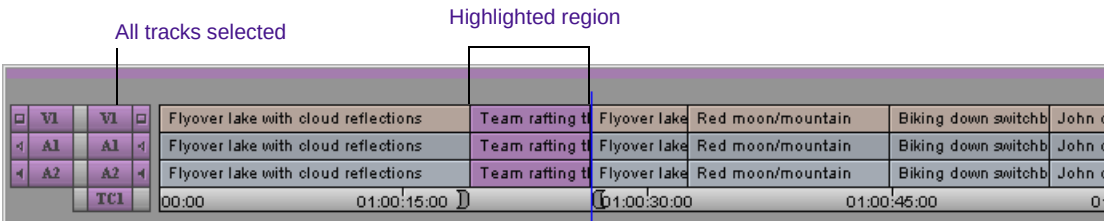
This small window displays a specific icon, depending on the key you press to augment your movement within the Timeline. The keys and movements are as follows:

- To snap to the head of transitions as you move through the Timeline sequence, press the Ctrl key as you drag either the position indicator or any segments selected in Segment mode.
- To snap to the tail of transitions, press Ctrl+Alt as you drag either the position indicator or any segments selected in Segment mode.
- To move frame-by-frame, press the Alt key as you drag either the position indicator or any segments selected in Segment mode.
- To snap the selected segments to an edit point in the track above or below the current track, click a Segment Mode button, and then press the Ctrl+Shift keys while dragging the segments.

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IN to OUT Highlighting in the Timeline

When you mark a sequence with IN to OUT points, the system indicates the selection by highlighting the marked region in the Timeline. Only selected tracks are highlighted.



This visual guide helps you monitor track and segment selection more carefully when mixing or applying effects across multiple tracks and segments.

To turn the highlighting feature on and off, select Show Marked Region from the Timeline Settings dialog box.

Using Segment Mode



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 shots: 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 by using visual controls as though you were physically “dragging” portions of your sequence around on a tape. You can move shots separately or together, on one track or across tracks.

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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. For more information, see **"Using Audio Scrub" on page 451**.
- 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.

Segment Mode Workflow

The following is the basic workflow for editing segments in Segment mode:

- Select the segments by clicking with the Segment Mode pointer or by lassoing segments with the mouse, as described in **"Selecting and Deselecting Segments" on page 380**.
- Move, mark, or delete the segments in either Extract / Splice-in mode or Lift / Overwrite mode, as described in **"Performing Segment Mode Edits" on page 383**.
- Use Segment mode, if desired, to edit directly from a bin as described in **"Bin Editing into the Timeline" on page 391**.

Selecting and Deselecting Segments

There are two basic methods for selecting segments for moving or editing:



- Click a Segment Mode button, and select segments with the pointer.
- Lasso one or more segments on one or more tracks by using the mouse.

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Once you enter Segment mode by using either of these methods, you can continue to select or deselect additional segments. The selected segment or group of segments becomes highlighted, and remains in its original position during the move until you select its new position.

Observe the following guidelines when selecting tracks:

- You cannot simultaneously move segments that are separated along a track. You can, however, move segments separated on different tracks.
- You cannot overlap the source and destination tracks. For example, you can move audio segments from A3 and A4 to A1 and A2, but you cannot move them from A3 and A4 to A2 and A3 (A3 overlaps).
- With a group, you can click any selected segment to drag the entire group to a new position.
- You can select black filler as a segment.

Selecting Segments with the Segment Mode Pointer

When you enter Segment mode, the cursor becomes an enlarged pointer that is yellow to indicate Extract/Splice-in mode, and red to indicate Lift/Overwrite mode. Outside of the Timeline, the cursor reverts to the standard arrow or I-beam, allowing you to perform other functions while in Segment mode.

To select segments with the pointer:

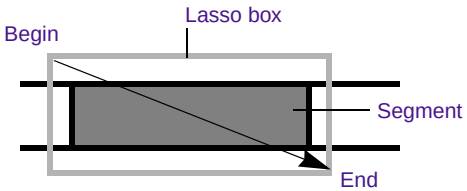
1. Click one of the Segment Mode buttons located in the Timeline toolbar. The arrow changes to an enlarged pointer.
2. Click a segment in any track to select it. Shift+click additional segments to select a group.

Lassoing One or More Segments

You can use the mouse to lasso a single segment or a group of segments across one or more tracks.

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To lasso segments, draw a lasso beginning in the area above the tracks in the Timeline. Drag left to right and then down to select more than one segment.



Extract / Splice-in mode is enabled by default when you draw a lasso. To switch to Lift / Overwrite mode, click the Lift / Overwrite button after drawing the lasso.

Observe the following guidelines when lassoing segments:

- Position the pointer above the tracks before dragging. If you click within the tracks, you simply relocate the position indicator to that position. To lasso segments in the middle of the Timeline between multiple tracks, press and hold the Alt key while you drag the lasso.
- Lasso at least two transitions, or all transitions included in multiple segments. If your lasso surrounds only one transition, you enter Trim mode.
- Drag from left to right. If you drag from right to left, you enter Trim mode with slip rollers selected.

Deselecting Segments

To deselect one or more selected segments, do one of the following:

- To deselect an entire track, click the Track button. For example, if you lasso segments on V1, V2, and A1, you can click the V2 and A1 Track buttons to leave only the segment on the middle track, V1, selected.
- Use the Shift key and the Segment Mode pointer to deselect specific segments on any track, leaving the remaining tracks selected.

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Performing Segment Mode Edits

Once you have selected one or more segments and have entered Segment mode, you can reposition the segments by clicking and dragging with the Segment Mode pointer. You can also delete or mark the segments in one step.



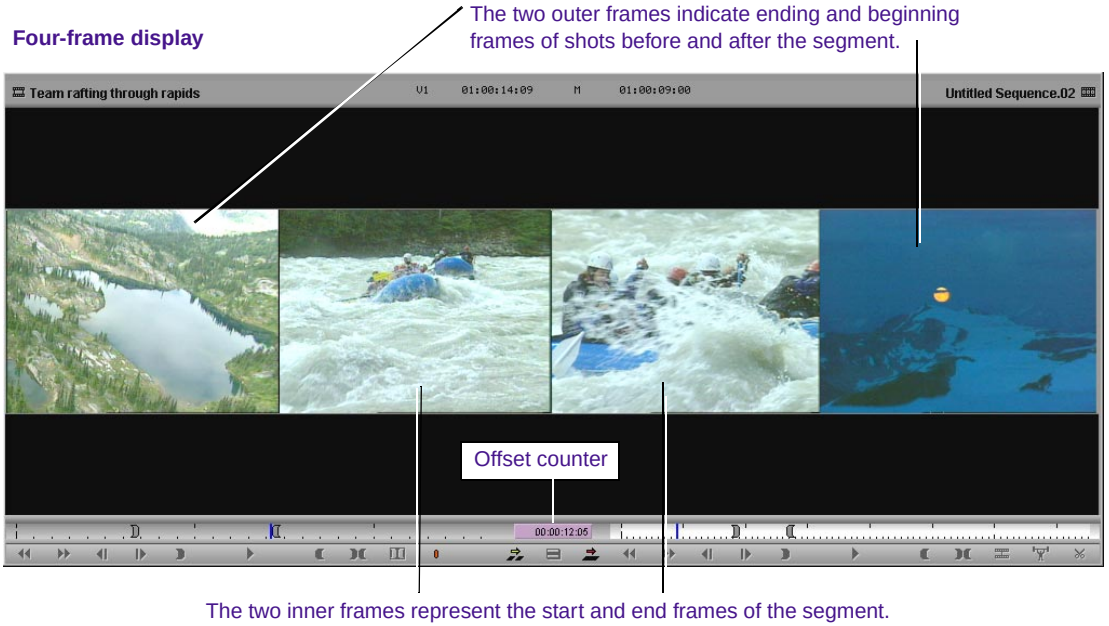
You cannot overlap the source and destination tracks. For example, you can move audio segments from A3 and A4 to A1 and A2, but you cannot move them from A3 and A4 to A2 and A3 (A3 overlaps).

About Four-Frame Display

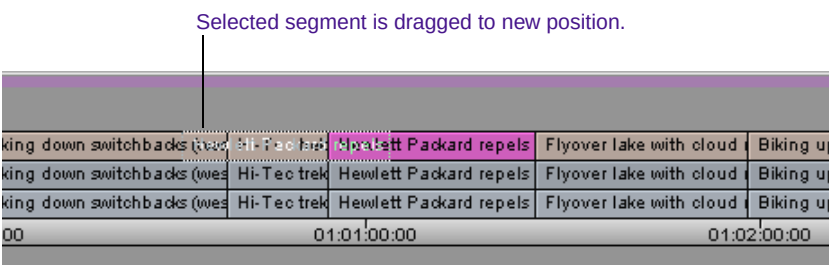
When you begin to drag the segments, the interface changes to the Segment mode four-frame display:

- The Source / Record monitors change to a four-frame monitor display. The two outer frames are updated while you drag the segment forward or backward in the Timeline, indicating the frames you pass as you drag the segment. The outer two frames in the four-frame display make it easy to view and analyze the frames between which you might want to drop the selected segment.
- A centered numeric offset counter appears below the frame monitors. The offset counter tracks the number of frames or feet+frames (24p projects) that you move while dragging the selected segment from its starting point.

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When you drag the segments, the original highlighted segment remains in place, while a “ghost” segment enclosed in a dotted white box moves along with the pointer until you release it at a new edit point.



When you release the segment into its new position, the actual lift (Overwrite) or extract (Splice-in) occurs. The preservation of the segment position in the Timeline until then allows you to maintain your perspective of the sequence while selecting the new edit point.

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Suppressing Four-Frame Display

The four-frame display of incoming / outgoing frames can occasionally slow the movement of segments as you drag them through the sequence. You can improve the speed of segment editing by suppressing the four-frame display.

To suppress the four-frame display:

1. Double-click Timeline in the Settings scroll list in the Project window. The Timeline Settings dialog box appears.
2. Deselect Show Four Frame Display from the Timeline Settings dialog box and click OK.
3. Click either the Extract / Splice-in button (yellow) or Lift / Overwrite button (red) to enter Segment mode.
4. Click the segment and drag it to its new position.

   As you begin to drag, notice that the monitors maintain their Source / Record configuration, rather than shifting to the four-frame display.

Maintaining Sync in Segment Mode

You can move segments in the Timeline and maintain sync between audio and video by using the Segment Drag Sync Locks option. After moving a segment in the Timeline, this option maintains sync by adding filler to the following locations:

- Where the segment was moved from
- The location on all other sync-locked tracks that corresponds to the new location of the segment you moved

You can move either an audio clip or a video clip.

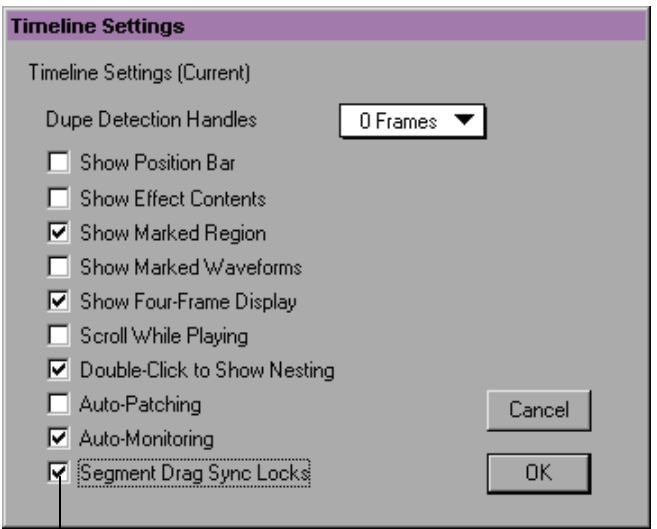
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To move a segment and keep sync:

1. Double-click Timeline in the Settings scroll list in the Project window.

   The Timeline Settings dialog box appears.

2. Select Segment Drag Sync Locks in the Timeline Settings dialog box.



Segment Drag Sync Locks option

3. Click OK.
4. In the Track Selector panel, click the Sync Lock button for the video and audio tracks that you want to keep in sync.

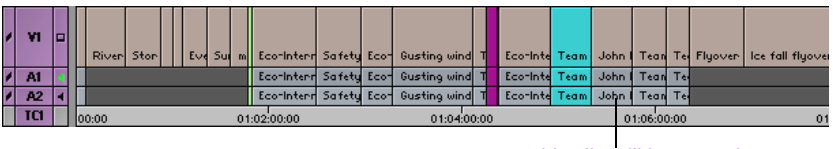


5. Click the Extract / Splice-in button.
6. Click an audio or video clip and drag it to the new location.

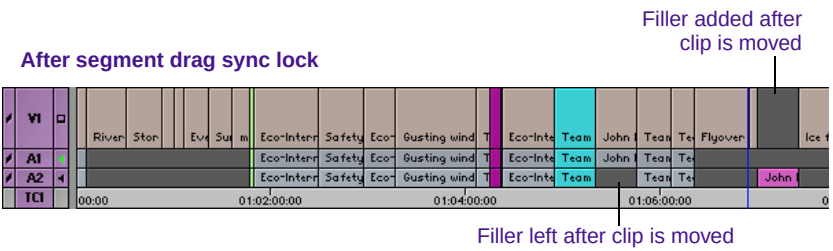
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In the following example, an audio clip in Track A2 is moved. Notice that the new location for the audio clip has filler added to the video track. All clips remain in sync.

Before segment drag sync lock



After segment drag sync lock



Extracting/Splicing Segments



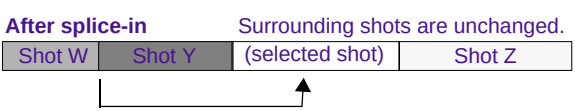
Use Extract / Splice-in to move the selected segments in the Timeline without affecting any of the adjacent material. The total duration of the sequence is unaffected.

Like the standard Splice-in function, the Extract / Splice-in edit inserts the segment into the new position. However, as an additional function, it also “extracts” or removes the segment from its previous position and closes the gap.

Before splice-in



After splice-in



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To perform an Extract / Splice-in edit:



1. Click the Extract / Splice-in button (yellow) in the Timeline toolbar.
2. Select the segments you want to move.
3. Click the segment and drag it to its new position. Use the four-frame monitor display, the offset counter, and the segment image in the Timeline to carefully determine the new position.
4. Release the mouse button. The system extracts the selected segment from its old position, closes the gap left by its removal, then splices the material back into the sequence at the newly selected location.
5. Click the Extract / Splice-in button again if you want to leave Segment mode.



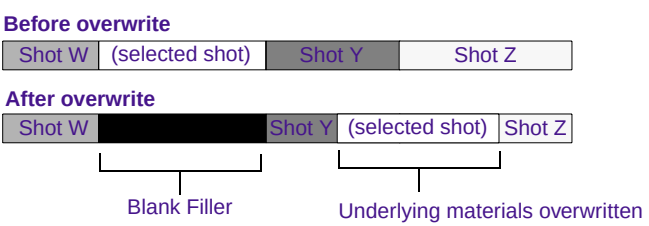
To cancel a segment edit in progress, drag the edit out of the Timeline window and release the mouse button. Alternatively, choose Undo from the Edit menu.

Lifting/Overwriting Segments



Use Lift / Overwrite to replace existing material at the new position, while leaving blank space in the previous position. The total duration of the sequence is unaffected.

Like the standard Overwrite function, the Lift / Overwrite edit deletes and replaces underlying material at the new position, effectively creating new edits. It also “lifts” the segments from the previous position, leaving black or silence of the same duration.



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To perform a Lift / Overwrite edit:



1. Click the Lift / Overwrite button (red) in the Timeline toolbar.
2. Select the segments you want to move.
3. Click the segment and drag it to its new position. Use the four-frame monitor display, the offset counter, and the segment image in the Timeline to determine the new position carefully.
4. Release the mouse button.

   The system lifts the selected segment from its old position, leaving black, then overwrites the material onto the sequence at the newly selected location.
5. Click the Lift / Overwrite button again if you want to leave Segment mode.



To cancel a segment move, drag the edit out of the Timeline window and release the mouse button. Alternatively, choose Undo from the Edit menu.

Deleting Segments with Segment Mode

Segment mode allows you to delete whole segments in the Timeline quickly without having to mark IN and OUT points first. In addition, you can select multiple segments in separate tracks anywhere along the Timeline to delete at once.

To delete segments quickly:

1. Click one of the Segment Mode buttons:
   - Extract / Splice-in (yellow) deletes the segments and closes the remaining gaps. The total duration of the sequence is shortened, and any synchronized tracks lose sync.
   - Lift / Overwrite (red) deletes the segments but leaves blank space or silence in their place. The total duration of the sequence remains the same, and sync is maintained.
2. Select one or multiple segments.

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3. Press the Delete key. The segments are deleted.

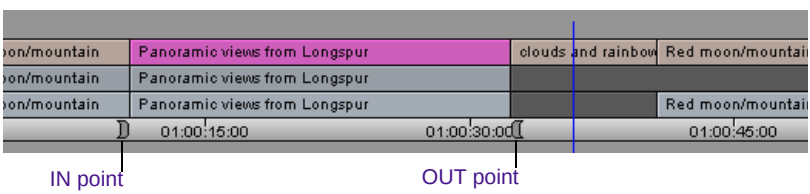
If the segment has an effect, the system deletes the effect first.

Marking Clips and Sequences with Segment Mode

As an alternative procedure to marking sections of the Timeline in Source / Record mode for deleting, copying, subclipping, rendering, or creating an EDL or digital cut, you can use Segment mode to mark segments quickly, as follows:

1. Click one of the Segment Mode buttons. In this case, it does not matter which Segment Mode button you click.
2. Click one or more segments to highlight a section of the sequence.
3. Click the Mark Clip button.

   The system marks an IN point at the start and an OUT point at the end of the selected segments. If you have more than one track selected, the IN and OUT points mark where the edit points across tracks line up.



Adding Comments with Segment Mode

You add comments to sequence clips to appear in the Timeline or in lists that you create, such as an EDL or a cut list. For more information on adding comments to sequence clips, see **“Adding Comments to Sequence Clips” on page 349**.

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Using Advanced Timeline Techniques

There are several advanced techniques for displaying and editing in the Timeline that you can use in any combination, including:

- Editing directly from a bin
- Cutting, copying, and pasting
- Editing with the film track
- Editing in Heads and Tails view

Bin Editing into the Timeline

For information on editing multiple clips directly from the bin into the Record monitor, see **"Creating an Instant Rough Cut" on page 337**.

You can use Segment mode to edit clips directly from a bin into the sequence in the Timeline. Bin editing allows you to bypass the process of loading clips into the Source monitor, setting marks, and clicking the Splice-in or Overwrite buttons.

To perform a direct edit from a bin into your Timeline:

1. For a more accurate edit, mark IN and OUT points for each clip or create subclips, as described in **"Marking and Subcataloging Footage" on page 309**. Otherwise, the entire clip is edited into the sequence.
2. Click one of the Segment Mode buttons:
   - Lift / Overwrite (red arrow) acts as an overwrite edit, causing the clip to overwrite material of the same length in the sequence, while maintaining the same duration of the sequence.
   - Extract / Splice-in (yellow arrow) acts as a splice edit, inserting the clip into the sequence, moving existing material down, and lengthening the total duration.

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3. Drag a clip from the bin into the Timeline. You only can edit one clip at a time.

   The pointer changes to the selected Segment mode icon, and the interface changes to the four-frame monitor display. As you drag, a white outline of the clip indicates the segment position.

4. When you find the right placement for the clip, release the mouse button. The Timeline reflects the new edit.



Once the edit is completed, you remain in Segment mode until you click the active Segment Mode button again to deactivate it.

Cutting, Copying, and Pasting in the Timeline

You can use the shortcut keys for cutting, copying, and pasting segments selected in the Timeline.

To cut or copy and paste:

1. Select the segment by using one of the Segment mode pointers.
2. Press Ctrl+C to copy, or Ctrl+X to cut.
3. Place the position indicator at the new IN point, and press Ctrl+V to paste the segment in the Timeline.

Editing with the Film Track

You can use the film track to examine each frames of the sequence in a linear display, much as you would when looking at a strand of film on a flatbed or workbench. Unlike your view of the footage in the monitors, which display one frame at a time, the film track within the Timeline allows you to compare individual frames side by side within a range of frames.

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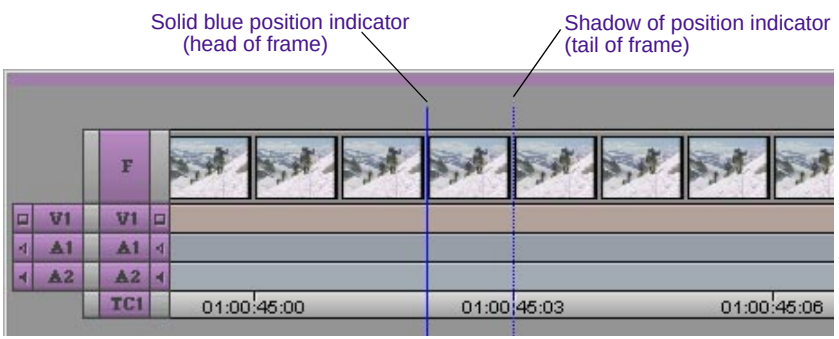
To display the film track, choose Film from the Show Track submenu of the Timeline Fast menu.

A row of film frames appears at the top of the Timeline. The film track displays as many representative frames as possible within the window.



To adjust your view of the Timeline quickly for frame-by-frame viewing and editing, choose Show Every Frame from the Timeline Fast menu.

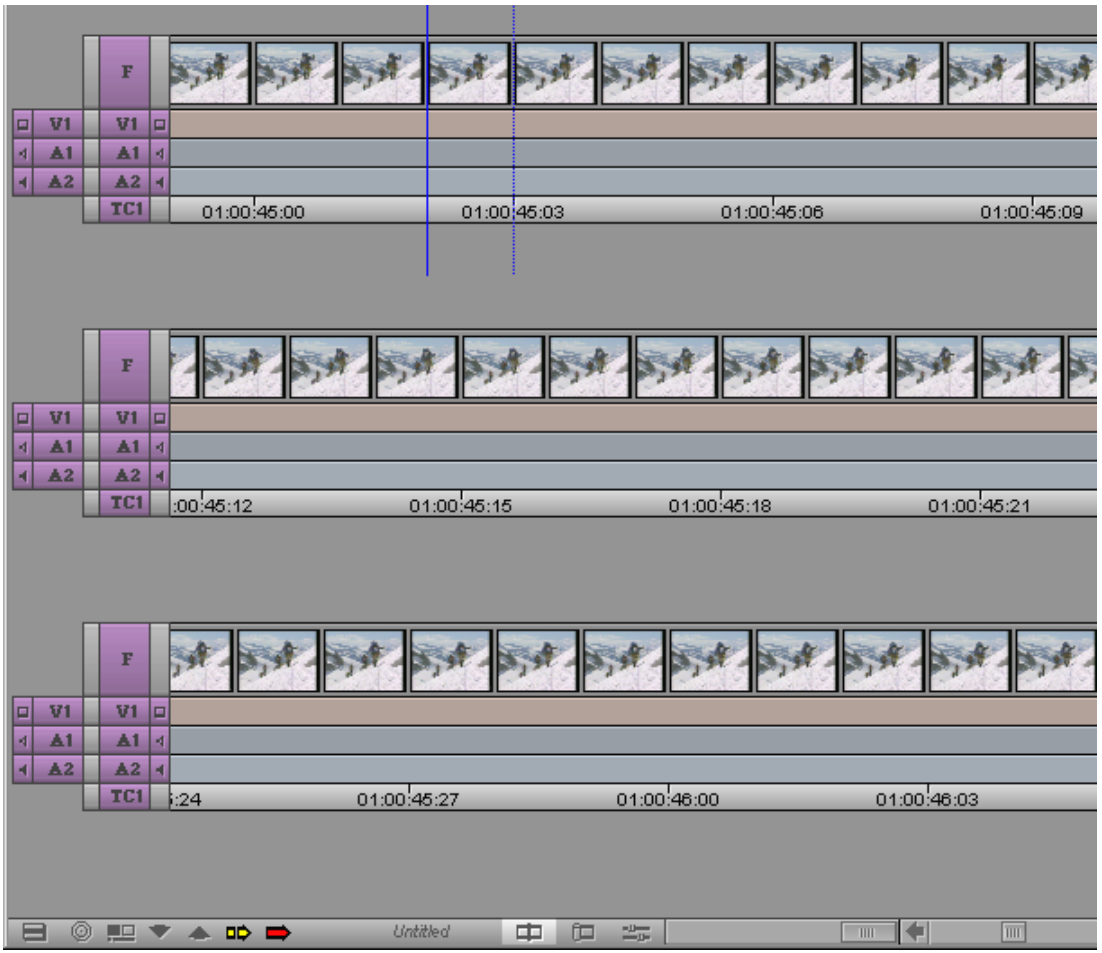
The position indicator splits to surround each frame. The solid blue line indicates the head, and the shadow line indicates the tail of each frame.



The film track displays frames for the topmost video track only. You cannot display more than one film track at a time.

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To quickly view more frames as you scroll, drag the resize box in the lower right corner of the Timeline for a full-screen view. You can reduce the size of Timeline tracks to wrap the sequence around several times.



As you continue to scroll, each strand of the Timeline wraparound is updated.

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Editing in Heads and Tails View

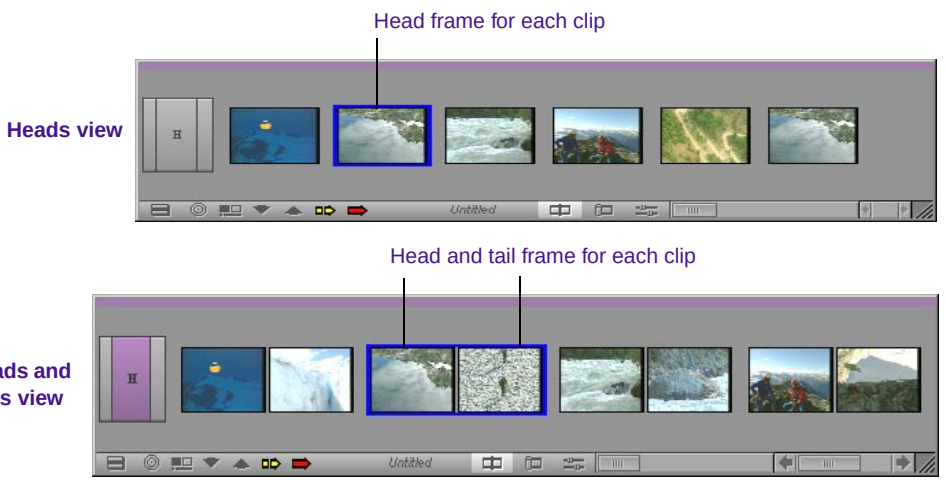
While in the early stages of editing a project, you can easily rearrange shots in the sequence visually by using Heads view or Heads and Tails view. These display formats are useful for quickly rearranging simple straight-cut edits.

If you rearrange a split edit (in which the audio extends beyond the video, or the reverse), the system cuts all tracks to the same edit point. To rearrange split edits or edits on multiple video tracks, or to move audio and video separately, use the Segment mode editing techniques described in "Using Segment Mode" on page 379.

To edit in Heads view or Heads and Tails view:

1. Click the Track buttons to select the tracks to be edited.
2. Choose View Type from the Timeline Fast menu, then choose Heads, or Heads and Tails, from the submenu.

   The Timeline changes to one of the following displays.



3. Press and hold the Alt key, click the frames representing the shot you want to move, and drag the shot to its new position. The sequence is rearranged to match the changes you made.

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Working with Multiple Tracks

As your project progresses, you might need to add and edit with more audio or video tracks. The Avid system allows you to edit up to 24 tracks of video and 24 tracks of audio. In addition, you can step into tracks to create additional tracks for *nested* effects.

While working with multiple tracks, you can use the Track Selector panel to select, manipulate, delete, lock, patch, and monitor your tracks. You can use multiple tracks to layer audio effects and sound, or to add video titles and other effects, as described in this section.



Multiple video tracks do not immediately play back at the same time until you apply an appropriate effect that composites the layers. Multiple audio layers, however, do play back immediately if correctly monitored.

About Effects Editing

Your primary use for multiple tracks of video is in the use of effects. Effects editing techniques in the Avid system fall into the following basic categories:

- *Motion effects*, such as freeze-frame and slow-motion or fast-motion effects, involve applying frame-motion parameters to selected footage, usually on a single video track.
- *Transition effects*, such as dissolves and wipes, involve making the transition from one edited clip to another on the same video track.
- *Segment effects*, such as picture-in-picture, keys, or color effects, are applied to whole segments. They often require multiple layers of video.
- *Title effects* are created with the Title tool and edited onto their own layers in a sequence.

Several effects are based on parameters that match film industry standards. These effects are specifically designed to capture the “film look”

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and include the superimposition effect in the Blend Effects menu, as well as any selection in the Film Effects menu.

All film effects can be custom made to match existing standards for preparing film opticals, and can be sent to any professional lab for preparing effects.

If you are creating a 30-fps project with plans to match back to create a film cut list, be sure to limit your use of tracks and effects to film standards, or conform the effects to optical printing standard durations after making a copy of the sequence and before generating the list.

For more information on all types of effects editing, see the Avid *Media Composer and Film Composer Effects Guide.*

About Nesting

Occasionally, effects editing involves a procedure known as nesting. Nesting involves *stepping into* existing tracks to reveal added layers for combining multiple images and digital video effects. When the effect is applied, you can *step out* to view and render the effect as one segment on the track.

You can nest up to 24 additional tracks within each track.

For more information on nesting techniques, see the Avid Media Composer and Film Composer Effects Guide.

Using the Track Selector Panel

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

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

Figure 11-2 shows the Track Selector panel.

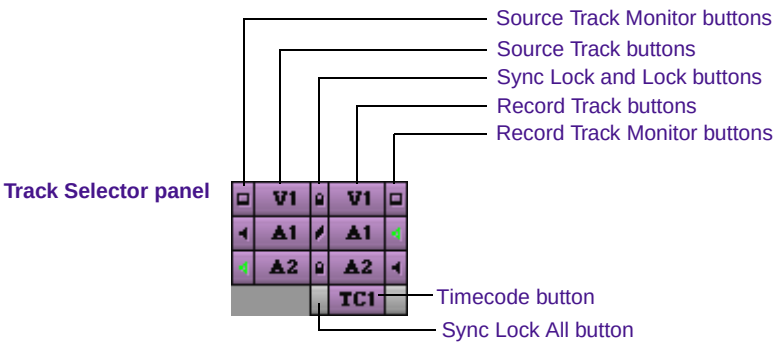


Figure 11-2 Track Selector Panel

The source side of the panel displays only those tracks available for the clip currently loaded and displayed in the Source monitor. For instance, a clip that has audio digitized only for track A1 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, by default the track appears on the record side after the edit takes place.

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Selecting Tracks

You can select tracks on either the record side or the source side of the Track Selector panel 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 the Track button of any inactive track to select the track. (Click the Track button of any active track to deselect the track.)
- Drag a lasso around multiple tracks to select them at once.
- With the Timeline window active, choose Select All Tracks from the Edit menu to select all tracks on the record and source side.



- Click the Cycle Picture / Sound button to cycle among selected video tracks, audio tracks, and all tracks.

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



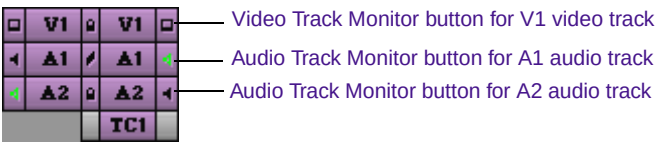
There are also keyboard equivalents for selecting tracks. Check your keyboard or the keyboard settings in the Settings scroll list in the Project window.

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Monitoring Tracks

The Track Monitor buttons allow you to choose which tracks to monitor in the Source monitor, the Record monitor, and the speakers.

You determine the monitoring of tracks by clicking a Track Monitor button for 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 icon determines whether you see video during playback. 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. The Video Track Monitor button displays a Monitor icon when the track is monitored for playback and output.

When you edit with multiple tracks, you can activate the monitoring of a lower track to monitor only the video on that track and below. This feature is especially useful when you have multiple layers of video effects and need to isolate lower tracks for viewing. You can also monitor a solo track. See **“Monitoring a Solo Track” on page 402**.

If you monitor a video track that is lower than the topmost track, be sure to return monitoring to the topmost track to view, export, mixdown, or record all the tracks together. Unmonitored tracks are not included in playback.

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Your Avid system allows you to monitor up to eight audio tracks at a time.

The following characteristics apply to audio track monitoring:

- The system pans odd-numbered tracks to the left speaker, and even-numbered tracks to the right by default.
- If your sequence includes more than eight audio tracks, you can select any eight tracks to monitor at any one time by clicking the Audio Track Monitor button for each audio track you want to monitor. The Audio Track Monitor button changes to purple with a black Speaker icon when the audio track is selected for monitoring playback and output.
- To hear more than eight tracks at once, you must mix some of them down to a maximum of eight. For more information, see **"Mixing Down Audio Tracks" on page 526**.
- The Audio Track Monitor button's Speaker icon (either black or green) indicates that the tracks are monitored for playback and output. However, only the track with the green Speaker icon is monitored for audio scrubbing, depending on the option set in the Audio Settings dialog box. For more information about selecting tracks for scrubbing, see **"Selecting Tracks for Scrubbing" on page 452**.
- The topmost Audio Track Monitor button displays the green Speaker icon (scrubbing) by default until you select another track for scrubbing. To activate audio scrub for a particular track, Alt+click the track's Audio Track Monitor button. For more information, see **"Using Audio Scrub" on page 451**.
- The Audio Track Monitor button changes to green with a black Speaker icon when selected for solo monitoring. For more information, see **"Monitoring a Solo Track" on page 402**.
- When you choose Direct Out in the Audio Mix tool, tracks 5 to 8 play back on channels 1 to 4. You can also customize the output of

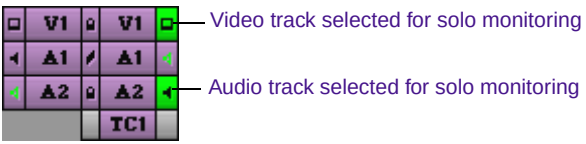
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the tracks, as described in **“Using the Audio Mix Tool” on page 460**.

Monitoring a Solo Track

You can use the Ctrl key to quickly select an individual video or audio track for monitoring during editing.

- To select a track for solo monitoring, press Ctrl+click the Track Monitor button for the chosen track. The Monitor icon changes to green with a black Speaker icon to indicate solo monitoring.



- To deselect solo monitoring, press Ctrl+click the Track Monitor button again. The Monitor icon returns to monitoring all tracks below the monitored track.

Solo monitoring provides several advantages:

- You can overcome slowed playback and cueing when working with a complex sequence by isolating tracks for monitoring.
- You can quickly isolate an individual audio track without having to click several Track Monitor buttons to deselect all other tracks.
- You can monitor the upper layers of a composited effect apart from the lower layers.

Patching Tracks

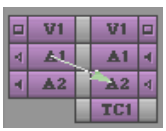
When working with multiple tracks, you can encounter a circumstance where you must edit source audio or video onto a track other than the parallel track displayed in the Track Selector panel. To edit the source material onto another record track above or below it, you must patch the source track to the targeted record track.

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You can perform only one patch per edit, but there is no limit on the number of times you can patch from the same source track. Audio can patch only to audio, and video only to video.

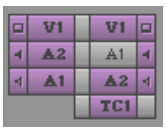
- To perform a patch, drag from a source track (audio or video) to the targeted record track (a white arrow appears during the patch).

Audio patch from a source track to a record track



During patch

New source track order identifies the patch.



After patch

- To undo a patch, click in the Record monitor, or Timeline. Choose the Restore Default Patch command from the Special menu, or manually repatch to the previous track.

The selected source track moves beside the record track to which it is patched as soon as you draw the arrow and release the mouse. The patched track remains highlighted in preparation for your edit. You can proceed to select any other tracks required for the edit.

After you make the edit, you can continue to work on the same track or patch to a different track as necessary.

When patching from one video track to another, the Video Track Monitor icon moves to the track you patch to. Be sure to return to monitoring the topmost track, when necessary, to play back and output all video tracks.

Locking and Sync Locking Tracks

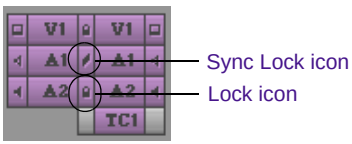
The system provides two ways of locking tracks:

- You can lock selected tracks to prevent further editing from being performed on them.

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- You can sync lock selected tracks so that when you trim one track, the other tracks are trimmed, also.

The Sync Lock and Lock buttons of the Track Selector panel display a Sync Lock icon for sync-locked tracks, and a Lock icon for locked tracks. The procedure for applying the locks is different in each case.



Locking Tracks

Locking tracks to prevent further editing is especially useful in circumstances like the following:

- For video or picture editing, you can lock tracks when you have completed a set of complex, multilayer edits and want to avoid making accidental changes while you work on adjacent tracks.
- For audio editing, you can lock audio tracks containing sync dialog that should be maintained while you edit adjacent video tracks or audio tracks.
- For projects involving multiple editors, you can lock tracks to prevent unnecessary or accidental changes.

To lock tracks:

1. Select the tracks to be locked (Source, Record, or both).
2. Choose Lock Tracks from the Clip menu. The Lock icon indicates that the selected tracks are locked.

   No further editing can occur on locked tracks until you choose Unlock Tracks from the Clip menu.

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Sync Locking Tracks

For more information on using the sync lock feature in Trim mode, see **"Using Sync Lock" on page 540**.

Sync locking affects trimming and splice-in edits. This feature is especially useful when you are working with multiple tracks and want to maintain sync between two or more tracks.

To sync lock the tracks, do one of the following:

- Click a Sync Lock button to activate the Sync Lock icon for each synchronized track.
- Click the Sync Lock All button to switch sync lock on and off for all tracks.

When you need to resume editing on individual tracks, click the Sync Lock button again to remove the Sync Lock icons.

Adding a Track

To add a new track to a sequence, do one of the following:

- With a sequence loaded in the Record monitor, choose New Audio Track, New Video Track, New Picture Track, or New Sound Track from the Clip menu.

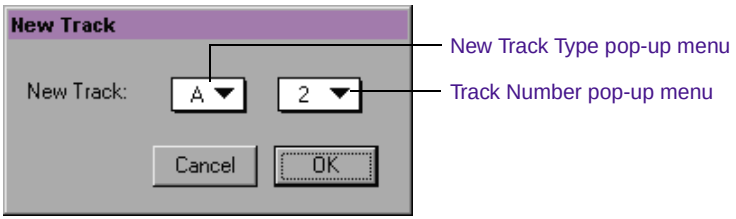
  The new track appears in the Timeline.

- If you want to manage the numbering scheme of tracks rather than use the consecutive numbering default:

  a. Press and hold the Alt key and choose New Audio Track, New Video Track, New Picture Track, or New Sound Track from the Clip menu.

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The New Track dialog box appears.



b. If you want to switch from the type of new track you chose to another type (for example, from a new video to a new audio track), choose that option from the New Track Type pop-up menu.

c. If you want to select a Track Number other than the default consecutive numbering offered by the dialog box, choose another number from the track number pop-up menu. You cannot choose the number of an existing track.

d. Click OK. The new track appears in the Timeline and in the Track Selector panel.

Deleting Tracks

You can remove one or more tracks from a sequence if you no longer need the tracks.

To delete one or more tracks from the sequence:

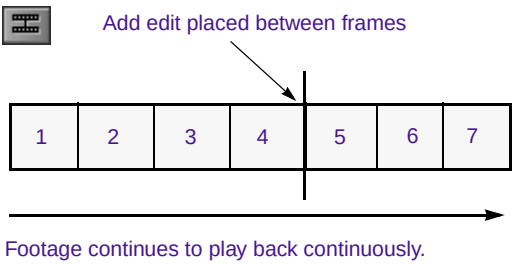
1. Enable the tracks, and press the Delete key. The Delete Track(s) dialog box appears.
2. Click OK. The tracks are deleted.

When you delete a track, it is permanently removed. If you want to remove the track temporarily, hide the tracks as described in **“Customizing Timeline Views” on page 355**.

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Adding an Edit (Match Framing)

The add edit function places an artificial edit point between frames of a clip. The edit appears in the Timeline as a transition between two clips, but when you play the clip, the footage appears unchanged because the frames are continuous.



This form of edit is also known as a *match frame*. In traditional analog editing, match framing is used to accomplish specific tasks, such as creating a dissolve between two shots. In the Avid system, however, add edits (or match frames) function differently. Use match frames primarily to divide and isolate portions of a clip or sequence to modify that portion without affecting the rest of the footage. You can also add edits to filler segments to maintain sync while trimming. Once you make the adjustment, playback of the clip is no longer seamless because the two portions of the clip are different.

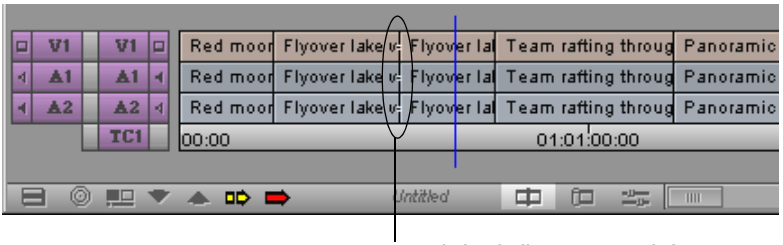
You can add an edit to a single audio or video track, or you can place the add edit across several tracks at once.

To add a match-frame edit:

1. Place the position indicator at the chosen frame.
2. Select the tracks where you want to add the edit.

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3. Click the Add Edit button. The edit appears in the sequence, with an equal sign to indicate a match frame.



By default, the match-frame indicator is white. If a change in level occurs, the match-frame indicator changes to red.

Adding Edits to Filler Clips

You can add an edit to all tracks, including the filler, regardless of the track selection.

To add an edit to filler clips at the position indicator:

1. Place the position indicator at the chosen frame.
2. Press Alt+click the Add Edit button. The edit appears on all tracks in the sequence at the position indicator.

Removing Match-Frame Edits

You can also remove individual match frames by selecting them in Trim mode and pressing the Delete key. For more information on Trim mode, see **Chapter 12**.

If you make a mistake when adding an edit, or if you have finished performing edit functions with multiple add edits and want to remove them, you can remove all add edits in the entire sequence, or within a selected portion of the sequence.

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To remove match-frame edits:

1. Select the entire sequence or a portion as follows:
   - Select a portion of the sequence by marking an IN point and an OUT point surrounding the match-frame edits (add edits) you want to remove.
   - Select the entire sequence by removing any IN and OUT points.
2. Select the tracks from which you want to remove the edits.
3. Choose Remove Match Frame Edits from the Clip menu.

   The Avid system removes the edits.



You cannot remove match-frame edits between segments in which segment effects and audio pan or volume adjustments have been applied.

Alternatively, you can select the match-frame edit in Trim mode and press Delete.

Backtiming Edits

Backtiming an edit is effectively the reverse of the process you normally use for marking footage: instead of marking from the IN points forward, you mark according to the OUT points.

For example, you might have a track of audio (music or voice) that ends at a specific point, and you want to synchronize a video clip to end on a particular shot. You can backtime the edit to match the end points of the tracks.

Consider the following:

- The Avid system needs only three marks to perform a backtimed edit. The IN and OUT points set on the record side always take precedence.

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- If you do not mark an IN point in the sequence, the Avid system uses the IN point and OUT point in the source clip (if both are marked) to determine the IN point in the sequence. If both marks are not set in the source clip, the system uses the position indicator as the IN point.
- If you do not mark an OUT point in the clip and no OUT point is set in the sequence, the Avid system uses the end of the source clip as the OUT point.
- If you mark OUT points in both the Source monitor and in the Record monitor, the Avid system uses the OUT point on the record side.

To backtime an edit:

1. Mark an OUT point in the sequence where you want the edit to end. Also mark an IN point where the edit is to start.
2. Select the appropriate tracks.
3. Load the clip into the Source monitor.
4. Mark an OUT point in the Source monitor to synchronize to the OUT point in the sequence.
5. Click the Overwrite button.

   The source material is added to the sequence, with the synchronized ending.

Additional Offline Aids

Your Avid system provides two features specifically designed to aid the offline editing process by helping you track and adjust edits to avoid extra work in the online suite. These features are Dupe Detection and Color Frame tracking.

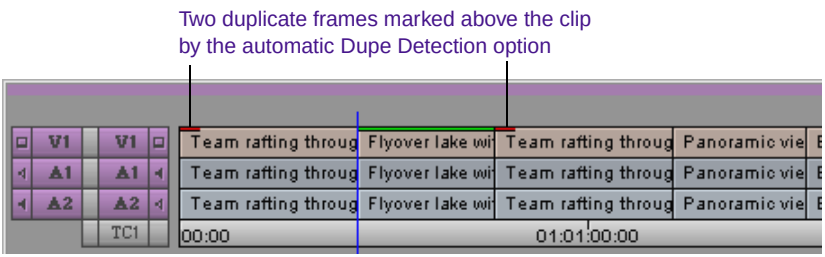
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Detecting Duplicate Frames

When editing offline with plans to generate an EDL, the Dupe Detection feature allows you to visually track duplicate frames of footage as you edit so that you can eliminate or manage the requirements of an online dupe reel.

When you activate Dupe Detection, each set of duplicate frames is tagged with a different color. (Up to 10 color sets can be distinguished during a single detection process.) Matching frames have matching colors. You can use any of the Trim mode options to remove the duplicate frames, if necessary.

The colored bars that distinguish duplicate frames in the sequence are automatically drawn above the frames in the Timeline, as shown.



Red bars mark the first set of duplicate frames, green bars mark the second set, and so on. You can use Dupe Detection while you are editing to locate duplicate frames and remove them as the sequence evolves.

To activate Dupe Detection, choose Dupe Detection from the Timeline Fast menu.

Dupe Detection is instantaneous and retroactive; if duplicate frames already exist in your sequence, the colored bars appear immediately. As you edit, the system shows duplicate frames as they occur.

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The handle size used by Dupe Detection can be changed in the Timeline Settings dialog box.

The Avid application might mark a special effect optical (such as a blowup) as a duplicate frame. Double-check your sequence for this possibility before deleting frames.

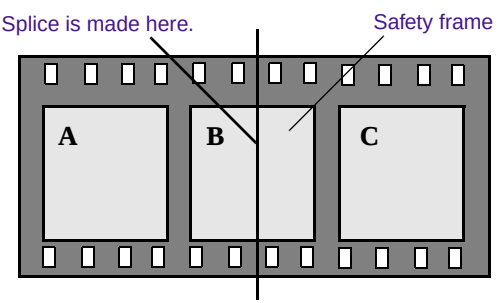
Adjusting Handle Length in Dupe Detection

You change handle length information for the display of dupes in the Timeline.

In 35mm film editing (using the single-strand method), one extra frame, known as the safety frame, provides tabs for the negative cutter to use when cutting two segments of film together. However, this frame is always lost during the negative conform.

35mm conforming: Preparing for a cut

Frames A and C can still be used in a sequence, but frame B is cut in the middle.

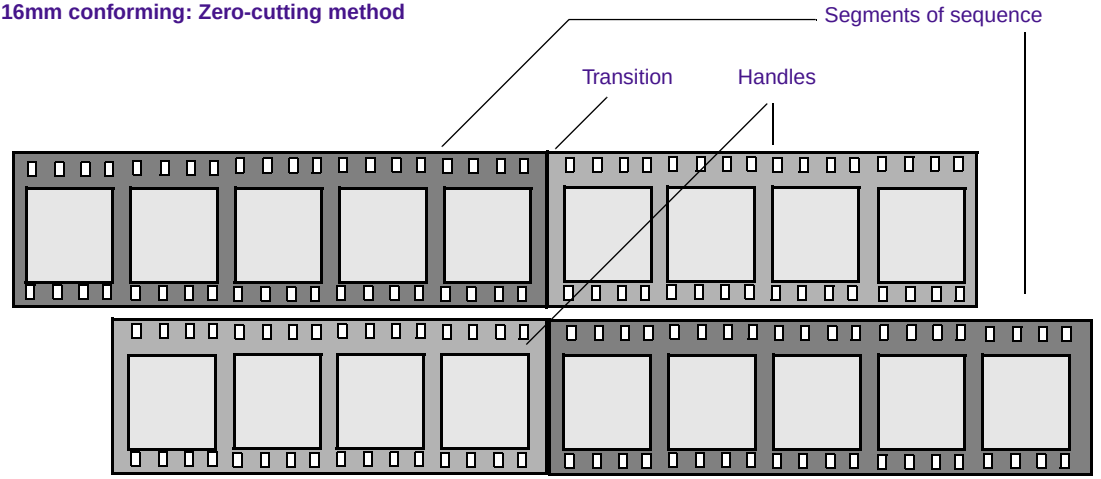


In 16mm film editing (using the multiple-strand method), labs sometimes use the zero-frame cutting method in order to avoid seeing each splice in a 35mm blowup print. In this method, the negative is conformed along with the handles so that the cuts appear as soft frame handles rather than a jump in the resulting 35mm blowup.

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Different labs have different standards depending on the equipment used; usually a minimum of four frame handles is needed.

16mm conforming: Zero-cutting method



Adding specific handle lengths to dupes (as they appear both in the sequence and in film lists) has the following advantages:

- **In 35mm single-strand conforming:** Editors can better track duplicate frames and provide the negative cutter with more than one safety frame to avoid losing specific frames.
- **In 16mm multiple-strand conforming:** For labs using the zero frame cutting method, editors can track the number of handles during editing according to the specific standards of a particular lab.

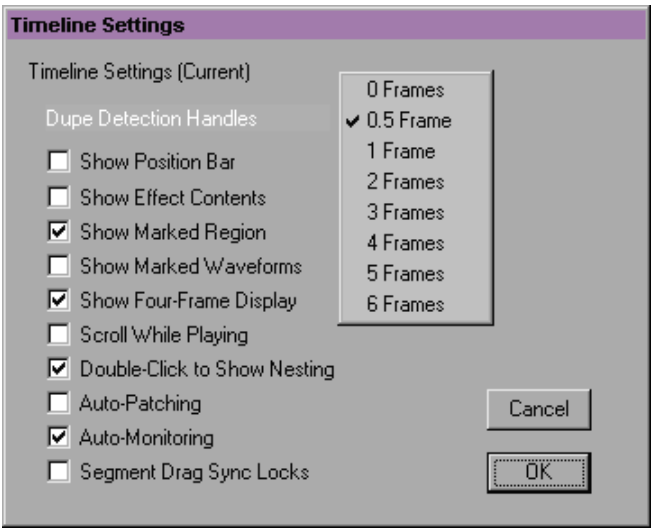
To adjust handle lengths in Dupe Detection:

1. Double-click Timeline in the Settings scroll list of the Project window.

   The Timeline Settings dialog box appears.

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2. Choose the number of handle frames from the Dupe Detection Handles pop-up menu. The default is zero. The normal 35mm safety frame setting is 0.5 frame (amounting to 1 frame total with both sides of a cut).



3. Click OK.

   The chosen value is applied to the head and tail of every event.

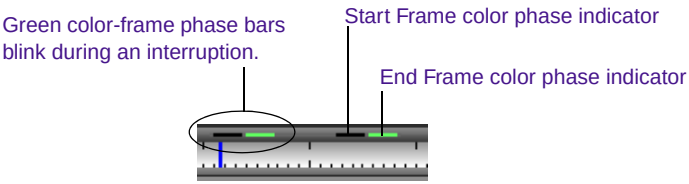
When you enable Dupe Detection during editing, the handles are added onto the colored dupe indicators that appear in the Timeline.

Tracking Color Frame Shifts

If you are preparing for an online edit using 1-inch reel-to-reel sources, you can enable the Color Framing options to track and correct instances where an edit cuts between the four fields (two frames) required to create a complete NTSC color sync signal phase (or eight fields — four frames — required for PAL).

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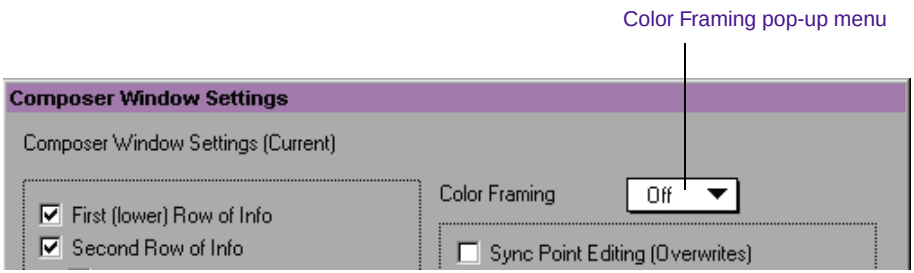
When Color Framing is enabled, green bars appear above the Overwrite and Splice-in buttons (Source and Record monitors) and blink whenever a color sync signal is interrupted by an edit. The blinking lights indicate that color framing is out of phase at the edit transition.



Use the following procedure to enable color-frame tracking while editing:

1. Double-click Composer in the Settings scroll list in the Project window.

   The Composer Window Settings dialog box appears.



2. Click the Color Framing pop-up menu and choose the appropriate option:

   - For NTSC video, choose the 4-field option.
   - For PAL video, choose the 8-field option.

   The dialog box displays the setting you selected.

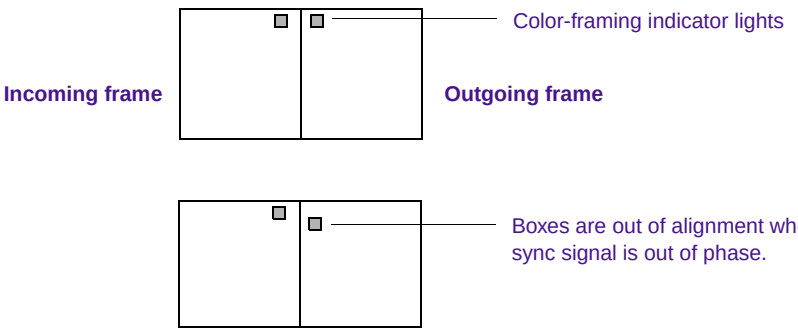
3. Click OK to complete the setting selection.

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To correct color-frame interruption as you edit:

1. Note any edits that cause the green lights to blink. You can adjust the edits now, or place locators to return to these edits and correct them later.
2. To adjust the edit, enter Trim mode.

   In Trim mode, the Avid system displays small green boxes on the top adjacent frame corners. When the color sync signals are in phase, the boxes are aligned horizontally.



3. Trim one frame at a time on one side of the transition or the other until the indicator boxes are aligned, and the color-framing indicator lights stop blinking.

If you are careful about color framing while editing, you will not need to consider the subject again when assembling your master tape. If you ignore color framing during the edit session, you might have to make adjustments during online editing if your edits interrupted any color-frame fields in the sequence.

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Printing the Timeline

To print the Timeline:

1. Choose Print Timeline from the File menu. The Print dialog box appears.



The name of the printer and details of the dialog box will vary depending upon facilities.

2. Select printing options, then click OK.

   The system prints the current view of the Timeline. You can also use the Print Timeline command to print the Timeline in Heads view or in Heads and Tails view.

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CHAPTER 12

Working in Trim Mode

Basic editing in Source/Record mode and in the Timeline initially produces a rough cut, which can be loosely defined as a series of straight-cut edits with many rough edges and few effects. After creating a rough cut, you can enter Trim mode and fine-tune the transitions between each shot or between whole segments. You can also trim edits as you build a sequence, rather than creating a rough cut first. The following sections describe the Trim mode procedures:

- **Customizing Trim Mode**
- **Using Basic Trim Procedures**
- **Creating Overlap Edits**
- **Extending an Edit**
- **Slipping or Sliding Shots**
- **Maintaining Sync While Trimming**
- **Using the Transition Corner Display**

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Customizing Trim Mode

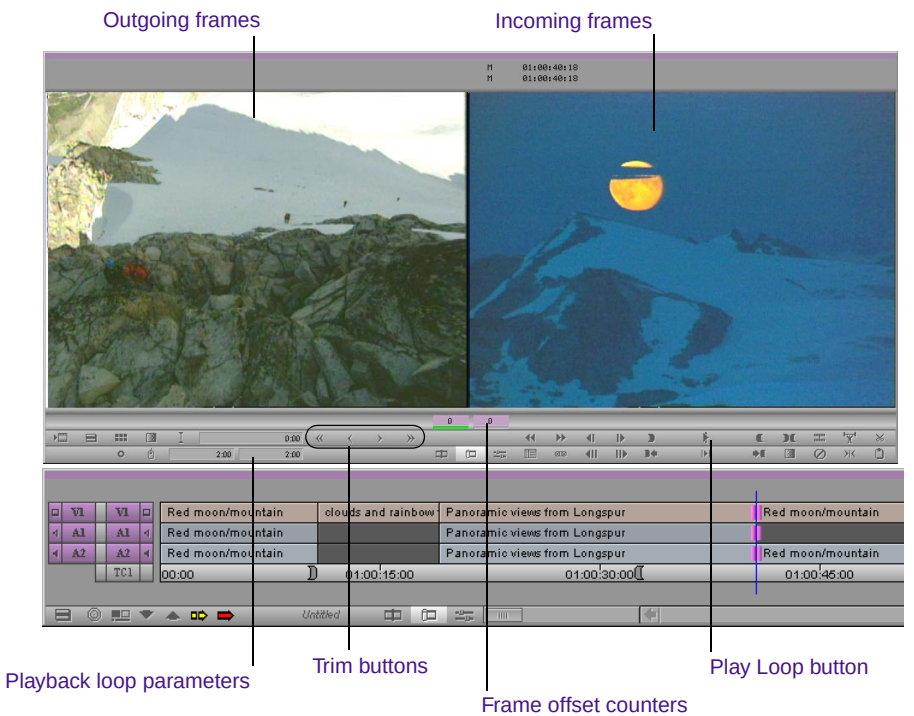
Trim mode provides a unique set of controls within the Composer window for fine-tuning edits with various trim procedures.

There are two types of trimming modes. From any of the trim modes, you can perform many of the same functions, such as removing or adding frames, or slipping or sliding shots.

- Big Trim mode is the system's default configuration for trimming.
- Small Trim mode is an optional display mode available from Big Trim mode.

In Big Trim mode, the Source and Record monitors are replaced by displays of outgoing and incoming frames. Big Trim mode also shows transition playback loop parameters.

Big Trim mode



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Small Trim mode leaves the Source monitor display intact, but has smaller displays for incoming and outgoing frames.



Use the Trim Settings dialog box to configure basic displays and functions.

You can learn about Trim settings as follows:

- For an overview of all Trim settings, see **"Trim Settings Options" on page 421**.
- For information on transition playback loop parameters, see **"Trimming During a Playback Loop" on page 433**.
- For information on dual-image playback during trims, see **"Dual-Image Playback During Trims" on page 432**.

In addition, you can:

- Map trim-related buttons onto palettes or the keyboard in Trim mode, as described in **"About Button Mapping" on page 130**.
- Configure a Trim-mode-specific Timeline view, as described in **"Using the Timeline Fast Menu" on page 357**.

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Trim Settings Options

There are several options available from the Trim Settings dialog box. Double-click Trim in the Settings scroll list in the Project window to open the Trim Settings dialog box.

Table 12-1 describes the Trim Settings options.

Table 12-1 Trim Settings Options

Option	Description
Never use Small Trim mode	This option sets the system to enter Big Trim mode when you perform any of the operations that activate Trim mode. In Big Trim mode, both Source and Record monitors are replaced by displays of outgoing and incoming frames. (Once in Trim mode, you can switch between Big Trim and Small Trim modes using the Trim Mode button.)
“Go to Transition” uses Small Trim mode	This option sets the system to enter Small Trim mode only when you click the Go to Previous or Go to Next button.
Always use Small Trim mode	This option sets the system to enter Small Trim mode when you perform any of the operations that activate Trim mode. Small Trim mode leaves the Source monitor display, Information Row displays, user tool palettes, and some Monitor menu functions intact. It allows you to continue to perform basic editing functions. (Once in Trim mode, you can switch between Big Trim and Small Trim modes using the Trim Mode button.)
Auto focus when entering Trim mode	This option sets the system to enlarge the Timeline at the transition selected for trimming.
Arrows at selected transitions	This option sets the system to replace the standard trim rollers with arrows at selected transitions in the Timeline.

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Table 12-1 Trim Settings Options (Continued)

Option	Description
Render On-The-Fly	This option sets the system to display the result of effects as soon as you create them. Note that this can slow down the editing of the sequence.
Dual Image Play	This option enables dual-image play while trimming (also known as dual-roller trim). It displays outgoing and incoming frames in real time while you trim your edit (adding or shaving the same number of frames on both sides of a transition).
Transition Play Loop	This option specifies the preroll, postroll, and intermission duration before and after the transition. The Play Loop feature continuously replays the last trim you performed for review purposes.

Using 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 Trim mode and Small Trim mode.
- Switch between trim sides.
- Perform and play back the trim.

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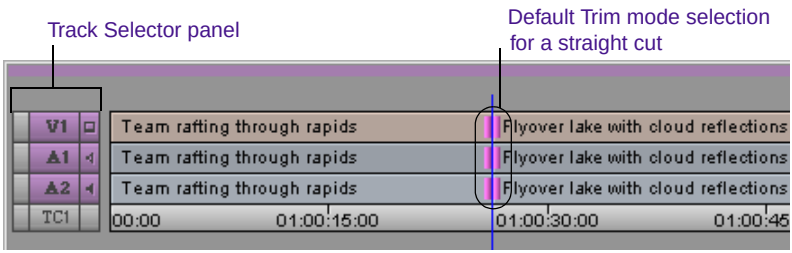
Entering Trim Mode

There are four alternative methods for entering Trim mode:



- **Click 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.



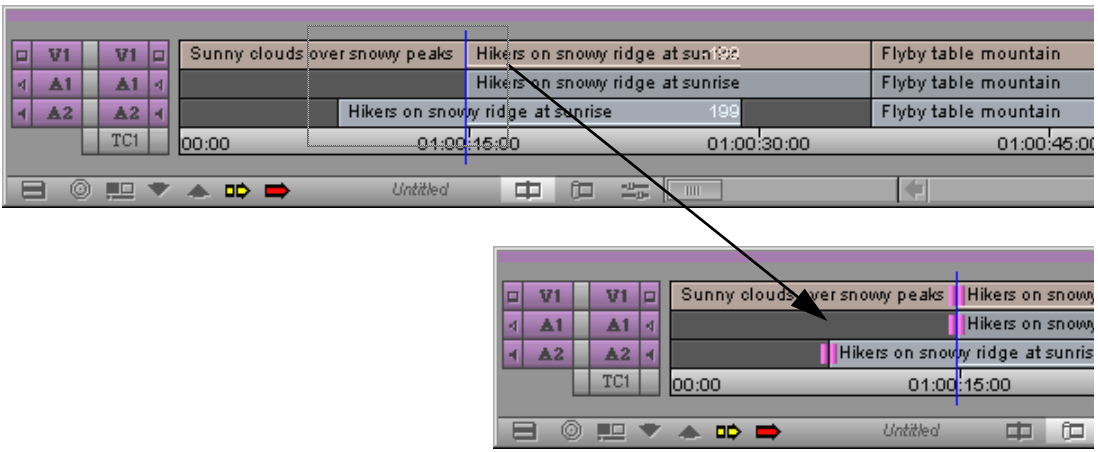
When you deselect one or more tracks in the Track Selector panel, by default, only the transitions in the highlighted tracks are selected for trimming. If the transitions are not straight cuts (overlap cuts or L-edits), the system highlights the topmost track nearest the position indicator.

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- **Lasso 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 on a single track because this activates Segment mode.

To select transitions located below several track layers, you can draw a lasso within the Timeline by pressing the Alt key while you drag.



- **Click the Go to Previous Edit or Go to 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

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points, the system selects the next transition where all selected tracks have the transitions at the same point.



- **Click the Play Loop button on a palette or the keyboard.**

  This is useful if you like to trim quickly as you edit, going back and forth between Trim mode and other edit modes. This method takes you to the last used transition. For more information on this method, see **"Trimming During a Playback Loop" on page 433**.



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 ***"About Button Mapping" on page 130***.

Exiting Trim Mode

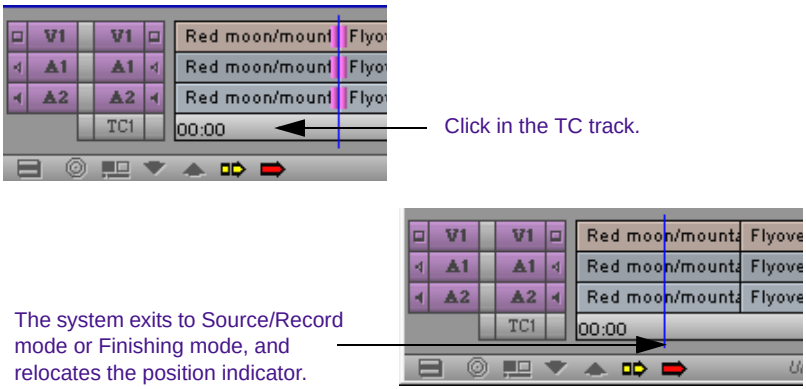
You can exit Trim mode at any time in one of several ways:



- Click the Source / Record Mode or the Effect Mode button.
- Click a frame step or press an arrow key to exit.
- Press the Escape key on the keyboard to enter Source / Record mode by default.

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- Click a location in the Timecode (TC1) track at the bottom of the Timeline to exit Trim mode. The position indicator moves to that location.



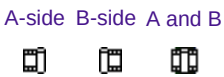
Switching Between Big and Small Trim Modes

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 modes.

If you prefer the larger monitors and controls of Big Trim mode, select this as the default in the Trim Settings in the Project window. When you need to use the Clip Name menu 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.

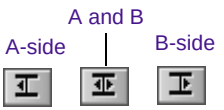
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Selecting Between Trim Sides



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

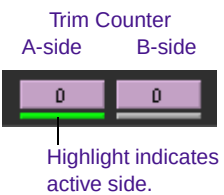
- In Big or Small Trim mode display, click the outgoing (A-side) or incoming (B-side) monitor to define which side of the transition to trim. Notice that the pointer changes to a single-roller A-side, single-roller B-side, or double-roller icon depending on position.



- 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 side A, side B, 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 below 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. Click to choose a side. Shift+click to choose both.

Selecting Additional Transitions



While you are in Trim mode, you can select additional transitions for trimming in different contexts in one of the following ways:

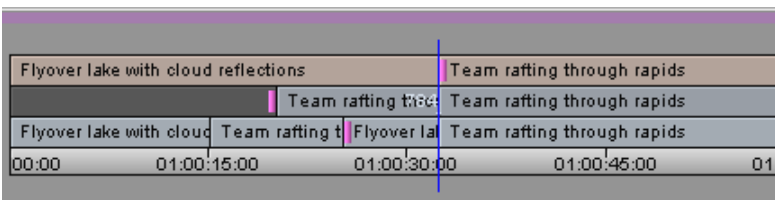
- To quickly select additional transitions on contiguous tracks for trimming on the same side, click the corresponding record-side track selectors in the Track Selector panel. For example, if you select a single transition in track V1 for single-roller A-side trimming, and want to add A1 and A2 tracks at the same transition, click the corresponding track selectors.

  Likewise, you can deselect tracks in the track panel to remove transitions on those tracks from the trim procedure.

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- To select additional transitions for single-roller trimming in varying locations on different tracks, Shift+click the transitions in the Timeline. This method is useful when you are working with staggered transitions across multiple tracks; it also allows you to select both A-side and B-side transitions for simultaneous trimming in opposite directions (asymmetrical trim). This is not possible with dual-roller trims.

Two A-sides and one B-side selected for asymmetrical trimming



A-side 

B-side 

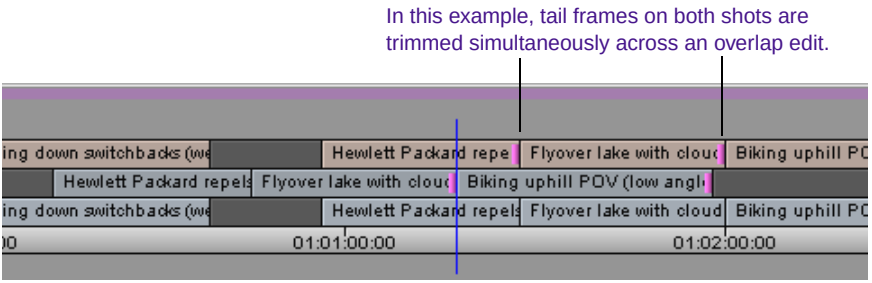
Notice as you move the pointer back and forth across a transition, the roller icon changes from an A-side roller (facing left) to a B-side roller (facing right) to indicate the type of selection.

You do not see the dual roller within the Timeline. To select both sides, you must first select one side, then Shift+click to select the other.

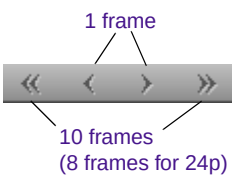
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- To quickly add multiple transitions to the currently selected transitions, press the Shift key and lasso the additional transitions.

  You can select and trim two heads or tails simultaneously, in any combination, for each track in the sequence. All selected transitions are trimmed the same number of frames. This allows you to save time, and in some cases, maintain sync by performing a single trim procedure across multiple tracks and transitions.



Performing a Basic Trim



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

- Use the Trim buttons to trim forward or backward by 1-frame or 10-frame (NTSC or PAL) or 1-frame or 8-frame (24p) 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 Enter. 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 Enter.
  - To move the transition to an exact point in the timecode, type a timecode number larger than 99, including frames. For example, type **102** to enter 1 second and 2 frames (1:02).

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- Use controls in the Timeline by clicking a roller at the selected transition and dragging forward or backward in the sequence.
- For greater control:
  - Press Ctrl+Alt as you drag one frame at a time.
  - Press Ctrl to snap to other transition points.

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

Audio Solo in Trim Mode

Audio solo in Trim mode allows you to listen to a single audio track while trimming multiple tracks.

To solo an audio track in Trim mode:

1. Click the Trim Mode button.
2. Press Ctrl+click the Audio Track Monitor button next to the audio track.

   The Audio Track Monitor button changes to green with a black Speaker icon to indicate solo monitoring.

Reviewing the Trim Edit

To review the most recent trim edit, or to play the currently selected transition while in Trim mode:



1. To see the Timeline in a closer view while you review the trim, click the Focus button. (Click the button again to return to your original view of the Timeline.)

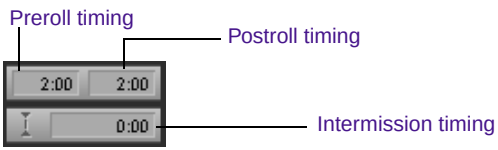
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You can also choose an option in Trim Settings to focus the Timeline automatically when you enter Trim mode. For more information, see ***"Focusing the Timeline" on page 375****.*

2. Click the Play Loop button.

   The system enters a playback loop. This repeatedly begins at a preroll point before the transition and ends at a postroll point, pausing briefly before beginning playback again.

3. Set and alter the length of the preroll, postroll, and intermission intervals by clicking in the appropriate timing field and typing a new value.



You must display two rows of buttons in the Composer window to see the trim controls. For more information, see ***Table 9-3 on page 287****.*

4. Stop the playback loop by clicking the Play Loop button.
5. To leave Trim mode, click the timecode track in the Timeline or click the Source / Record Mode button.

Trimming On-the-Fly

In Trim mode, you can use the J-K-L keys on the keyboard to play through outgoing or incoming material and mark trim points. This is similar to the procedure for marking footage on-the-fly, as described in **"Marking and Subcataloging Footage" on page 309**.

For convenience, this method isolates the trim controls to just three keys.

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To trim on-the-fly:

1. Click either the outgoing (A-side) or incoming (B-side) monitor to play in real time during the trim.
2. Select one or more transitions for single-roller or dual-roller trimming.
3. Use the J-K-L keys to step (jog), play, or shuttle through the footage at varying speeds:
   - Press and hold the K key while pressing J or L to step slowly backward or forward through the footage. When you find the frame where you want to relocate the transition, release the K key to complete the trim.
   - Press the J or L keys once to play at normal speed, or more than once to shuttle at higher speeds. When you see the frame where you want to relocate the transition, press the space bar or the K key to complete the trim.

   The monitors and the Timeline are updated to reflect the trim.

Dual-Image Playback During Trims

Dual-image playback allows you to view A-side and B-side frames in real time while performing a trim. You can play through the transition by using the J-K-L keys or the Play and Trim buttons.

To use dual-image playback during trims:

1. Double-click Trim in the Settings scroll list in the Project window to open the Trim Settings dialog box.
2. Select the Dual Image Play option and click OK.
3. Enter Trim mode and select a transition for trimming.

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4. Press one or a combination of the J-K-L keys.

   As the transition plays, notice that both the A-side and B-side of the trim play back in the Trim monitors.

5. When you see or hear the point to which you want to trim, press the space bar to stop playback and update the transition in the sequence.

Trimming During a Playback Loop

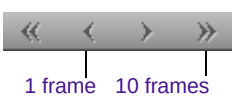
An alternative method for trimming is to view the transition continuously in a playback loop, and use the keyboard to adjust the transition in 1-frame or 10-frame (8-frame for 24p) increments until you achieve the trim you want. You can perform this procedure in any of the Trim modes, using either single-roller or dual-roller trims.

To trim during a playback loop:

1. Enter Trim mode and select transitions for trimming.
2. Click the Play Loop button to repeatedly play the selected transitions.



To make adjustments to the playback loop for preroll, postroll, or intermission intervals, see ***"Reviewing the Trim Edit" on page 430***.



3. Press a keyboard equivalent to perform a Trim function. Also, if you are having difficulty determining which side of the transition to trim (for example, during a difficult audio edit), use the Go to IN and Go to OUT keys to review only one side.

   The system performs the trim before the next playback loop, so you can view the trimmed transition during playback, then make further changes until you are satisfied with the adjustment.

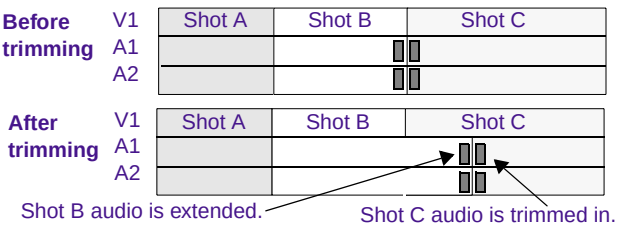
4. When you are finished, exit the playback loop by pressing the space bar or clicking the Play Loop button.

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Creating Overlap Edits

You can use an overlap edit to smooth a transition by giving the viewer the illusion that the audio or video is shared between two separate but adjacent shots. Perform a dual-roller trim to create overlap edits.

Audio overlap example



To create an overlap edit:

1. Perform a straight-cut edit between two shots, including audio and video tracks:
   - If the timing of the video edit is crucial, mark edit points according to video.
   - If the timing of the audio transition is crucial, edit to audio.
2. Perform a dual-roller trim on either the video track or the audio track, but not on both:
   - If the video transition occurs at the correct place, but you want the audio from one shot to linger into the other (or the reverse), trim the audio tracks accordingly.
   - If the audio transition occurs at the correct place, but you want the video to transition either before or after the audio cut, trim the video track accordingly.

You can also create an overlap edit for an audio track by using the Audio Mark buttons. See **“Marking Audio Clips” on page 314**.

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Extending an Edit

Use an extend edit to perform dual-sided (A-side and B-side) trims on selected tracks from within Source/Record mode. Using an extend edit allows you to quickly create a split edit without entering Trim mode. It also allows you to establish the exact frame that you want to trim to by using the position indicator. (When you enter Trim mode, by default, the position indicator moves to the nearest transition.)

You can extend edits backward or forward in the Timeline. In either case, like a dual-roller trim, the extend edit function always maintains sync relationships.

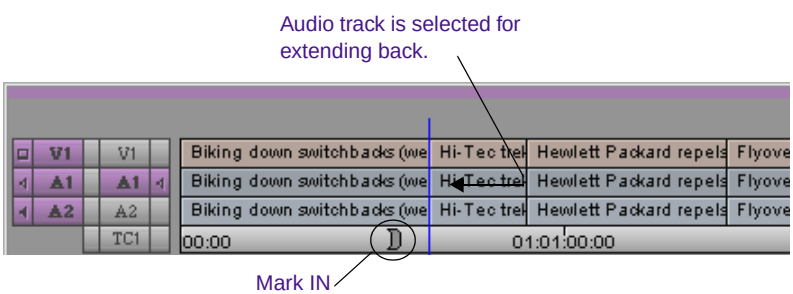
To perform an extend edit:

1. Select the tracks you want to extend.

To extend multiple tracks, all the tracks must have the same edit point in the Timeline. Otherwise, you must extend the tracks separately.

2. Find the point in the sequence to which you want to trim. If the trim point is before the edit, mark an IN point. If it is after the edit, mark an OUT point.

If you are extending the edit to an OUT point, make sure you remove any IN point that might be on the track. Otherwise, the extend edit will go in the wrong direction.



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3. Click the Extend button. You can map the Extend button from the Command palette. For information on the Command palette and button mapping, see **"About Button Mapping" on page 130**.

   The adjustment appears in the Timeline.

Slipping or Sliding Shots

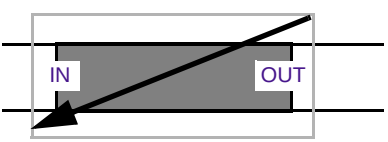
Slip and slide procedures are two unique Trim mode techniques that allow you to make frame-accurate adjustments to a selected clip. They occur without affecting the overall duration of the sequence or the sync relationships between multiple tracks. Procedures for performing them are described in this section.

Selecting Segments for Slip or Slide Trimming

There are three ways to select segments for either slip or slide trimming:

- While in Source/Record mode, make a selection for slipping and siding. Then enter Trim mode by dragging a lasso from right to left around a segment (two or more transitions). To select for slide trimming, press the Alt key while you drag.

  Drag right to left around at least two transitions.



  To drag a lasso around a segment on a lower track, press the Alt key while you drag a lasso. You enter slide trim by default. To switch to slip trim, double-click the segment.

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You can also select two or more contiguous segments within a track for slipping or sliding as a whole by dragging the lasso around four or more transitions.



Be sure to draw the lasso from right to left; if you draw from left to right, you enter Segment mode.

- While in Trim mode, double-click a segment to select it for slip trimming. To select it for slide trimming, press the Alt key while you double-click.

  You can also select two or more segments on different tracks for simultaneous slip or slide trimming. To do so, press the Shift key as you repeat this procedure. However, you cannot use the Shift key to select additional segments on the same track.

- While in Trim mode, press the Shift key and select both the head and tail of a clip for slipping. Alternatively, select the outgoing tail frame of the preceding shot and the incoming head frame of the following shot in the sequence to prepare the clip for sliding.

  You can also use this method to select two or more contiguous segments on the same track, and additional segments on other tracks for slipping or sliding as a group.



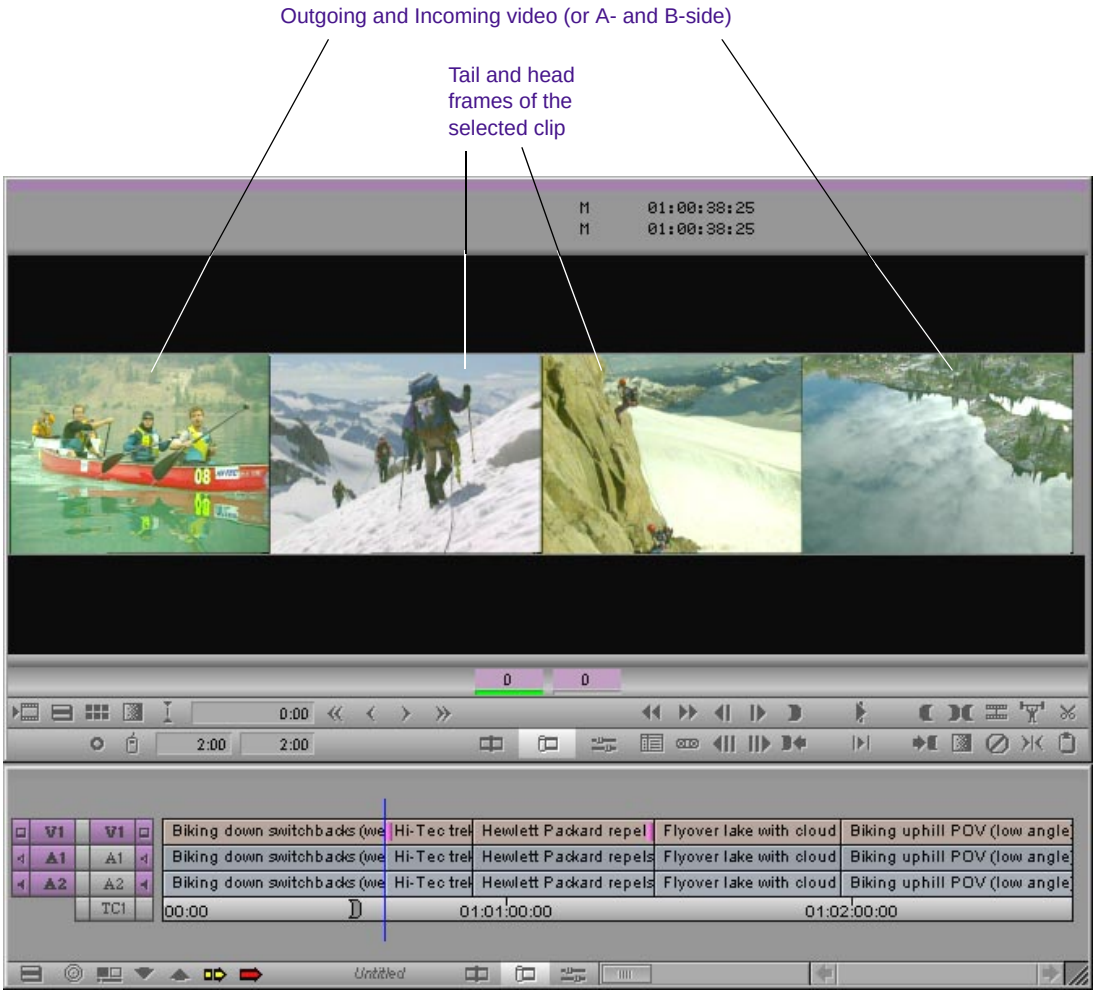
You must select all multiple selections for either slipping or sliding. You cannot perform both functions simultaneously.

You can slip and slide the video and audio for a shot together. Alternatively, slip and slide a single segment of video or audio independently from the rest of the shot. You can also slip shots in Source/Record mode by using the Slip Left and Slip Right buttons.

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The Slip/Slide Display

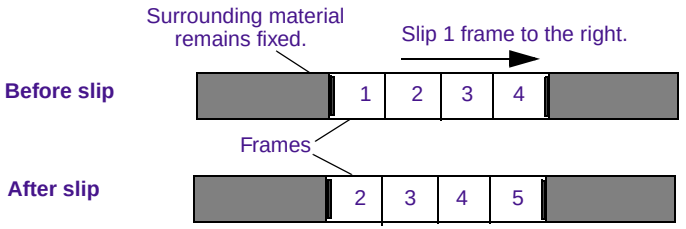
Once you select the clips for slipping or sliding, the Trim mode interface changes to a four-frame display. For more information on four-frame display, see **“About Four-Frame Display” on page 383**.



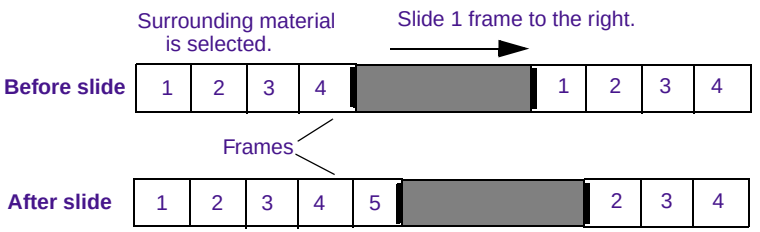
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The type of trim you perform (slip or slide) determines which frames are updated, as follows:

- In slip trimming, the two inner monitors for 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.



- In slide trimming, the two outer monitors for the outgoing (A-side) and incoming (B-side) frames change because the clip remains fixed while the footage before and after it is trimmed.



Performing the Slip or Slide Trim

To slip or slide a shot:

1. After selecting the segments, as described in **“Selecting Segments for Slip or Slide Trimming” on page 436**, do one of the following:
   - Click any roller in the Timeline, drag the selected material to the left or right, and release.
   - Use the numeric keypad to enter specific frame-count or time-code values, and press Enter.

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- Use the trim keys or buttons to shift the selection by 1-frame or 10-frame (8-frame for 24p) increments.
- Use the J-K-L keys.

2. Monitor the progress of the trim by using the monitors, the Trim counters, and the Timeline.

   When you reach the end of available material while slipping a shot, the trim stops. Similarly, when you reach the next transition while sliding a shot along a track, the trim stops. A red bracket at the transition indicates the limit. After completing the initial slide, you can perform another slide in the same direction.

3. When you finish, exit Slip mode or Slide mode either by clicking another transition for trimming, or by clicking either the Source/Record Mode or the Effect Mode button to exit Trim mode.

Slipping Shots in Source/Record Mode

You can use this alternative procedure to slip a shot in Source/Record mode by using the Slip Left and Slip Right buttons, as follows:



The Slip Left and Slip Right buttons do not appear on the interface or keyboard by default. You must map them from the Trim tab on the Command palette to use this procedure.

1. In Source/Record mode, select the tracks for the clips to be slipped.
2. Place the position indicator within the shot that you want to slip.



3. Slip the shot by doing one of the following:
   - Click the Slip Left button to slip the shot one frame left (revealing later material from the source clip).
   - Click the Slip Right button to slip one frame right (revealing earlier material from the source clip).
   - Press Alt+click the Slip Left or Slip Right button to trim 10 frames (8 frames for 24p) at a time.

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Maintaining Sync While Trimming

For more information about sync relationships, as well as additional procedures for managing sync, see **Chapter 14**.

Because single-roller (A-side or B-side) trims shorten or lengthen the duration of the track being trimmed, any relationships that exist with other tracks downstream of the trim will be thrown out of sync. Trim mode has two features to ensure that you do not break sync unintentionally between two or more video and audio tracks when performing single-roller trims.

- You can add black to the track while trimming.
- You can sync-lock tracks that maintain a synchronized relationship.



Because dual-roller trims do not cause sync breaks, you can only add black while performing single-roller trims.

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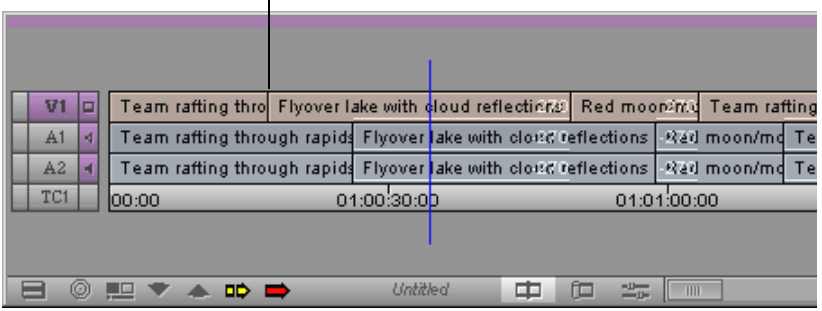
Adding Black When Trimming

If you are trimming a video track and need to fill the black, you can perform a replace edit to add another piece of footage. For more information, see **"Performing a Replace Edit" on page 341**.

You can use the Alt key while trimming to add black on either the A-side or the B-side to maintain the overall duration of the track and the sync relationships. The system adds a black segment to fill the duration of trimmed frames.

Trimming without adding black

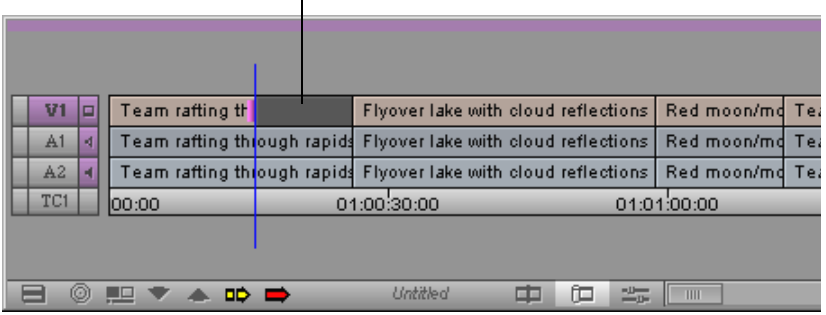
No black is added and sync breaks appear in the Timeline.



Adding black while trimming

(Alt key + trim)

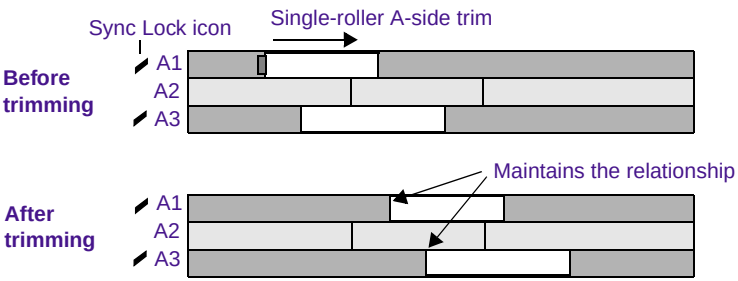
Black fills the trim duration, and sync is maintained.



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Trimming with Sync-Locked Tracks

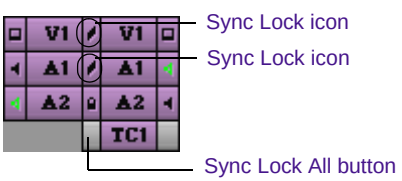
You can sync lock tracks to maintain a synchronized relationship when you perform a single-roller trim.



Trim with sync-locked tracks as follows:

Sync-locked tracks aid only single-roller trim functions in Trim mode because dual-roller trims do not cause sync breaks.

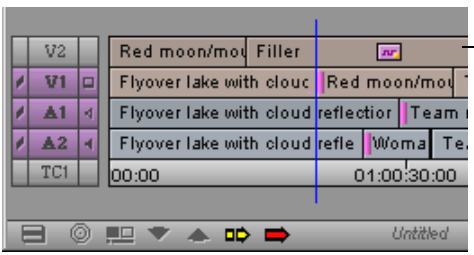
1. Sync lock the tracks as follows:
   - Click the Sync Lock button in the Track Selector panel for the track you want to keep in sync. The Sync Lock icon appears.
   - Click the Sync Lock All button to switch sync lock on and off for all tracks.



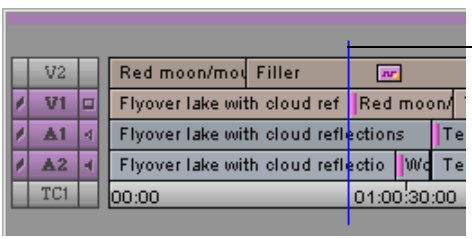
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2. Perform single-roller trims as necessary, with the following results:

    - When you trim the A-side of a transition forward, all other segments locked in sync move forward with the trim. If the transitions are staggered, this might split one or more of the segments at the sync point established by the position indicator, leaving fill.



Before trimming forward, three tracks are sync locked.

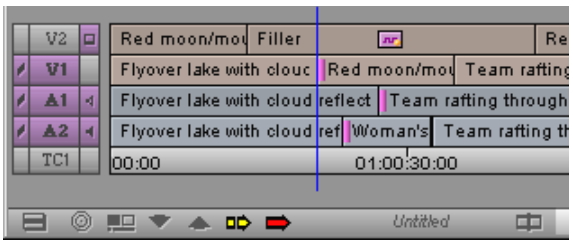


After trimming forward, sync is maintained from position indicator forward.

If you trim the B-side of the transition in the same direction, the additional sync-locked segments slide back in the sequence to maintain sync until they encounter another segment in the same track. At this point, you can trim no further and the system emits a warning sound.

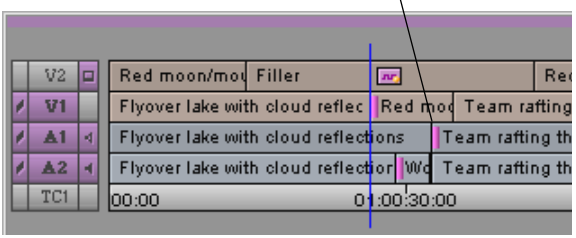
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- When you trim back the A-side of a transition, additional segments locked in sync move back as well. If the segments are staggered and one of the additional sync-locked segments encounters another segment on the same track, you can trim no further and the system emits a warning sound.



Before the trim, three tracks are sync locked.

Trim is stopped here.



After the trim, sync is maintained, but the trim stops at earlier segment.

If you trim the B-side of the transition in the same direction, all other segments locked in sync move forward to stay in sync. If the transitions are staggered, this action might split one or more of the sync-locked segments at the sync point established by the position indicator. Fill is added where the split occurs.

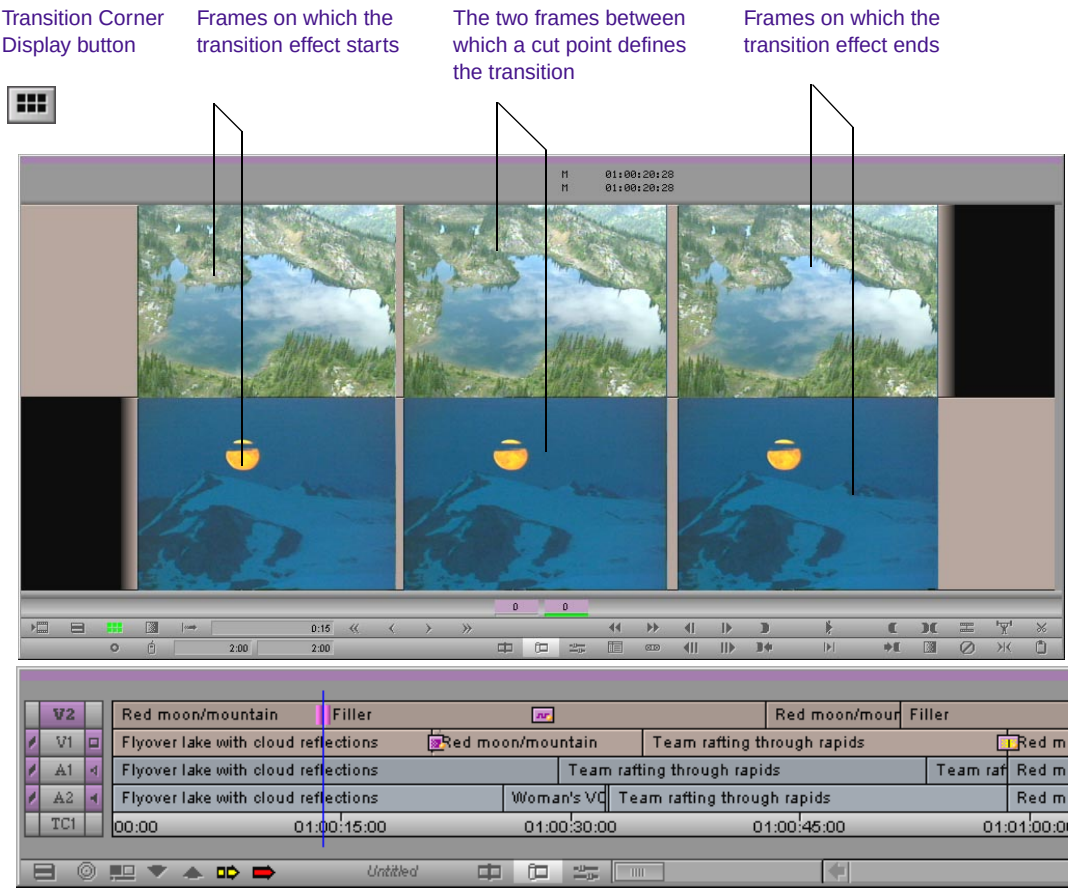


Slip and slide trims are not protected for sync. Be sure to select all synced tracks for simultaneous slipping or sliding to avoid sync breaks.

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Using the Transition Corner Display

The Transition Corner Display is a Trim Mode interface that shows six relevant frames you use as reference points when trimming a transition effect:



Use the Transition Corner Display to trim the transition effect's start frames, end frames, and duration in timecode or feet+frames (for 24p projects). As you trim the transition effect, you will be able to see the corresponding frame adjustments in all six monitors simultaneously.

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The Transition Corner Display is only applicable to the trimming of transition effects (for example, dissolves, wipes, picture-in-picture, and so on). It is not designed for trimming key, image, or segment effects.

To trim a transition by using the Transition Corner Display:

1. Select a transition effect for trimming:
   - Lasso the effect in the Timeline from right to left.
   - Enter Trim mode and click on the transition in the Timeline.
   - Use the Go to Transition buttons to enter Trim mode and step through transitions until you highlight the transition you want.
2. Click the Transition Corner Display button.

   The button changes to green, and the display is enabled.

To use this button, you must display two rows of buttons in the Composer window or map the button to a palette or a keyboard key. For more information, see ***"Using the Command Palette" on page 128***.

3. Trim the transition effect by clicking the outgoing or incoming frame you want to trim, then use one of the following three trim methods:
   - Position your mouse on the rollers and drag the transition backward or forward. (Press and hold the Alt key to roll forward or backward slowly one frame at a time.)
   - Click the appropriate trim button to trim backward 10 frames (8 frames for 24p), trim backward 1 frame, trim forward 1 frame, or trim forward 10 frames (8 frames for 24p).
   - You can either:
   - Enter the number of frames you want to move forward on the numeric keypad, and then press Enter.
   - Type a minus sign (–) and enter the number of frames you want to move backward, and then press Enter.
4. To review your edit, click the Play Loop button.

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CHAPTER 13

Working with Audio

You edit audio by using many of the same techniques and tools you use to edit video, including Source/Record mode, Segment mode, and Trim mode functions. Your Avid system also provides several unique features that facilitate audio editing, such as audio scrub, waveform displays, and tools for adjusting and mixing audio levels and pan between speakers. In addition, you can adjust the high, low, and midrange frequency ranges of segments by using the Audio Equalization (EQ) tool. These procedures are described in the following sections:

- **About Audio Tools**
- **Accessing Audio Effect Tools**
- **Audio Editing Aids**
- **Using the Audio Mix Tool**
- **Using Audio Gain Automation**
- **Using the Audio EQ Tool**
- **Digidesign AudioSuite Plug-Ins**
- **Recording Voice-Over Narration**
- **Fine-Tuning Audio Transitions**
- **Mixing Down Audio Tracks**
- **Displaying Audio Formats in Bins**

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About Audio Tools

The Avid system provides a collection of tools for managing and fine-tuning audio volume, pan, equalization, and transitions. The general purpose of each tool is as follows:

- Use the Audio tool primarily for adjusting and calibrating global input and output levels when digitizing from analog sources or outputting to tape. For more information, see the A*vid Media Composer and Film Composer Input and Output Guide*.
- Use the Audio Mix tool primarily for adjusting pan and volume levels on clips or whole tracks within a sequence. For more information, see **“Using the Audio Mix Tool” on page 460**.
- Use the Audio Gain Automation feature in the Timeline for finer control over volume keyframes and ramps within a sequence. For more information, see **“Using Audio Gain Automation” on page 471**.
- Use the Audio EQ tool for adjusting the *sound characteristics* of audio clips in the sequence based on three-band control over high, low, and midrange frequencies. For more information, see **“Using the Audio EQ Tool” on page 489**.
- Use the Digidesign AudioSuite Plug-Ins to access third-party audio plug-ins. For more information, see **“Digidesign AudioSuite Plug-Ins” on page 504**.
- Use the Audio Punch In tool to record up to two channels of audio directly into the Timeline for voice-over narration. For more information, see **“Recording Voice-Over Narration” on page 516**.

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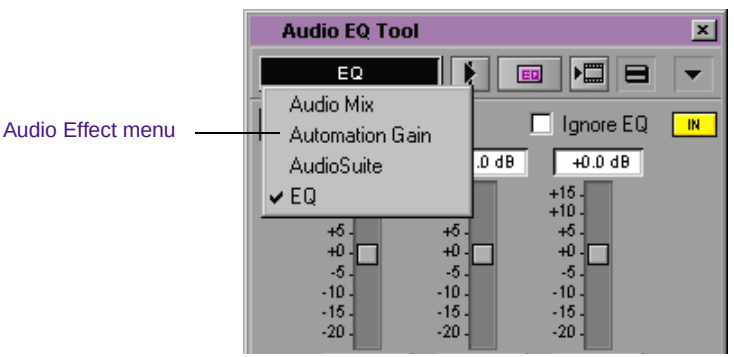
Accessing Audio Effect Tools

You can access the following tools from the same window:

- Audio Mix (for adjusting pan and volume)
- Automation Gain
- AudioSuite
- Audio EQ

To access one of the audio effect tools:

1. Choose one of the tools from the Tools menu.
2. To switch to another tool, choose the name from the Audio Effect menu.



To keep more than one tool open at the same time, choose the tool from the Tools menu or press and hold the Alt key while choosing a new tool from the Audio Effect menu.

To prevent confusion, the Avid system allows only one copy of a given audio effect tool to be open at any given time.

The following section describes two features that help you locate transitions and monitor audio samples while editing or adjusting sound with the tools.

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Audio Editing Aids

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 any time during editing or while making adjustments with the audio tools.

Using Audio Scrub

The term *audio scrub* originated in the film industry. It describes the process of "scrubbing" a magnetic audiotape across the playback heads to monitor a portion of sound. This process helps isolate portions of audio to accurately mark edit points, or to analyze transitions for careful trimming.

Smooth Scrub Versus Digital Scrub

You have two options for scrubbing audio in either the sequence or the source material:

- **Smooth audio scrub** mimics the variable pitch playback of traditional analog tape.
- **Digital audio scrub** takes advantage of the digital environment by sampling incoming frames, outgoing frames, or both at normal pitch and playback rate.

Each type of scrub has its advantages:

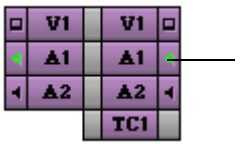
- Smooth scrub makes it easier to examine sound at varying speeds.
- Digital scrub allows you to focus quickly on individual bits of incoming or outgoing audio for frame-accurate edits and adjustments.

Try both types of scrub and see which one works better in different situations.

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Selecting Tracks for Scrubbing

By default, the Avid system selects the topmost audio track unless you make a selection. Always check the position of the Audio Track Monitor button with the green Speaker icon and select the correct track, if necessary, to avoid marking or trimming the wrong track.



Audio Track Monitor button with green Speaker icon

To select a track for scrubbing, press and hold the Alt key while clicking the Audio Track Monitor button in the Track Selector panel beside the track in the Timeline. The Speaker icon changes to green to indicate that it is selected for scrubbing.

If the Audio Scrub Performance in the Audio Settings dialog box is set to More Audio Tracks, the system will use as many tracks as possible to scrub, even those where the Speaker icon is not green. As long as a track is on, it will be included for scrubbing. If the Audio Scrub Performance is set to Minimum Audio Tracks, the system will scrub only those with the green Speaker icon.

The following table shows how many tracks can be scrubbed at the varying speeds of play.

When you play footage forward or backward at:	You can scrub:
Normal speed	8 tracks
Two times normal speed	8 tracks
Three times normal speed	2 tracks
Five times normal speed	0 tracks
Eight times normal speed	0 tracks

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Multiple-Channel Audio Scrub

The Avid system allows you to scrub multiple channels of audio.

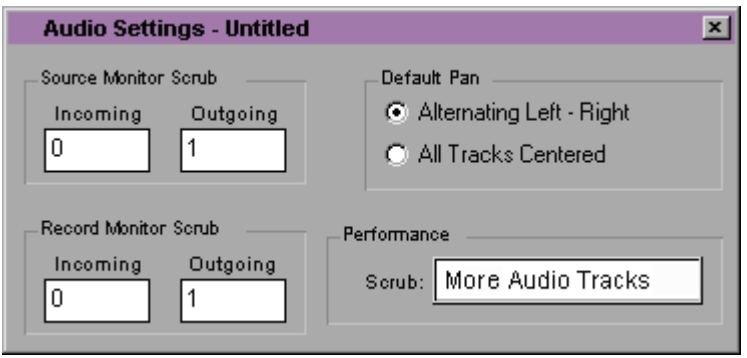
To set the system to multiple-channel audio scrub:

1. Click the Settings button in the Project window.

   The Settings scroll list appears.

2. Double-click Audio.

   The Audio Settings dialog box appears.



3. Set the Audio Scrub Performance to More Audio Tracks.

Performing Smooth Audio Scrub

You perform the smooth audio scrub procedure by using either the J-K-L keys or the mouse, as described in this section.

Using the J-K-L Keys to Perform Smooth Scrub

You can use three-button play with the J-K-L keys to perform smooth audio scrubbing of selected tracks of audio at variable speeds. You cannot activate digital audio scrub with three-button play. You can monitor while stepping (jogging), or while shuttling at fixed rates up to three times normal speed. The audio cuts out at greater than three

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times the normal speed and comes back in after the speed drops below three times.

To monitor audio with three-button play:

1. Select the correct track and adjust playback volume as necessary.
2. Play the audio using the three-button variable speed playback procedures described in **"J-K-L Keys (Three-Button Play)" on page 305**.

Using the Mouse to Perform Smooth Scrub

You can use the mouse to perform smooth audio scrubbing of selected tracks. Like the J-K-L keys, you can jog and shuttle using the mouse. Unlike three-button play, however, playback rates with the mouse are not at fixed increments. They can vary all the way from 1 to 300 fps (NTSC), depending on manipulation of the mouse.

To monitor audio with the mouse:

1. Select the correct track and adjust playback volume as necessary.
2.   Activate the mouse for jogging or shuttling by pressing the Mouse Jog button or the Mouse Shuttle button. Mouse Jog allows you to move the position indicator with the mouse. Mouse Shuttle allows you to control the speed of the position indicator by dragging the mouse.

   To deactivate shuttle, press the space bar or the Escape key.
3. Play the footage with the mouse, as described in **"Using the Mouse" on page 307**.

Using Digital Audio Scrub

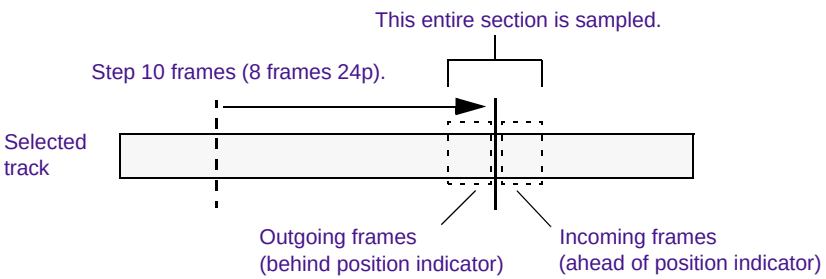
Digital audio scrub enables you to sample selected frames of incoming or outgoing audio as you move through the footage, without a change

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in pitch or speed. The following are unique characteristics of digital scrub:

- The frames of audio you hear are always at your point of destination. For example, if you step forward 10 frames (8 frames for 24p), you hear a selected number of audio frames from a point behind the position indicator (outgoing frames) to a point in front of the position indicator (incoming frames) as it reaches the new destination point.
- The audio is always sampled in a forward playback direction; whether you step backward or forward through the material, you hear the same audio sampling at each destination frame.

Digital scrub example



Adjusting Digital Scrub Parameters

The default parameters for the number of frames you hear as you scrub are zero frames of outgoing audio (behind the position indicator), and one frame of incoming audio (ahead of the position indicator). For the common purpose of isolating frames for marking or trimming, the default parameters are sufficient.

You can increase these settings to include more frames of audio on either side — for example, when you want to sample whole words or parts of words as you scrub to find edit points within a phrase. You can also reverse the settings to sample frames behind the position indicator (outgoing frames) as you scrub. You should avoid increasing the number of sampled frames on both sides at once because this can

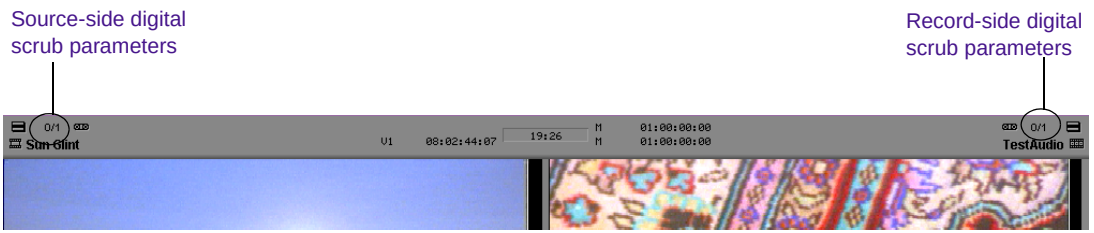
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make it difficult to isolate an edit point or trim point based on the location of the position indicator.

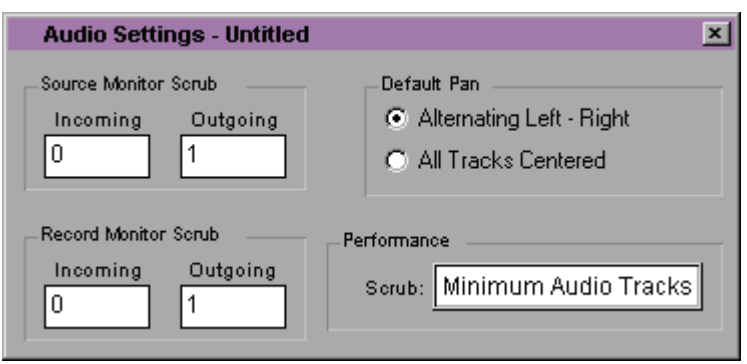
To adjust the parameters for digital scrub:

1. Open the Audio Settings dialog box, using one of the following procedures:

   - Double-click Audio in the Settings scroll list of the Project window.
   - If you have digital scrub parameters displayed in the second row of information above the Source or Record monitors, you can Alt+click the digital scrub parameters.



The Audio Settings dialog box appears.



2. Click in a text box and type a new number of outgoing or incoming frames on the source side, the record side, or both.

   The new parameters are now in effect.

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To display audio scrub parameters in the Source and Record monitors, open the Composer Settings dialog box in the Project window's Settings scroll list and select Digital Scrub Parameters.

Performing the Digital Scrub Procedure

To locate an audio edit point in either source-side or record-side audio by using digital scrub:

1. Select an audio track for scrubbing, and adjust the output volume, if necessary.
2. Press the Caps Lock key to activate digital audio scrub.

You can also activate digital audio scrub by pressing and holding the Shift key while you drag the position indicator or click the step buttons.

3. Move through the material in one of the following two ways to hear the scrub:
   - Drag the position indicator.
   - Click the step buttons to step through in fixed increments: 1 frame backward, 1 frame forward, 10 frames (8 frames for 24p) backward, or 10 frames (8 frames for 24p) forward.



When you have found the correct frame, mark the location, trim the transition, or perform any other function you choose.

If you are sampling incoming frames (with the default scrub parameters, for example), the system places the position indicator at the *head* of the last sampled audio point. If you are sampling outgoing frames, the system places the position indicator at the *tail* of the last sampled audio point.

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Using Waveform Plots

You can use waveform plots to help you visually locate points in an audio track for editing or trimming. There are two types of waveform plots, *Energy* or *Sample*, that you choose from the Timeline Fast menu.

Displaying Audio Waveforms

To display audio waveforms:

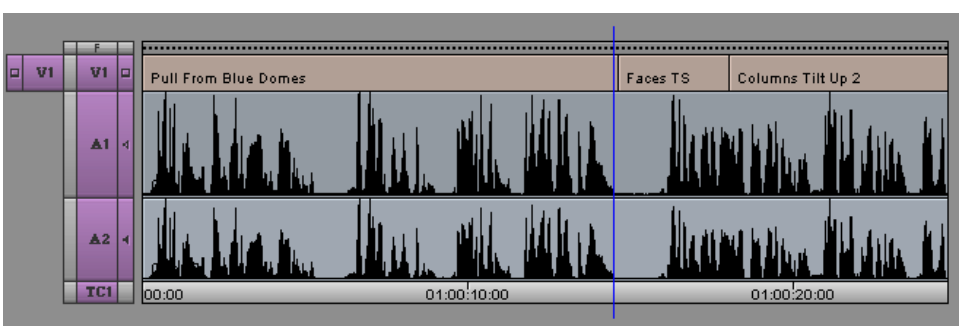
1. If you are searching for a point in a known section of the tracks, zoom in and show more detail in the sequence to isolate a section of the audio. With less audio to display, the system draws the waveform plot faster.
2. Choose Audio Data from the Timeline Fast menu. A submenu appears, containing two waveform plot options.

Press Ctrl+period at any time during the redraw of the waveform plot to stop the redraw.

Choice of plot type is a matter of visual preference:

- The Energy Plot option displays only the peaks of the audio amplitude in the waveform from the baseline. It is a graphical representation of the mathematical Energy Function for audio waveforms.

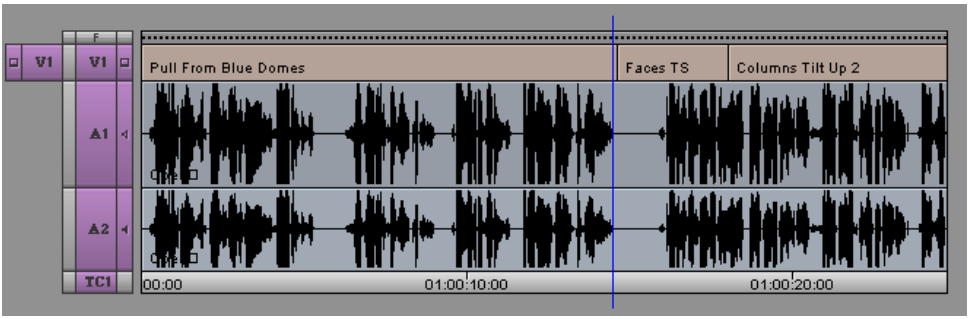
Waveform energy plot



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- The Sample Plot option displays the entire amplitude of the audio waveform. This is the same as the sample voltage values you would see on an analog oscilloscope waveform.

Waveform sample plot



After you make a choice, the waveform appears in the selected tracks.

3. To maximize the visibility of your waveform display, use any of the following optional procedures:

   - Continue to expand or shrink your view of the Timeline (by using the scale bar), effectively spreading out the waveform plots to show detailed variations in the audio levels.
   - Enlarge or reduce the height of selected audio tracks, and subsequently the waveform displays, by pressing Ctrl+L to enlarge or Ctrl+K to reduce.
   - You can also increase or reduce the size of the sample plot image itself, without enlarging its track, by pressing Ctrl+Alt+L to enlarge, or Ctrl+Alt+K to reduce. This is useful when viewing detail in quiet passages.

You can set the option "Show Marked Waveforms" in the Timeline Settings dialog box to narrow the view of the tracks in the Timeline. This option provides faster displaying of the Timeline because the waveform is only displayed between the mark IN and the mark OUT.

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4. Move through the audio shown in the waveform by using any of the playback methods. You hear sound as you track the audio visually. When you have the position indicator at the point you want in the waveform, you can mark, trim, or perform any other function.

Audio waveform plots can slow your navigation through the Timeline. You might want to use them selectively. To facilitate this, you can create a custom Timeline view, as described in ***"Customizing Timeline Views" on page 355***.

Once you have created a customized waveform view, you can simply select it from the Timeline View pop-up menu when needed, and return to another view when done.

Muting the Audio



The Mute button, which is located in the Play tab in the Command palette, allows you to quickly turn all sound tracks on and off during editing. This is especially convenient when fine-tuning complex audio and video edits, making it possible to shift quickly between the two. You can set your audio levels and speaker volumes and mute them whenever necessary without changing the settings.

Click the Mute button to mute all audio tracks. Click it again to turn them on.

Using the Audio Mix Tool

For additional information on audio levels for digital cut output, see the *Avid Media Composer and Film Composer Input and Output Guide*.

The default volume for master clips is set to zero (that is, with no attenuation) when you first digitize the media. The pan option in the Audio Settings dialog box determines how the system plays back the default pan. If you set the default pan to "Alternating Left - Right," odd tracks are sent to the left channel and even tracks are sent to the right channel. For more information, see **"Adjusting Pan Defaults" on page 145**.

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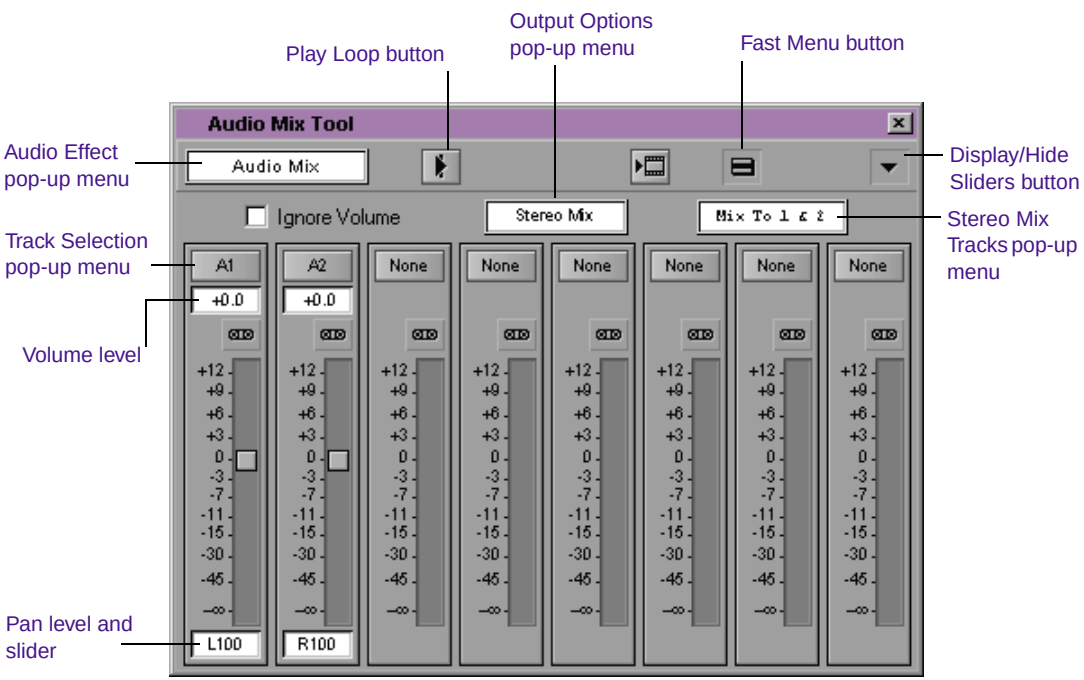
The Audio Mix tool allows you to:

- Adjust pan and volume for an individual clip, a whole track, several tracks at once, or a whole sequence.
- Adjust the volume, pan, or both for one track at a time.
- Adjust the volume, pan, or both for multiple tracks simultaneously by ganging them together.

The system uses these adjustments for all playback, including output to a digital cut.

The Audio Mix tool adjusts entire clips only. You can adjust volume levels within a clip in the Timeline by using Audio Gain Automation. For information, see ***"Using Audio Gain Automation" on page 471***.

Open the Audio Mix Tool window by choosing Audio Mix from the Audio Effect menu or from the Tools menu.



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Resizing the Audio Mix Tool

You can simplify the Audio Mix Tool display by clicking the Display / Hide Sliders button to switch between hiding and displaying the volume sliders.

With the window collapsed, you can continue to adjust levels by selecting a track and typing values by using the numeric keypad on the keyboard, or by typing a value into the volume level display.

You can resize the entire Audio Mix tool by dragging the edge or corner of the tool. You can resize the Audio Mix tool only when the sliders are displayed.

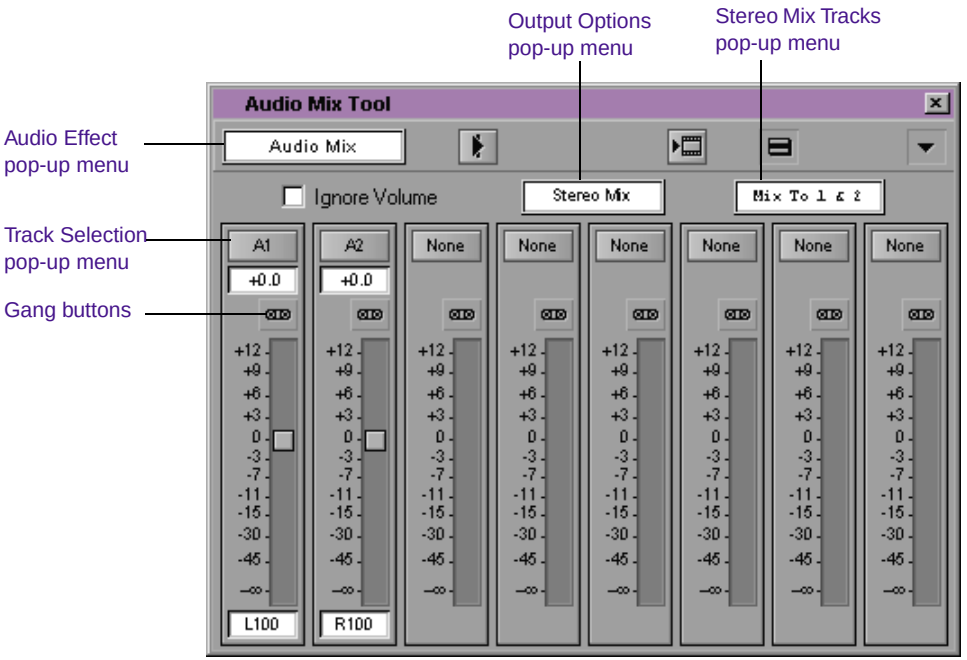
Adjusting One Audio Track at a Time

To adjust one audio track at a time in the Audio Mix tool:

1. Load a clip or sequence, and activate the appropriate monitor:
    - To adjust a track in a source clip, make sure the Source monitor is active.
    - To adjust a track in a sequence, make sure the Record monitor is active.
2. Select the track or portion of a track to be adjusted:
    - To adjust the track in a single edited shot in a sequence, place the position indicator in the shot.
    - To adjust an isolated section of audio on a track, mark IN and OUT points. Adjusting a clip with mark IN and mark OUT adjusts the entire clip.
    - To adjust levels from an IN point through the end of the track, mark an IN point only. One mark also adjusts the entire track from the beginning of the clip that includes the mark.
    - To adjust levels globally throughout the track, make no marks.

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3. Choose Audio Mix from the Tools menu to open the Audio Mix Tool window.



The Audio Mix tool contains eight panels, one for each audio track that you can monitor and adjust. The Audio Mix Tool window can display only tracks that exist in the sequence and are monitored, or tracks that were digitized with the source clip.

Only monitored tracks appear in the Audio Mix tool. If a track does not appear, check the sequence to make sure the track is monitored.

4. Choose the type of audio output from the Output Options pop-up menu:

   - Choose Stereo Mix to direct even tracks to the left channel and odd tracks to the right channel.
   - Choose Mono to make adjustments with all levels panned to center between speakers.

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- Choose Direct Out when performing a digital cut for output of up to eight source tracks to a maximum of eight output channels. For more information, see the A*vid Media Composer and Film Composer Input and Output Guide*.

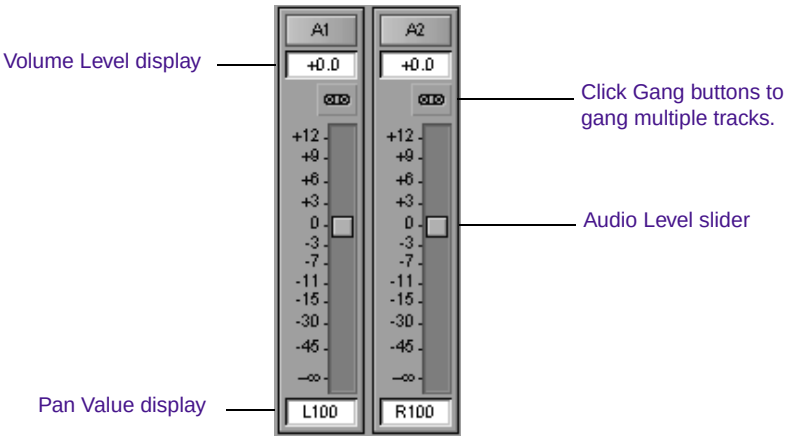


5. Select the audio track to be adjusted by doing one of the following:
   - Click the Track Selection button for the audio track to be adjusted.
   - Alt+click the Track Selection button and then choose a track from the pop-up menu.
6. Choose the desired output channel combination: 1 & 2, 3 & 4, 5 & 6, or 7 & 8 from the Stereo Mix Tracks menu. The system sends a stereo mix to the two channels you select. Material that is panned to the left will be sent to the odd channel and material that is panned to the right will be sent to the even channel.
7. With the Audio Mix Tool window active, use any playback method (such as the J-K-L keys on the keyboard) to play, shuttle, or step through the audio to check for necessary volume or pan adjustments.

   The keyboard can control either the Source or Record monitor, depending on which monitor was active when you opened the Audio Mix tool. Switch your selection by clicking the appropriate Monitor.

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8. Decide whether to raise or lower the volume, or pan left or right. This adjusts the volume or pan for a single clip.



To change a value in the panel, use any of the following methods:

- Click a number along the vertical edge of the Audio Level slider.
- Click the slider and type a value.

  Values are cumulative until you press Enter. For example, if you want to enter the value 12, simply type it. However, if you enter 1 and then want to change the value to 2, press Enter before typing the 2.
- Click the slider and then drag it.
- Click the Volume Level display box and type a value.
- Alt+click slider to reset to zero dB.
- Adjust pan by clicking the Pan Value display to reveal the pop-up slider, then drag the slider to a new position.
- Alt+click Pan Value display for MID.



Pop-up slider for pan

If the sequence is playing, notice that play stops when you make an adjustment (the Audio Mix Tool window does not provide real-time audio control). You can adjust volume while playing the clip.

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For more information, see **"Adjusting Volume While Playing an Audio Effect" on page 469**.

9. Apply the adjustments to a chosen region of the track by using the Audio Mix Fast menu located at the upper right of the tool.



The options in the Fast menu appear dimmed until you select a track by clicking the Track Selection menu. (To apply the adjustments to multiple tracks, click additional Track Selection menus.) The options vary depending upon the types of marks you set within the clip or sequence, as follows:

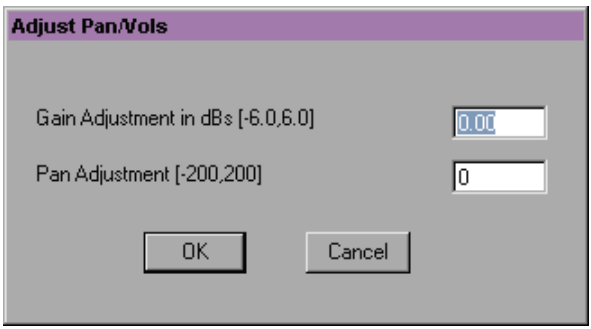
The Clip Gain values set by the Audio Mix tool are the values for the entire segment; for example, you cannot set a subsection of a segment without affecting the entire segment. To set gain for a portion of a segment, use Audio Gain Automation. For more information, see ***"Using Audio Gain Automation" on page 471***.

- **With IN and OUT points:** Commands apply adjustments to selected tracks between the points.
- **With an IN point (no OUT point):** Commands apply adjustments to full clips from the IN point to the end of selected tracks.
- **With no points:** Commands apply globally (across entire tracks).

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To apply the adjustments, do one of the following:

- The Set commands (Set Pan, Set Level) apply the same pan or volume levels currently set in the Audio Mix tool to all segments in the marked region of the tracks.
- The Adjust Pan / Vols command opens a dialog box for adding incremental adjustments to all current settings across segments in the marked region of selected tracks.



For example, when you enter –1 into the Gain Adjustment field, the various audio level settings across all segments of the marked region of selected tracks will be lowered by exactly 1 dB when you click OK.

- The Remove Pan / Vols command deletes all audio mix adjustments that have been applied to segments in the marked region of selected tracks. Each audio clip is restored to its previous pan and volume settings.

10. Play through the audio again, using the J-K-L keys. Repeat steps 8 through 10 until you are satisfied with the pan and volume levels.

    The system uses the new settings whenever you play back or record the sequence.

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Ganging and Adjusting Multiple Tracks

You can gang multiple tracks in the Audio Mix tool to maintain the same relative settings between tracks when you make adjustments. This is useful in a variety of circumstances. For example, you can gang tracks to raise the overall volume of a portion of a sequence while maintaining variations in level adjustment among tracks.

To gang and adjust multiple tracks:

1. Click the Gang buttons of the required panels. Click the button a second time to deselect it.
2. Adjust either volume or pan for one of the tracks by using any of the techniques described in the previous section, and the other tracks will maintain the same relative levels.

When you gang two or more panels, you gang both the Volume and Pan sliders.

To set all ganged sliders to the same value:

- For volume, click the number along the vertical edge of the Volume slider or enter a value into one of the Volume Level displays.
- For pan, click the Pan Value display box and enter a value.

Ignoring Existing Volume and Pan Settings

You can have the system ignore the volume settings established with the Audio Mix tool when playing back or recording a sequence. You can also deactivate the pan settings by choosing Mono or Direct Out from the Output Options pop-up menu.

To turn off current volume adjustments, click the Ignore Volume check box located next to the Output Options pop-up menu at the top of the Audio Mix tool.

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The volume controls disappear. Deselect the option to restore the current settings.

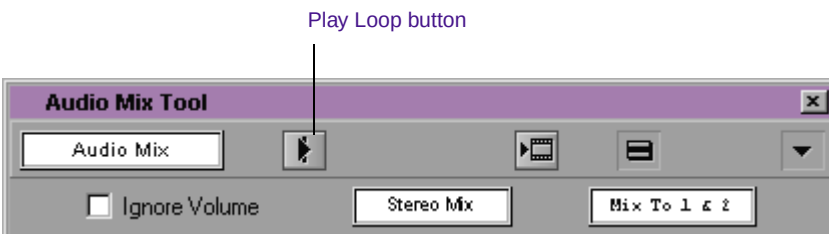
To turn off pan adjustments, choose one of the following from the Output Options pop-up menu:

- Direct Out plays back the tracks with their default pan settings.
- Mono pans all tracks to center during output.

When you choose the Direct Out option, the pan controls disappear in the Audio Mix tool. Choose Stereo Mix to restore the current settings.

Adjusting Volume While Playing an Audio Effect

You can use the Play Loop button to create or change the volume on an Audio Mix effect while you play the clip.



To adjust volume while playing an effect:

1. Choose an existing Audio Mix effect or identify an area of the clip with IN and OUT points.



2. Click the Play Loop button. The Avid system repeatedly loops through the audio effect.
3. Adjust the volume as necessary.
4. Click the Play Loop button to stop. The Avid system automatically saves your changes as part of an Audio Mix effect.

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Limitations

If there is not an existing Audio Mix effect on the clip before you start, you will not hear any changes until you click the Play Loop button to stop and replay the effect.

As you adjust the volume values on an existing Audio Mix effect, you might not hear the results immediately. It takes a few seconds for the Avid system to apply the changes to the clip. The response time for this feature is considerably longer than for changing EQ parameters while using Play Loop. You might need to click the Play Loop button to complete the edit and then play the effect to hear the result.

To improve the response time, you can do the following:

- Monitor as few audio tracks as possible.
- Deselect the video track if practical.
- Use IN and OUT points to choose a narrow interval to adjust.

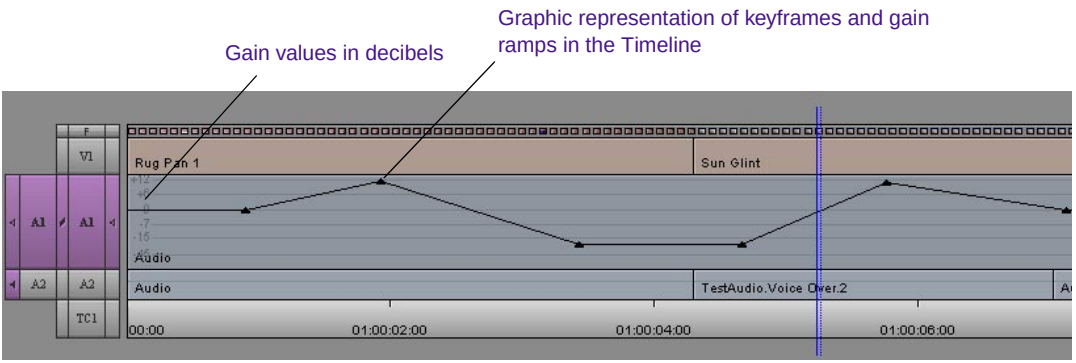


*For additional ways to change the volume while playing an audio effect, see **"Recording Audio Gain Information" on page 483**.*

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Using Audio Gain Automation

Audio Gain Automation (also known as audio volume rubberbanding) allows you to change the volume of a segment by adding and manipulating gain keyframes in the Timeline. The following illustration shows an expanded audio track containing gain keyframe information.



The Avid system uses a linear ramp to change the volume from one gain keyframe to the next.

Automation Gain Values and System Clip Gain Values

When you add a keyframe, the Avid system adds the point at the level currently set for that track in the Audio Mix tool.

Values set by the Volume sliders in the Audio Mix Tool window are referred to as system clip gain values. Audio gain keyframes are not additive to the system clip gain values. When you move a gain keyframe up or down, it cancels the system clip gain for that point in the sequence. Use of Audio Gain Automation disables Gain sliders in the Audio Mix tool. For more information, see **“Using the Automation Gain Tool and Audio Mix Tool Windows” on page 487**.

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Adjusting Volume in the Timeline

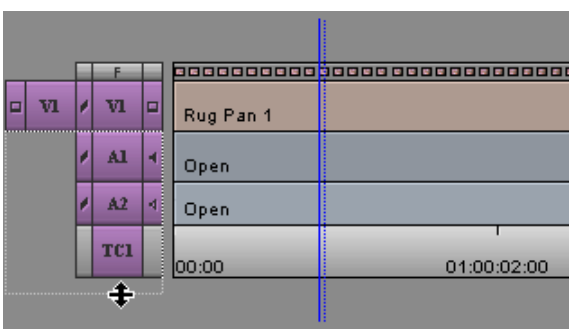
To use Audio Gain Automation to adjust volume:

1. Select an audio track for adjusting volume.
2. Choose Volume from the Audio Data submenu of the Timeline Fast menu.

If there is audio volume data on a clip and Audio Data is not chosen from the Timeline Fast menu, the system displays a pink triangle on the clip to indicate that audio volume data is present but not displayed.

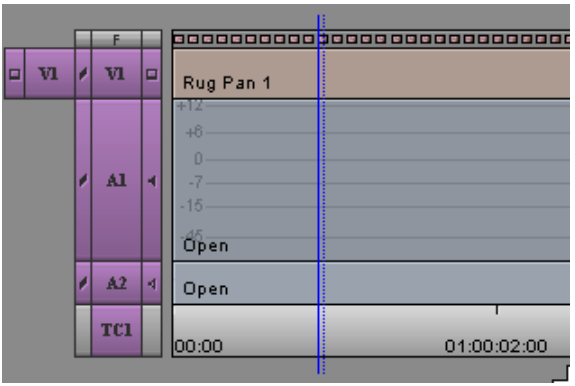
You can enable both Volume and Energy Plot or Sample Plot in the Audio Data submenu of the Timeline Fast menu to display audio gain meters and keyframe information superimposed over waveform plots in the Timeline.

3. (Option) Expand the audio track by pressing and holding Ctrl+L, or by pressing and holding the Ctrl key and dragging in the Track Selector panel. To drag in the Track Selector panel, press and hold the Ctrl key and move the pointer in the panel. When the pointer changes to a cross, drag the cross to expand or shrink the track as shown in the following illustration.



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The following illustration shows the expanded audio track with volume data.



4. Click the Add Keyframe button in the FX tab of the Command palette to add keyframes along the Timeline. The Avid system adds a keyframe to each enabled track.

   A straight line appears in the selected audio track. The line shows the current gain level for that track in the Audio Mix tool.

You adjust gain in the Automation Gain Tool window by dragging keyframes in the Timeline or by placing the position indicator on a keyframe and adjusting the slider.

After you add the first keyframe to a segment, you can adjust the gain for the entire clip. When you move the keyframe up or down, the corresponding Volume slider in the Automation Gain window moves, also.

By default, the Add Keyframe button is mapped to the double quote key (“). You can map the button to another key or to existing button locations in the Source/Record monitor.

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Deleting Audio Gain Keyframes

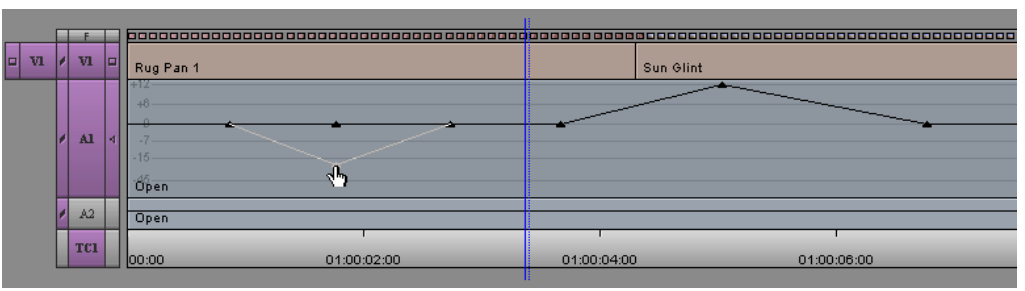
To delete audio gain keyframes, do one of the following:

- To delete a single keyframe, move the pointer over the point. When the pointer changes into the hand pointer, press the Delete key. If there are identical keyframes in other active tracks, the system deletes them also. (Do not press the mouse button.)
- To delete groups of keyframes, mark an IN to OUT or mark the entire segment, then delete any keyframe in the marked area.

Moving Audio Gain Keyframes in The Timeline

To move audio gain keyframes in the Timeline, do one of the following:

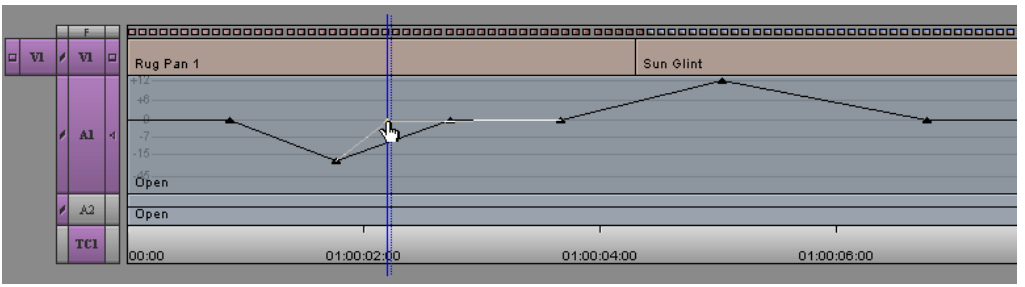
- Click a keyframe and drag it up or down to increase or decrease the gain at that point. If there is a point at the same position on another enabled track, it moves also.



To snap to the decibel lines, press and hold the Ctrl key while you drag the point.

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- Move a keyframe horizontally to move the start or end of a ramp. Place the pointer over a keyframe. When the pointer changes into the hand pointer, press and hold the Alt key, click the keyframe, and drag it.



- Move several keyframes vertically on a track at the same time by placing IN and OUT points to select the area you want. When you move one keyframe up or down within the marked area, all keyframes within the marked area move in relation to each other. This works for all enabled audio tracks.

This is similar to ganging sliders on an audio mixing board or in the Audio Mix tool.

Using an External Fader Box to Adjust Volume

An external fader box is optional. It is not required to perform Audio Gain Automation recording.

Your Avid system supports the following three external fader boxes:

- JL Cooper FaderMaster Professional™ MIDI automation controller
- JL Cooper MCS-3000X MIDI automation controller
- Yamaha® 01v digital mixing console

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For a description of the fader boxes and for information on attaching them, see **Appendix B**.

For information on using these external fader boxes, see **"Recording Audio Gain Information" on page 483**.

Using an External Fader Box to Adjust the Volume of Individual Keyframes

You can use an external fader box to edit the volume for individual keyframes as follows:

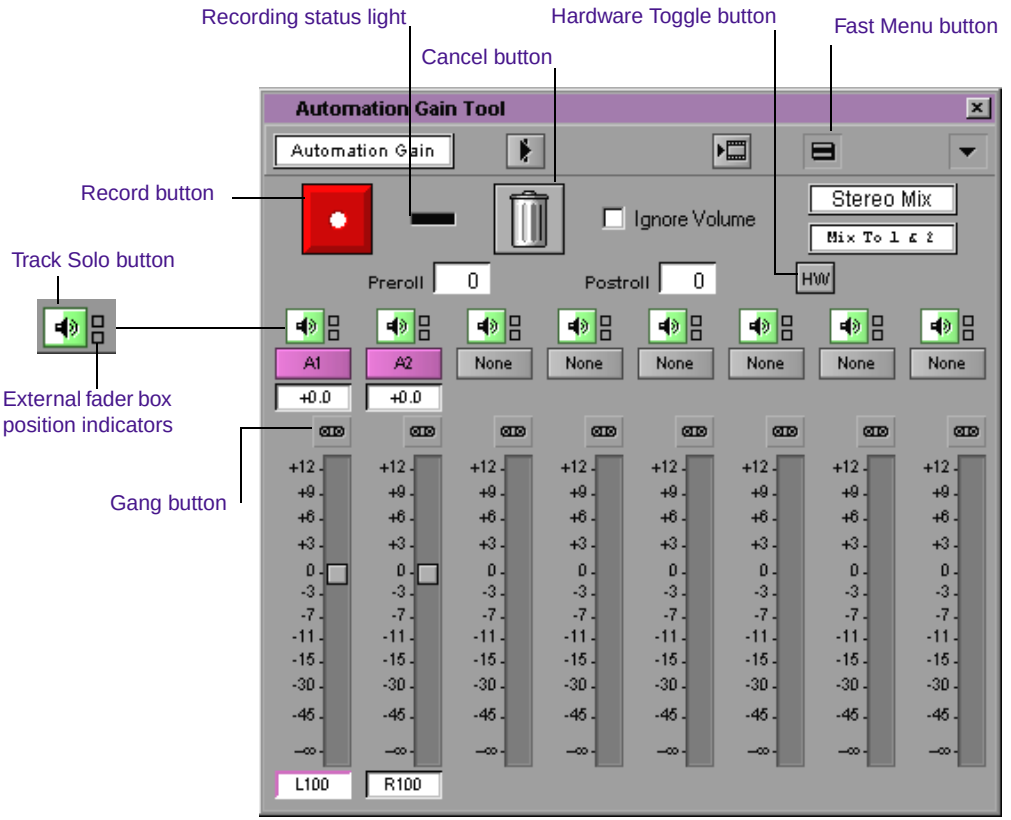
1. Click the HW button on the Automation Gain Tool window. The button changes to pink.
2. Click an audio gain keyframe. (On the MCS-3000X and Yamaha 01v, the faders automatically adjust to the volume setting.)
3. Move the corresponding fader to adjust the volume for the keyframe.

For information on connecting a fader box, see **Appendix B**.

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About the Automation Gain Tool Window

Before this section discusses recording volume in the Timeline, it describes the Automation Gain Tool window in detail. The following illustration shows the Automation Gain Tool window.



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Some portions of the Automation Gain Tool window are identical to the Audio Mix Tool and Audio Punch In Tool windows. For example, the following record features are identical to the Audio Punch In Tool window:

- The Record button starts and stops the recording.
- The Cancel button stops a recording without saving the recorded data.
- The Recording status light is black when there is no activity, green during a preroll, red during recording, and blue during a postroll.
- The Preroll text box allows you to provide a visual cue before the recording begins. The Avid system backs up the blue position indicator for the prescribed number of seconds.
- The Postroll text box gives the same kind of visual cue at the end of the recording.

The remainder of the features described in this section are specific to the Automation Gain Tool window.

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Hardware Toggle Button



The Hardware Toggle (HW) button indicates which sliders are controlling the volume: the external faders or the Automation Gain Tool window sliders.

Button Color	To Enter the Mode	Description
Gray (default)	Click the button or turn off control to the external fader box.	The sliders in the Automation Gain Tool window control volume for automation gain recording. The system ignores the external fader box when not recording.
Pink	Click the button or press the Record button while the external fader box is on. The HW button changes to pink when you are using an external fader box to record automation gain.	**FaderMaster Pro:** The external faders control volume. The sliders in the Automation Gain Tool window do not allow user input. **MCS-3000X and Yamaha 01v:** The Hardware and Software sliders move at the same time, and either one can be used to control volume.
Blue	Alt+click the button.	The external faders control the sliders in the Automation Gain Tool window. This is a test mode. You cannot edit volume data when the button is blue.

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Track Solo Button



The Track Solo button (Speaker icon) lets you mute and solo individual audio tracks during audio gain automation recording.

Button Color	Description
Gray	The audio track is muted.
Yellow	The track is soloed. You can solo more than one track at a time.
Green (default)	The audio track is on.

Click the Track Solo button or press the number keys 1 to 8 to switch between solo and on. The number keys (at the top of the keyboard) let you quickly select a track.

To switch between on and mute, use the Alt+click or Alt+*number* keys.

When you turn off solo, the button returns to its previous state (mute or on). To change the previous state of a button, Alt+click the button.



While the Automation Gain Tool window is active, the Avid system overrides any other mappings of the number keys 1 to 8 at the top of the keyboard. Number keys on the right side of the keyboard are not affected.

You can also use the buttons above each fader on the external fader box to solo or mute an individual audio track as follows:

- The FaderMaster Pro has one button that you can use to solo or mute an individual audio track during Audio Gain Automation recording:
  - Press the button above the fader once to switch between solo and on.

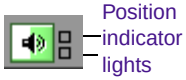
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- Press the button above the fader twice quickly to switch between mute and on.

- The MCS-3000X has separate buttons for solo and mute. Mute buttons are on the bottom row and Solo buttons are above the Mute buttons. For more information, see **"The MCS-3000X Buttons" on page 600**.

- The Yamaha 01v supports Solo mode only if you are not using the unit for audio mixing as well as Audio Gain Automation recording. For more information, see **"Operational Notes for the Yamaha 01v Mixer" on page 606**.

Position Indicator Lights



The position indicator lights provide information about the current location of the faders on the external fader box.

Colors	Description
Both lights are blue.	The fader matches the current Timeline volume.
Only top light is blue.	The fader is higher than the Timeline volume.
Only bottom light is blue.	The fader is lower than the Timeline volume.
Both lights are gray.	Either there is no fader box attached to the system or the Avid system does not recognize the fader box. If the system does not recognize the fader box, check the connection as described in the *Avid Composer Products Setup Guide*.

The position indicator lights are especially useful for the FaderMaster Pro because it is important to position the faders close to the track volume before you start recording. Otherwise, you might create an

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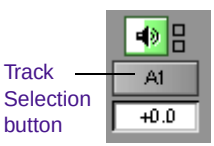
unwanted jump in the volume when you move the faders during a recording.

The Avid system does not record values from a fader on the FaderMaster Pro until you move the fader. Then it reads the current position of the fader and adjusts the volume accordingly. In many cases, it is not possible to exactly match the Timeline value.

You do not have to reposition the faders on the MCS 3000-X and Yamaha 01v because the units automatically reset the faders to match the volume data in the Timeline.

Selecting Tracks in the Automation Gain Tool

To apply adjustments to a chosen region of the track, you must select the tracks and then choose an option from the Automation Gain Tool Fast menu located at the upper right of the tool.



The options in the Fast menu appear dimmed until you select a track by clicking the Track Selection button. To apply the adjustments to multiple tracks, click additional Track Selection buttons.

To access the Track Selection pop-up menu options and choose either a track or None, do one of the following:

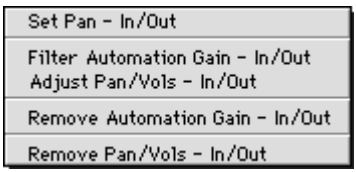
- Press and hold the Alt key while clicking the Track Selection button.
- Click and hold the Track Selection menu button.

Automation Gain Tool Fast Menu

To make the Automation Gain Tool Fast menu active for a given track, click the Track Selection button for that track in the Automation Gain Tool window.

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The following illustration shows the Fast menu when an In/Out area is marked. When no area is marked, the words In/Out are replaced by the word Global. This allows you to perform the operation on the entire sequence track rather than only the marked region.



The Automation Gain Fast menu is similar to the Audio Mix Tool Fast menu with the addition of the following items:

- *Filter Automation Gain — In/Out* removes approximately 50 percent of the keyframes in the marked region. If you press and hold the Alt key while choosing the menu item, the system removes all keyframes in the selected area, except for the minimum and maximum peaks. The Avid system tries to save major gestures while removing redundant points and points on a linear ramp. This is useful for deleting extra keyframes after a recording. For more information, see the examples later in this section.

  When there are no IN to OUT points on the track, the menu item is Filter Automation Gain — Global. This option allows you to remove keyframes from the entire track.

- *Remove Automation Gain — In/Out* removes all of the audio keyframes within the marked region.

  When there are no IN to OUT points on the track, the menu item is Remove Automation Gain— Global. This option allows you to remove all of the audio keyframes on the track.

Recording Audio Gain Information

You can instruct the Avid system to record your actions while playing the clip as you move sliders to adjust the volume. The system creates

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the corresponding keyframes and saves them as part of a pan/volume audio effect. After you finish the recording, you can move, add, and delete keyframes to achieve the results you want.

The Avid system supports two methods for recording audio gain information:

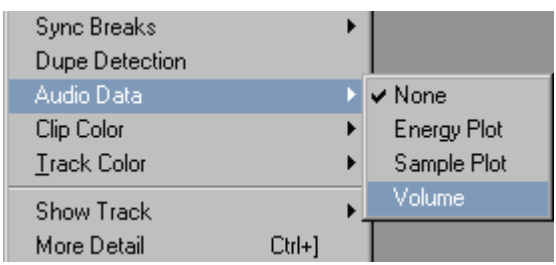
1. Use the sliders in the Automation Gain Tool window to adjust volume while you play the clip.
2. Attach an optional fader box to the system and use the faders on the fader box to adjust volume.

Using the Automation Gain Tool Window Sliders to Record Gain Information

This procedure describes how to record audio gain information without using an external fader box.

To record audio gain information by using the Automation Gain Tool window sliders:

1. Select an audio track for adjusting volume.
2. Choose Volume from the Audio Data submenu of the Timeline Fast menu.



If there is audio volume data on a clip and Audio Data is not chosen from the Timeline Fast menu, the system displays a pink triangle on the clip to indicate that audio volume data is present but not displayed.

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3. (Option) Expand the audio track by pressing Ctrl+L, or by pressing and holding the Ctrl key and dragging in the Track Selector panel.
4. Move the blue position indicator to the section of audio that you want to adjust and mark IN to OUT points.
5. Click the Record button or press the b key to start recording your actions.
6. Listen to the audio and adjust the Volume sliders in the Automation Gain Tool window as necessary.

   The Avid system adds volume keyframes to the audio in the Timeline. Because it records every movement of the sliders, there are usually more keyframes than you need.
7. To decrease the number of keyframes:
   a. Click the Track Selection button for the track to enable the Fast menu.
   b. Choose Filter Automation Gain Control — In / Out from the Automation Gain Tool Fast menu.
8. Repeat step 7 until you have decreased the number of keyframes to an acceptable level.

   You should remove as many excess keyframes as possible while still maintaining the desired volume changes.

You can move, add, and delete keyframes individually or as groups to further adjust the volume. For details on how to adjust the keyframes, see **"Adjusting Volume in the Timeline" on page 472**.

Using a Keyboard Shortcut

You can map the Fast Forward and Rewind buttons to your keyboard to speed your editing of audio keyframes. With the Automation Gain tool active, click the Track Selection button and the corresponding Gain button. Then you can use the Fast Forward and Rewind buttons to jump to the next or previous audio keyframe.

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Using an External Fader Box to Record Audio Gain Information

To record audio gain information by using an external fader box:

1. Attach the fader box to your system (see **Appendix B**).
2. Move the blue position indicator to the section of audio that you want to adjust and mark IN and OUT points.



3. (FaderMaster Pro only) Note the color of the position indicator lights for the track you want to adjust. Move the fader until both lights are blue. If you cannot adjust it to the exact position where both are blue, get it as close as you can.
4. Set Preroll and Postroll values if necessary.
5. Click the Record button to start recording your actions.
6. Depending on the fader box, listen to the audio and do the following:
   - (FaderMaster Pro) When you want to start recording volume information, move the corresponding fader. The system does not begin recording until you move a fader.
   - (MCS-3000X) When you want to start recording volume information, either touch or move the corresponding fader. The MCS-3000X faders are touch sensitive.
   - (Yamaha 01v) When you want to start recording volume information, click the fader's On button and move the fader.



If the Yamaha 01v fader is not moving, you can move it without first clicking the On button. For more information, see ***"Operational Notes for the Yamaha 01v Mixer" on page 606****.*



When you record over previously recorded audio volume keyframes, the MCS-3000X and Yamaha 01v automatically move to display the changing values. This allows you to make quick adjustments to existing automation gain recordings.



7. Click the Play Loop button to play the clip and test your results.

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8. To decrease the number of keyframes, choose Filter Automation Gain Control— In / Out from the Automation Gain Tool Fast menu. (Click the Track Selection button for a track to enable Filter Automation.)

   If you delete too many keyframes, use the Undo command to restore them.

9. Repeat step 8 until you have decreased the number of keyframes to an acceptable level.

   You should remove as many excess keyframes as possible while still maintaining the desired volume changes.

Using the Automation Gain Tool and Audio Mix Tool Windows

This section describes the interactions between the Audio Mix Tool window and the Automation Gain Tool window.

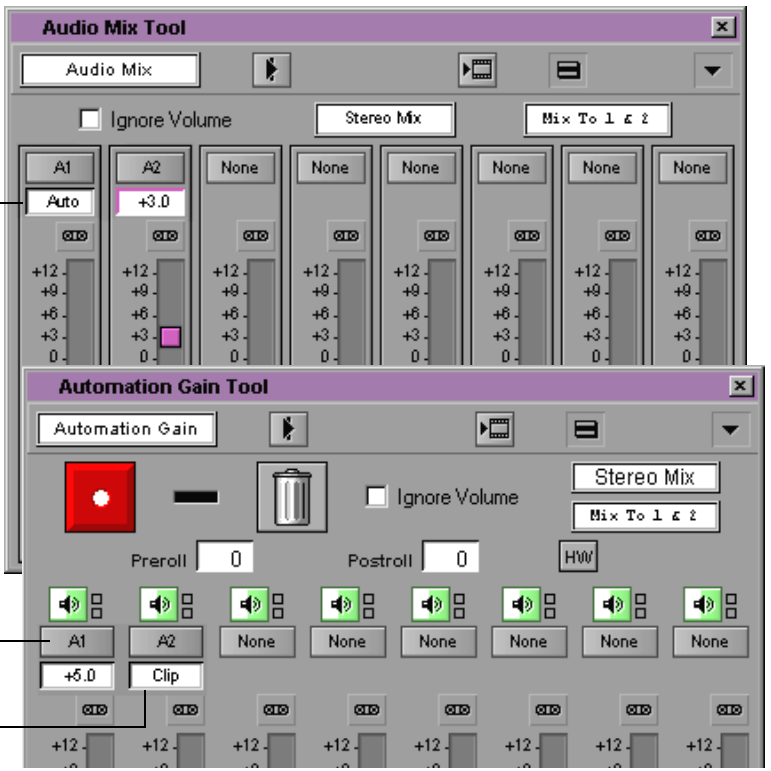
When you add the first audio keyframe to a track, the Avid system adds the point at the level currently set for that track in the Audio Mix tool.

Values set by the Volume sliders in the Audio Mix Tool window are referred to as system clip gain values. Audio gain keyframes are not additive to the system clip gain values. When you move a keyframe point up or down, it overrides the system clip gain for that point in the sequence.

You can add keyframes to some tracks and use the Audio Mix Tool window to control the volume on other tracks. The Avid system provides visual clues to let you keep track of which type of audio effect is on a given track.

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The following illustration shows the Audio Mix Tool window and the Automation Gain Tool window with audio data on two tracks. In this example, there is audio gain automation information on track A1 and a system clip gain setting on track A2.



Track A1 has Audio Gain Automation.

Track Selection button

Track A2 has system clip gain settings from the Audio Mix Tool window.

When you have audio gain automation on a track, the slider for the track does not appear in the Audio Mix Tool window. The system displays the word Auto in the Volume Level display to indicate that audio gain automation is associated with the track.

Likewise, when you use the Audio Mix Tool window to change volume for a track, the slider for the track disappears from the Automation Gain Tool window. The word Clip appears in the Volume Level display.

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To add Audio Gain Automation to a track that contains system clip gain information, you simply need to add an audio keyframe. To use the Audio Mix sliders on a track containing Audio Gain Automation, you must first remove all of the audio keyframes from the segment. Choose Remove Automation Gain — Global from the Automation Gain Tool Fast menu. You need to remove any IN to OUT points on the track before the menu item changes from In / Out to Global. (Click the Track Selection button for a track to enable the Automation Gain Tool Fast menu.)

Using the Audio EQ Tool

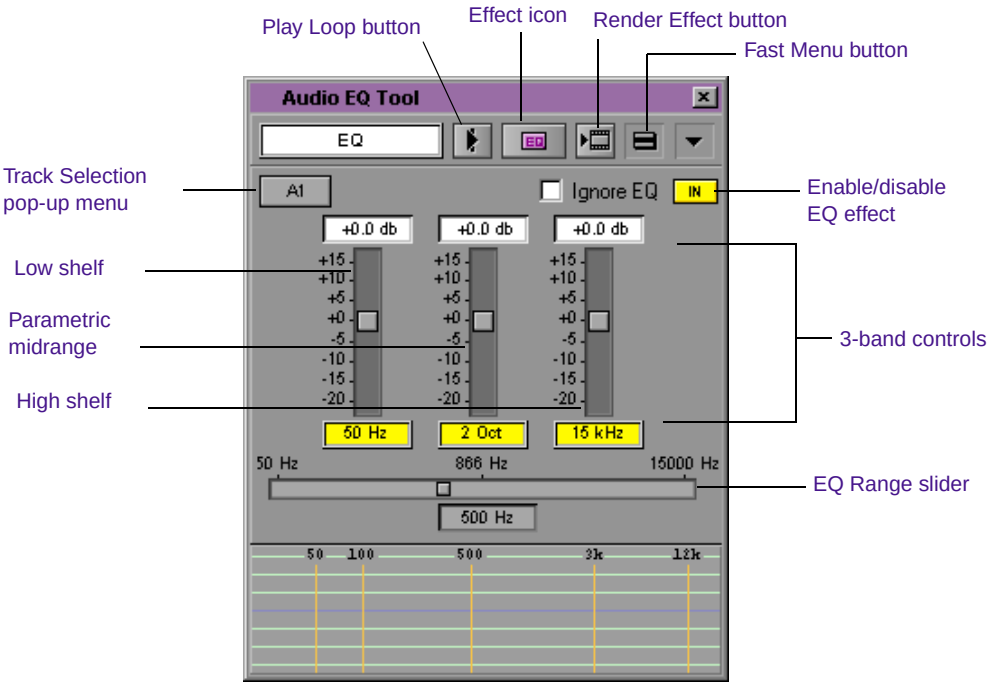
The Audio Equalization (EQ) tool supports real-time, segment-based frequency equalization on individual clips. This allows you to adjust the high, low, and midrange frequency ranges of an audio clip. You can also save a variety of audio EQ effects and apply them in different circumstances, as described in this section.

You can access the Audio EQ tool in one of two ways:

- Choose Audio EQ from the Tools menu.
- If one of the Audio tools is already open, choose EQ from the Audio Effect menu.

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The Audio EQ Tool window opens.



Audio EQ Tool Features

The Audio EQ tool provides three bands of control:

- The first band, the low shelf, has four *turnover points* (50 Hz, 80 Hz, 120 Hz, and 240 Hz). A turnover point is the point at which the curve starts to return to 0.

  A *shelf* affects all frequency values within the range of the shelf. The low shelf affects all frequency values from 20 Hz to the low shelf turnover point.

- The second band is the parametric midrange. This band has two *bandwidth* values, 1/4 octave and 2 octaves. These values control the width of the curve.

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- The third band, the high shelf, has four turnover points (6 kHz, 8 kHz, 12 kHz, and 15 kHz). The high shelf affects all frequencies from the high shelf turnover point to 20 kHz.

The horizontal center line of the graph is 0. As you move the curve below the zero line, the corresponding frequencies are deemphasized. Above the zero line the corresponding frequencies are emphasized. The parametric midrange allows a smooth transition from deemphasized frequencies to emphasized frequencies.

The IN button allows you to turn off an individual EQ effect (the currently selected effect). The button is yellow when the EQ effect is on (inline) and gray when the EQ effect is off.

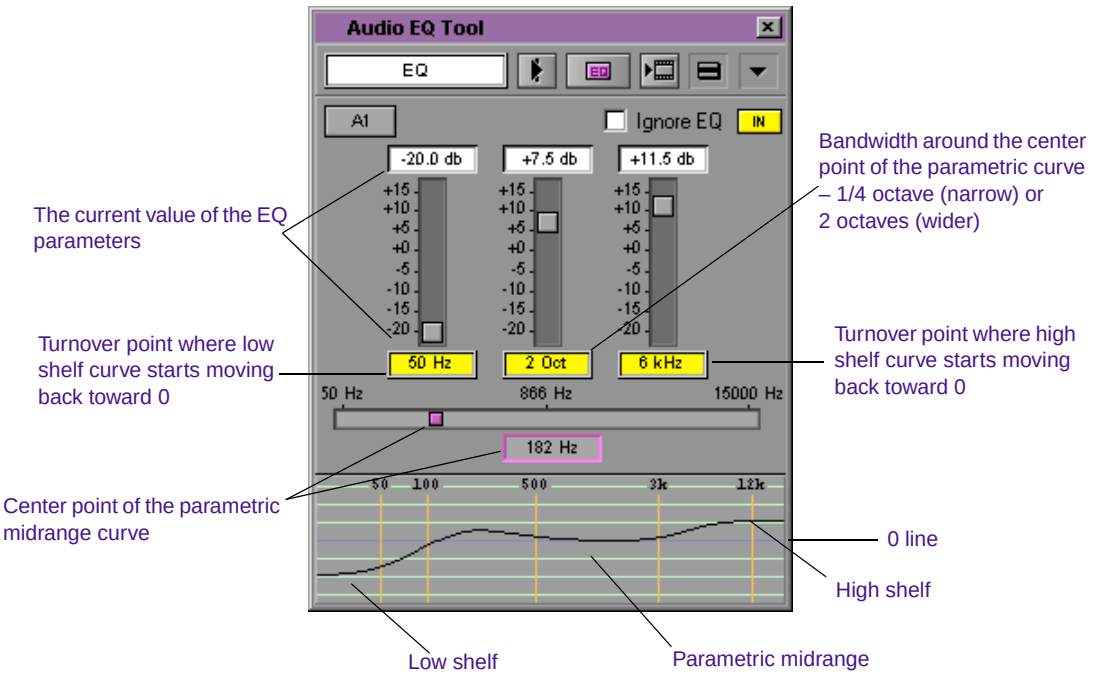
The Ignore EQ check box turns off all EQ effects for the sequence. Rendered EQ effects still play correctly.

To apply Audio EQ effects:

- Audio EQ can only be applied to entire segments. You cannot isolate portions of a segment for an Audio EQ effect by using IN to OUT points. You must use add edits (match frames) to mark off a smaller segment.
- You can use IN to OUT points to select a range of complete segments for applying an Audio EQ effect. Segments that fall within the marks, either in part or in whole, will have the effect applied to them.

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The following illustration shows the Audio EQ tool with the frequency response curve displayed and identifies the related areas of the window.



The Audio EQ tool allows you to emphasize or deemphasize audio frequencies. The height of the curve shows the amount of emphasis or deemphasis (also called boost or cut) that is being applied. The range is from +15 dB to –20 dB.

Applying Audio EQ Effects

To adjust audio EQ for a track:

1. Load the sequence containing the audio track.
2. (Option) Isolate a portion of an audio segment by placing add edits.

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3. (Option) Mark a range of audio segments by adding IN to OUT points in the track.
4. Open the Audio EQ tool.
5. Select the audio track to be adjusted from the Track Selection pop-up menu in the Audio EQ tool.



Track Selection pop-up menu

Notice that the Track Selector panel in the Timeline window is updated to reflect your selection.

6. Click the Play Loop button to play the currently selected audio clip within the current IN to OUT range. To stop playing the loop, click the button again or click anywhere in the Timeline.
7. Use any of the following methods to change a value in the Audio EQ tool:
   - Click a number along the vertical edge of the Volume slider.
   - Click the slider and type a value.

     Values are cumulative until you press Enter. For example, if you want to enter the value 12, simply type it. However, if you enter 1 and then want to change the value to 2, press Enter before typing the 2.
   - Drag the slider.
   - Click the EQ Parameter display and type a value.
   - Set a value of 0 dB by clicking the slider and entering 0, or by clicking 0 along the vertical edge of the Volume slider.

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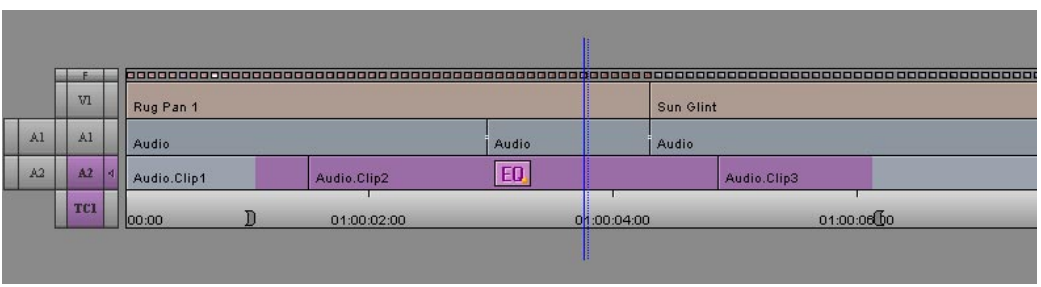
8. Apply the adjustments to a chosen region of the track by using the Audio EQ tool Fast menu located at the upper right of the tool.



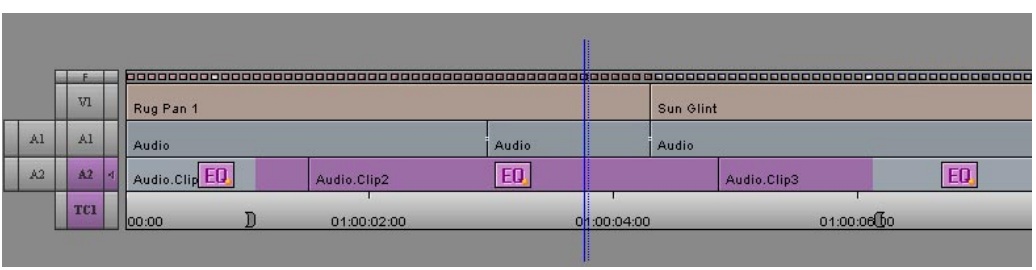
The Fast menu on the Audio EQ tool allows you to remove or apply an EQ effect to clips within the current IN to OUT range. It also provides access to a number of predefined EQ templates. For a description of predefined audio templates, see **"Using Audio EQ Templates" on page 499**.

For example, the following illustration shows a segment with one EQ effect applied to the Audio Clip 2 in track A2. If you choose Set EQ In / Out, the current EQ effect is also applied to Audio Clip 1 and Audio Clip 3 on track A2.

Before Set EQ In/Out



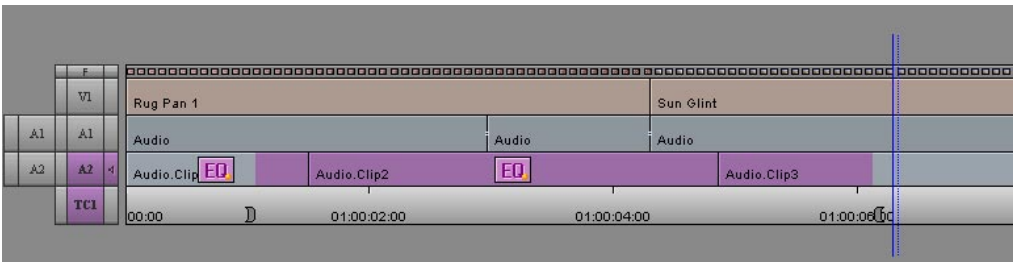
After Set EQ In/Out – EQ effect is added to Audio Clip 1 and Audio Clip 3.



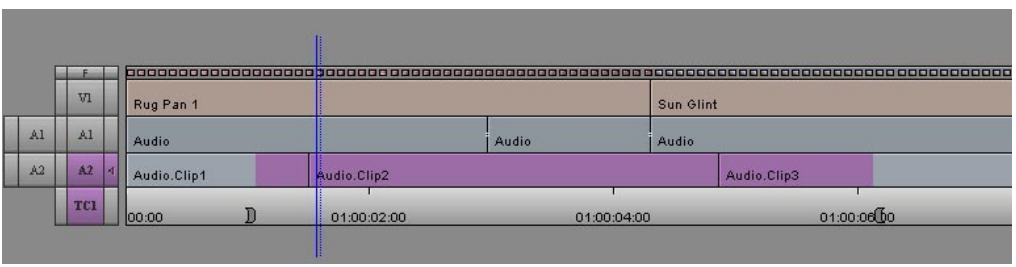
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If there is no EQ setting on the currently selected clip, choosing Set EQ In / Out deletes the EQ settings on all clips within the IN to OUT range. For example, because there is no EQ setting on Audio Clip 3 in the following example, Set EQ In / Out deletes the EQ effect from Audio Clip 1 and Audio Clip 2.

Before Set EQ In/Out



After Set EQ In/Out – EQ effect is deleted from Audio Clip 1 and Audio Clip 2.



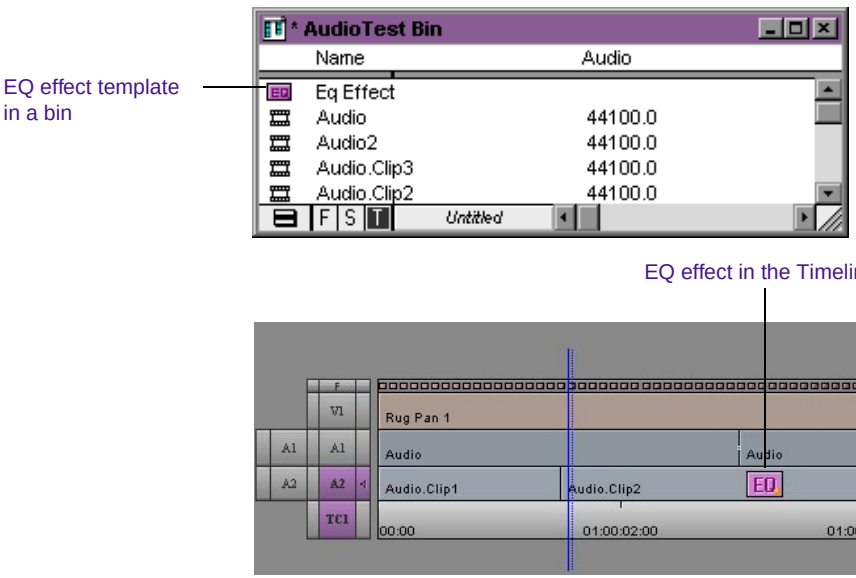
Set EQ In / Out applies only to the audio track currently selected by the Audio EQ tool. You can change your selected region by eliminating or adding marks in the Timeline, or by selecting a different track.

9. Play through the audio again, using the Play Loop button.
10. Repeat steps 8 and 9 until you are satisfied with the EQ adjustments.

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Saving Audio EQ Effects

The Avid system treats an EQ setting as an effect. You can save EQ settings in a bin just as you save any other effect template. This makes it easy to save EQ settings and apply them whenever you need them. The following illustration shows an EQ Effect icon in a bin and in the Timeline.



Use the Effect icon in the Audio EQ Tool window to save EQ settings in a bin or to copy the settings to another audio clip. Either drag the icon into a bin or drag the icon to another audio clip in the Timeline. For more information on using effect templates, see the *Avid Media Composer and Film Composer Effects Guide.*

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Removing Audio EQ Effects

To remove an effect:

1. Place the position indicator on the effect.
2. From Source/Record mode, click the Remove Effect button.



   From Trim or Effects mode, press the Delete key.

Audio EQ Examples

The following examples show two different ways to use the Audio EQ tool to remove excess bass from an audio track. In this example, assume that a bass drum in the sound track is very pronounced and we use the Audio EQ tool to deemphasize it. Also assume that there are voices on the same track as the music. The human voice covers a wide range of frequencies and the challenge is to preserve the bass frequencies of the voices while deemphasizing the bass drum sound.

Consider that the goal of the adjustments is the final sound. You should use small adjustments to preserve as much of the original sound track as possible. Do not be overly concerned about specific parameter values.

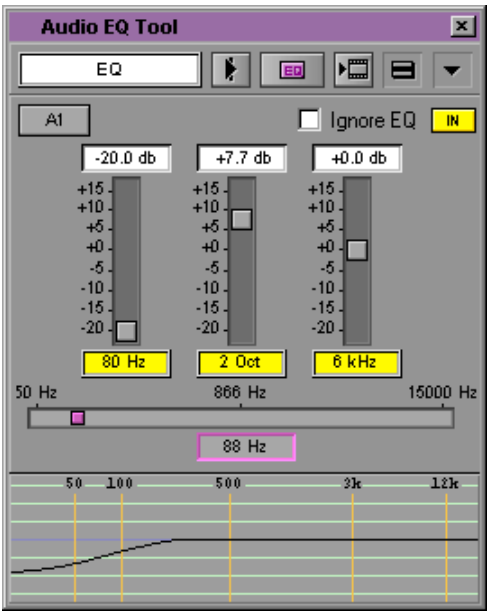
Low Shelf Example

This example adjusts the low shelf to deemphasize the bass. By dropping the low shelf down –20 dB, we are able to deemphasize it. However, there are voices on this track, and simply dropping the low shelf also removes some bass from the voices. So we did the following to compensate for this:

1. Use the 2-octave midrange setting to create a wide midrange.
2. Move the midpoint of the parametric curve to 88 Hz.

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3. Boost the midrange of the parametric curve to +7.7 dB.

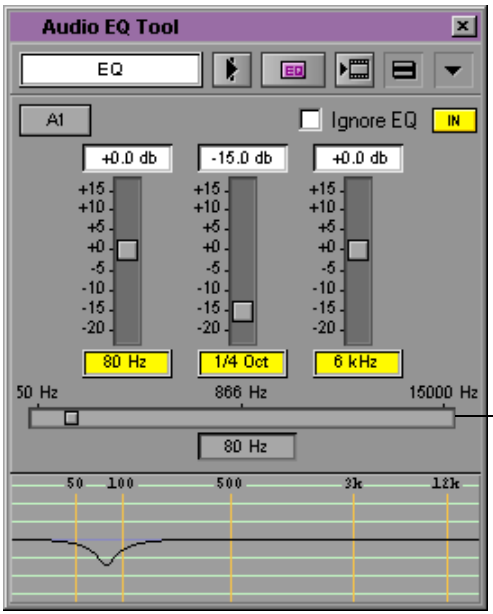


Small Octave Range Example

This example isolates the particular frequency that we want to deemphasize. In this example, we do not use the low shelf, but instead use the parametric midrange to isolate the frequency.

1. Use the 1/4-octave influence range.
2. Set the midrange EQ parameter to –15 dB.
3. Use the slider to move the midpoint of the parametric curve until it isolates the bass frequency. In this case, the bass frequency that we want to deemphasize is approximately 80 Hz.

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Use this slider to move the center point of the parametric curve and locate a specific frequency.

This technique allows you to locate a specific frequency and either emphasize or deemphasize it:

- Use the 1/4-octave influence range and a large negative decibel value.
- Keep both the high shelf and low shelf set to zero.
- Use the slider to move the center point of the parametric curve along the frequency range while you play the audio track.

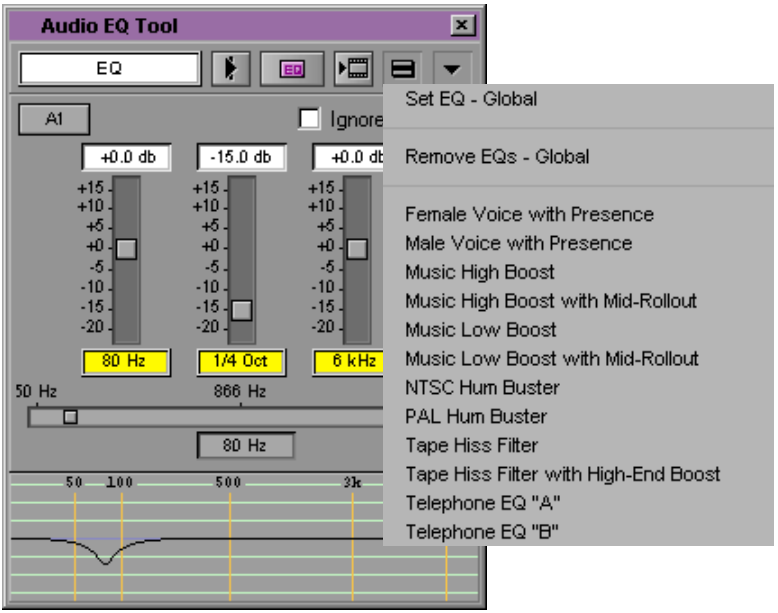
Once you locate the frequency you want, you can adjust it as needed.

Using Audio EQ Templates

Your Avid system provides a set of predefined audio EQ templates. These templates address a number of common audio problems such as removing tape hiss or boosting the low frequency on a music track. The templates are accessible from the Fast menu on the Audio EQ tool. You can also add your own custom EQ templates to the Fast menu list.

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The Fast menu on the Audio EQ tool provides access to a number of predefined EQ templates as shown in the following illustration.



The EQ templates are designed to fix problems that are often encountered with audio clips. For example, Tape Hiss Filter rolls off frequencies above 4 kHz. NTSC Hum Buster cuts the bass on frequencies that often cause hum on NTSC systems.

Applying an EQ Template

To apply an EQ template from the Audio EQ Tool Fast menu:

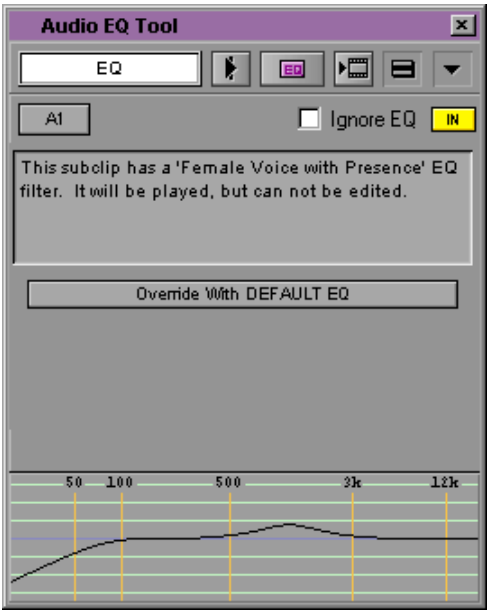
1. Place the blue position indicator on the audio clip in the Timeline.
2. Choose the template from the Audio EQ Tool Fast menu.

   The Avid system places the EQ effect on the audio clip.

The following illustration shows the contents of the Audio EQ Tool window when you select the Female Voice with Presence template in

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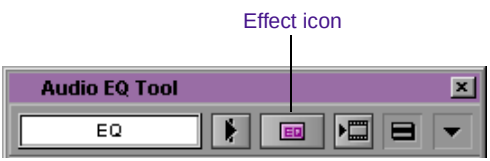
the Timeline. As explained in the window, you cannot change the parameters of a predefined EQ template.



To see the parameter values of one of the EQ templates that cannot be edited, view the Console window after you apply the effect. To open the Console window, choose Console from the Tools menu.

Creating Your Own Templates

If you create an EQ effect that you want to use again in another sequence or on another track, simply drag the Effect icon from the Audio EQ Tool window to a bin. The system creates an EQ effect in the bin. Rename the template by clicking the text and typing a new name.



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You can add your own EQ templates to the Audio EQ tool Fast menu. You do this by storing your EQ template in the same bin as the pre-defined templates.

The Avid system stores the predefined EQ templates in a special bin named Site_EQs_Bin. This bin resides in the C:\Program Files\Avid\Avid Media Composer\SupportingFiles\Site_Effects folder.

To add an EQ template to Site_EQs_Bin:

1. Open the bin containing your EQ templates.
2. Choose Open Bin from the File menu.

   A dialog box appears.
3. Open the bin named Site_EQs_Bin.avb as follows:
   a. Open the following folder:
      C:\Program Files\Avid\Avid Media Composer\SupportingFiles\Site_Effects
   b. Choose All Files from the Files of Type pop-up menu at the bottom of the dialog box. The Site_EQs_Bin.avb file appears.
   c. Double-click the Site_EQs_Bin.avb file.
4. Drag one of your own EQ templates to Site_EQs_Bin.
5. If you have not already done so, name the template by clicking the text and typing a name.
6. Close the bin.



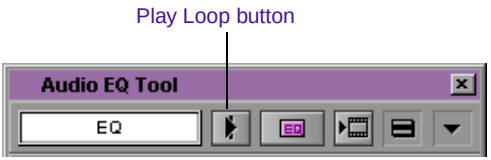
The Avid system does not save the effect to the bin until you close the bin.

7. Click the Audio EQ Tool Fast Menu button and look for your new template.

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Adjusting EQ While Playing an Audio Effect

You can use the Play Loop button to create or change an EQ effect while a clip is playing.



To adjust EQ while playing an effect:

1. Choose an existing EQ effect or identify an area of the clip with IN and OUT marks.
2. Click the Play Loop button. The Avid system repeatedly loops through the audio effect.
3. Adjust the EQ as necessary.
4. Click the Play Loop button to stop. The Avid system automatically saves your changes as part of an EQ effect.

Limitations

If there is no existing EQ effect on the clip before you start, you will not hear any changes until you click the Play Loop button to stop and replay the effect.

As you are adjusting the EQ values on an existing EQ effect, you might not hear the results immediately. It takes a few seconds for the changes to be applied to the clip. To improve the response time, you can do the following:

- Monitor as few audio tracks as possible.
- Deselect the video track if practical.
- Use IN to OUT points to choose a narrow interval to adjust.

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Digidesign AudioSuite Plug-Ins

Your Avid system supports AudioSuite, the Digidesign host-based, file-based Plug-In specification. Users have access to audio-processing plug-ins developed by Digidesign and by Digidesign third-party developers. These plug-ins perform pitch processing, artifact removal, audio reversal, and many other processes. For more information on using the AudioSuite Plug-Ins, see **Appendix A**.

For information on Digidesign and third-party plug-ins, see the *AudioSuite Plug-In Catalog* available from Digidesign, or contact Digidesign at 800-333-2137.

For information on plug-ins that are not supported by your Avid system, see **"Plug-In Limitations" on page 515**.

Installing AudioSuite Plug-Ins

The Avid system installation software automatically creates a DAE folder in the following location:

C:\Program Files\Digidesign\DAE

The DAE folder contains the following:

- A DAE Prefs folder. The plug-in vendor might install settings in this folder.
- A DAE Plug-Ins folder containing the following:
  - A set of basic plug-ins from Digidesign.
  - A file named AvidAppPlugIn.dpm. The Avid system *requires* this file; do not delete it.

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Several basic plug-ins are installed automatically. For a description of the plug-ins, see **Appendix A**.

When you purchase additional plug-ins, the third-party vendor will provide instructions on how to load the plug-ins. Some vendors might require you to drag the plug-in to the Plug-Ins folder. Other vendors might perform the task automatically for you via an installation program.

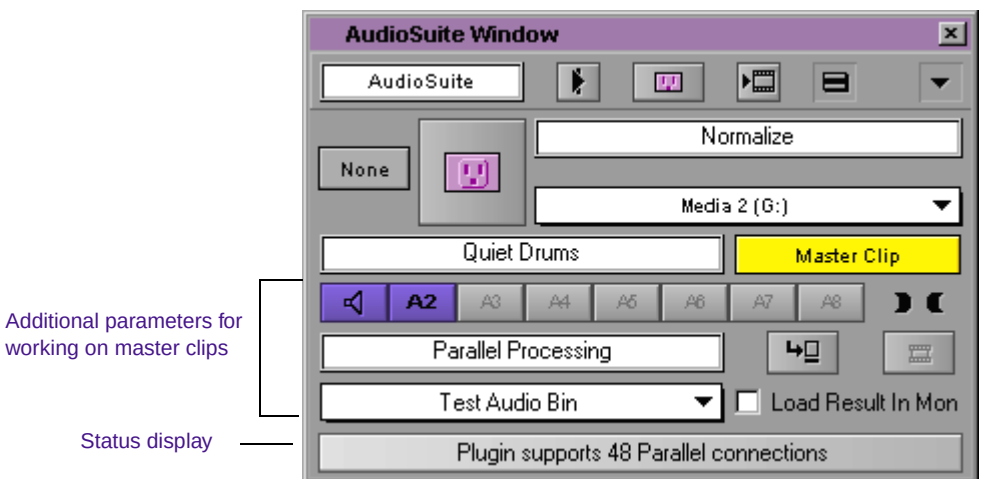
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Using Digidesign AudioSuite Plug-Ins

There are two ways to use AudioSuite Plug-Ins:

- Apply a plug-in to a clip in the Timeline. The end result is a rendered effect.
- Use the controls in the AudioSuite window to create a new master clip. This method allows you to process more than one channel at a time and to create new media that is longer or shorter in duration than the source media. For more information, see **"Creating New Master Clips" on page 510**.

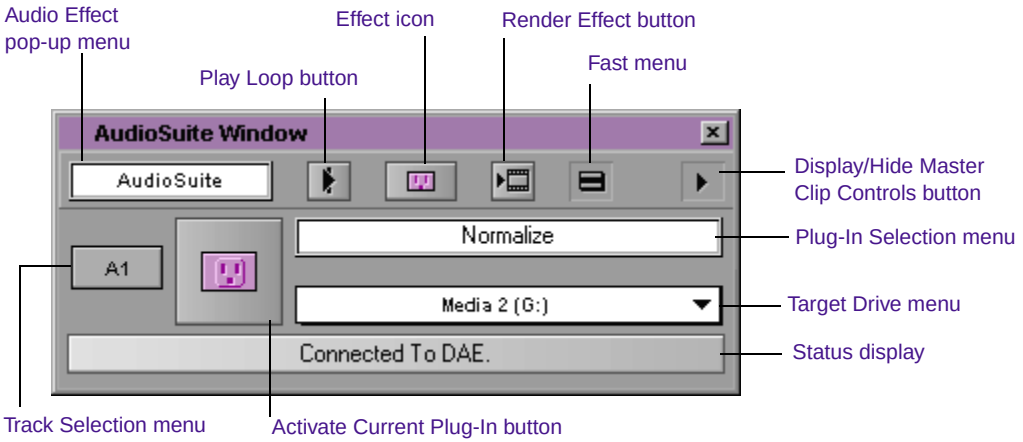
By default, the AudioSuite window displays the controls for applying a plug-in to a clip in the Timeline. When you drag a master clip into the window, the window expands to display additional parameters for working with master clips. The following illustration shows the expanded view.



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Applying an AudioSuite Plug-In to a Clip in the Timeline

The following illustration shows the default layout of the AudioSuite window.



To apply an AudioSuite Plug-In to a clip in the Timeline:

1. Open the AudioSuite window by doing one of the following:
   - Choose AudioSuite from the Tools menu.
   - If an audio tool is already open, choose AudioSuite from the Audio Effect menu.
2. Use the Track Selection menu to select the track that you want to modify.

When you apply a plug-in to a clip, you can only work on one track at a time.

3. Choose a plug-in from the Plug-In Selection menu.

   The Avid system automatically applies the plug-in effect to the track in the Timeline.
4. Click the Activate Current Plug-In button to open the dialog box associated with the plug-in.

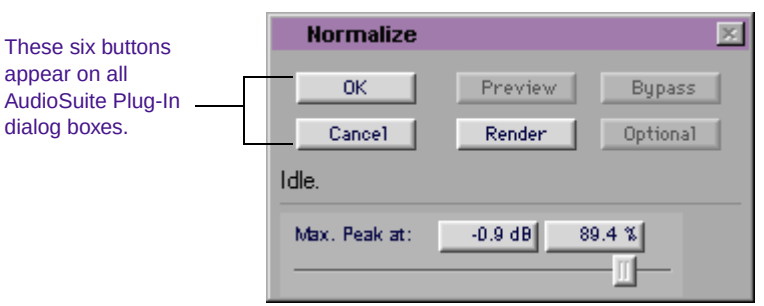
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5. Make any necessary adjustments and click the Preview button to preview the effect. For more information, see **"Using a Plug-In Dialog Box" on page 508**.
6. (Option) To save the effect as a template, drag the Effect icon to a bin.
7. To save the effect, click OK. To close the dialog box without saving the effect, click Cancel.

If you want to use plug-ins that operate on stereo pairs or that change the length of the audio clip, use the methods described in ***"Creating New Master Clips" on page 510***.

Using a Plug-In Dialog Box

The contents of the Plug-In dialog boxes vary, but the top six buttons will always be visible. If a particular button is not available, it is dimmed. The following illustration shows the Digidesign Normalize plug-in.



- *OK* saves the effect and closes the dialog box.
- *Cancel* closes the dialog box and does not save the effect.
- *Render* renders the effect and creates a new audio media file.
- *Preview* plays back a portion or all of the currently selected audio clip with processing.

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Some plug-ins can preview in real time and some cannot. If the plug-in cannot preview in real time, the Avid system plays back the processed audio in 2-second intervals. The Avid system processes 2 seconds of audio, plays it, processes the next 2 seconds, plays it, and so on.

- *Bypass* plays the selected audio without processing. This is useful for comparing the audio with and without processing applied.
- *Optional* performs an analysis pass on the audio data.

Some plug-ins require an analysis pass on the audio data before they can process the information. If so, they perform the first pass automatically. Other plug-ins do not require a first pass but can achieve more accurate results if you allow them to perform a first pass. If the plug-in supports the optional pass, this button will be available. Otherwise, it will be dimmed.

AudioSuite Plug-In Fast Menu

The Fast menu allows you to render or remove AudioSuite Plug-Ins. The menu text differs depending on whether you have IN to OUT points on the sequence.

The following describes the text that appears on the menu:

- *Global*: There are no IN points on the segment. The command affects all the plug-ins on the segment.
- *IN/OUT*: There are IN to OUT points on the segment. The command affects the plug-ins within the marked region.
- *From IN*: There is an IN point and no corresponding OUT point. The command affects all plug-ins starting with the IN point.

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Rendering Plug-In Effects

You need to render all AudioSuite Plug-Ins before you can play back the effect.

If you do not render the effect manually, the Avid system automatically renders the effect before it creates an audio mixdown or audio dissolve containing the effect.

For more information, see **"Troubleshooting AudioSuite Plug-Ins" on page 516**.

Creating New Master Clips

You can use AudioSuite Plug-Ins to create new master clips. This allows you to use multiple input and output channels, and to change the length of the media. You can perform the following operations on the media you create:

- Apply AudioSuite Plug-Ins to more than one track (also referred to as a channel or stream) at the same time. For example, a plug-in might allow you to process two separate tracks as a stereo pair. This enables you to use plug-ins that perform linked compression, reverb, and other effects that allow multichannel input. These plug-ins use parallel processing as described in the next section.
- Create new media that is longer or shorter in duration than the source media. This allows you to use effects that perform time compression and expansion. For example, you can use a Pitch Shift plug-in to change the length of the audio file. These plug-ins may use either parallel or serial processing.
- Apply one mono AudioSuite effect to any number of inputs of a master clip in a multiple-mono fashion. These plug-ins use serial processing.

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Serial Versus Parallel Processing

Each AudioSuite Plug-In allows one or both of the following processing modes:

- **Serial Processing (default):** The Avid system applies the effect to each source track one after another, in a serial manner. The system creates a new master clip with the same number of tracks that you selected in the AudioSuite window.
- **Parallel Processing:** This option is available if the plug-in allows more than one input source and more than one output source. The plug-in determines what processing occurs and how it operates across the multiple sample streams. The system creates a master clip with the number of tracks equal to the number of output streams from the plug-in.

  Parallel processing ensures that the system applies the audio effect simultaneously to each of the selected tracks. This is important when working with tracks that you want to treat as stereo pairs.

You choose the processing mode from a menu in the AudioSuite window as described in the next section.

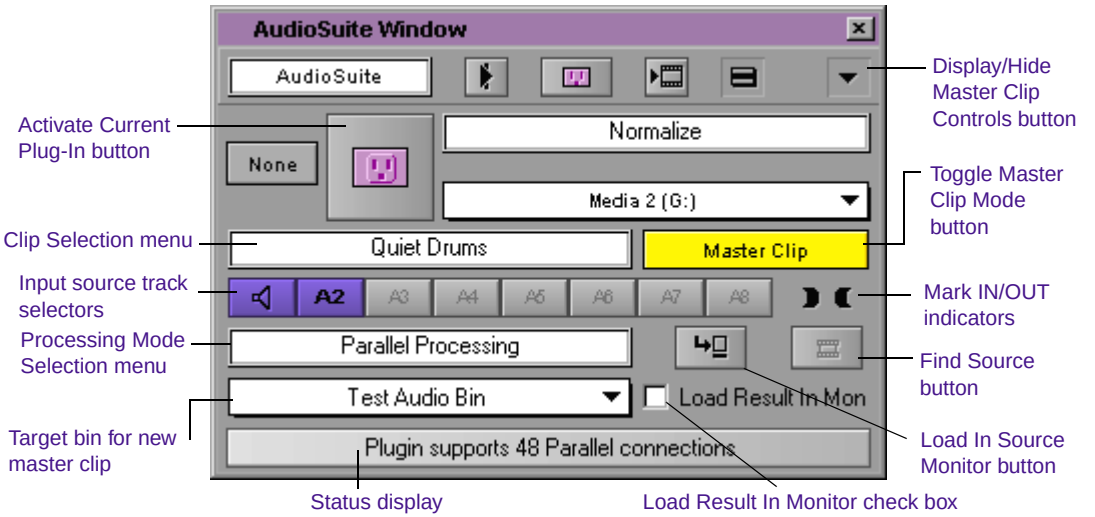
AudioSuite Controls for Creating New Master Clips



When you drag a master clip into the AudioSuite window, the window automatically expands to display additional controls. You can also click Display / Hide Master Clip Controls to display or hide the additional parameters.

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The following illustration identifies the controls that appear when you expand the AudioSuite window.



- **Clip Selection menu** — allows you to choose the active clip. This menu lists the current active clip and other clips you dragged into the AudioSuite window. The window controls change to reflect the active clip.
- **Input Source Track selectors** — allow you to choose the input source tracks for the effect.

  The system automatically chooses a preview track and displays a blue Speaker icon on the track. To change the preview track, Alt+click the appropriate source track. If the source track that is set as the current preview track is deselected, the system chooses the lowest available track.
- **Processing Mode Selection menu** — displays the current mode of the AudioSuite effect on a given clip (serial or parallel). For more information, see **“Serial Versus Parallel Processing” on page 511**.

  When you select Parallel Processing, the status display identifies the maximum number of tracks that can be processed. If more

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than the maximum are initially selected, the system automatically disables tracks until it reaches the plug-in's maximum number.

- **Target bin** — allows you to choose the target bin. The system will place the new media and a corresponding AudioSuite effect template in the bin. The template allows you to modify the effect at a later time.
- **Toggle Master Clip Mode button** — activates the master clip processing mode. The button is yellow when master clip processing mode is active.
- **Mark IN to OUT indicators** — these lights change to green when a mark IN or mark OUT exists on the current master clip.
- **Find Source button** — allows you to find the master clip associated with an AudioSuite template. When you drop an AudioSuite effect template into the AudioSuite window, the system activates this button. Click the button to load the master clip into the AudioSuite window as the active master clip.



The template you drop in the window must reference an existing master clip.

- **Load In Source Monitor button** — loads the current source master clip into the Source monitor. This is useful if you want to add or change IN / OUT points on the clip.
- **Load Result In Monitor check box** — click this box to instruct the system to automatically load the resulting master clip into the Source monitor.
- **Status display** — for parallel processing plug-ins, the status display identifies the maximum number of tracks that can be processed. If more than the maximum are initially selected, the system automatically disables tracks until it reaches the plug-in's maximum number.

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Using the AudioSuite Plug-Ins to Create New Master Clips

To create new master clips using the AudioSuite Plug-Ins:

1. Drag one (or more) master clips or subclips into the AudioSuite window.

   The system automatically enters master clip processing mode and expands the AudioSuite window if necessary.



   You can click Display / Hide Master Clip Controls to display or hide the controls for processing a master clip. To enter or leave master clip processing mode, click the Toggle Master Clip Mode button. The button is yellow when master clip processing mode is active.

2. If you dropped more than one master clip in the window, choose a clip to work on from the Clip Selection menu.
3. Choose the input sources from the input source track selectors.
4. (Option) Change the preview source track by Alt+clicking the input source track selector.
5. Choose a plug-in from the Plug-In selection menu.
6. Click the Activate Current Plug-In button to open the plug-in's user interface. For more information, see **"Using a Plug-In Dialog Box" on page 508**.
7. Make any changes and use the Preview button to preview the effect.
8. Either render the plug-in from the Plug-In dialog box or return to the AudioSuite window. For more information on rendering, see **"Rendering Plug-In Effects" on page 510**.

   When you press the Render Effect button, the system creates a new master clip in the target bin. The system names the new master clip by combining the original clip name with the effect name (for example, Test Audio clip_Normalize).

   The system also creates an AudioSuite effect template in the bin as described in the next section.

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Using an AudioSuite Effect Template

When you create a new master clip, the system also creates an AudioSuite effect template in the bin. This effect template contains a reference to the original master clip that the effect was applied to. The system names the template by combining the original clip name with the effect name (for example, Test Audio clip - AudioSuite Plug-In Effect: Normalize). The template is useful if you want to modify the effect after it is created.

To use a template to modify a master clip:

1. Drag an AudioSuite Plug-In template into the AudioSuite window.

   The system activates the Find Source button in the AudioSuite window.

2. Click the button to load the master clip into the AudioSuite window.

   If a corresponding master clip exists, the system loads the master clip with its associated plug-in values.

3. Modify the effect as described in **“AudioSuite Controls for Creating New Master Clips” on page 511**.

Plug-In Limitations

The following limitations apply to the AudioSuite Plug-Ins:

- Some plug-ins that perform analysis passes on the audio data are not supported. This includes plug-ins that use playlist information to cache analysis data.
- If you want to use plug-ins that change the length of an audio clip or that operate on multiple inputs at the same time, use the method described in **“Creating New Master Clips” on page 510**. The method of applying an effect to a clip in the Timeline does not work for these operations.

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Troubleshooting AudioSuite Plug-Ins

This section describes problems you might encounter when using the AudioSuite Plug-Ins.

Canceling a Render Operation

You can press Ctrl+period to cancel a render operation. However, be careful not to press Ctrl+period multiple times. If you press Ctrl+period after the render operation has been stopped (from a previous Ctrl+period), the Avid system closes the window after it cancels the render operation.

Addressing Error Messages When Rendering a Plug-in Effect

If the DAE is not running when you start to render a plug-in effect, the system displays an error message stating that the DAE connection does not exist. The dialog box gives you the following options:

- *Cancel* stops the rendering process. This allows you to open the AudioSuite tool and then start rendering again.
- *Bypass* continues the rendering process but doesn't render the plug-in effect.

In most cases, you should click Cancel and open the AudioSuite tool.

If the plug-in is not installed when you go to render a plug-in effect, the system displays an error message and tells you which plug-in is not installed. At that time you can cancel or bypass the rendering process as previously described.

Recording Voice-Over Narration

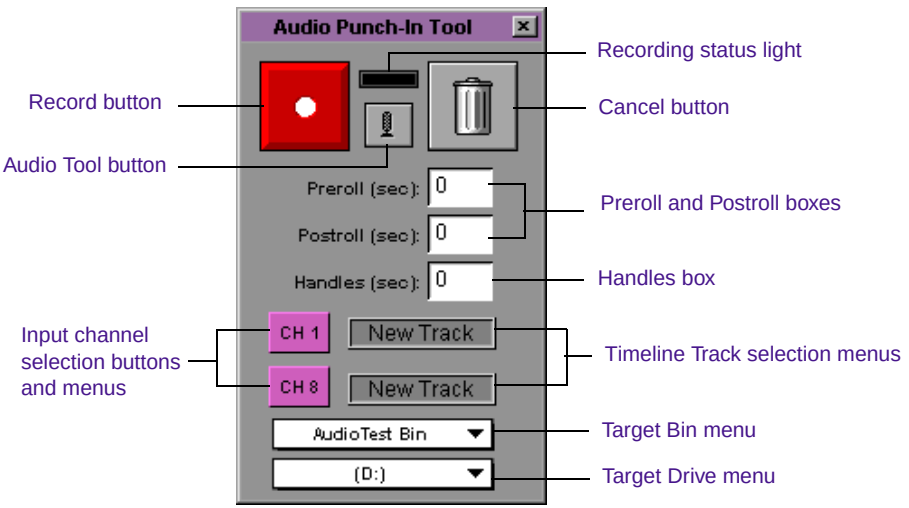
Audio punch-in allows you to record up to two channels of audio directly into the Timeline for voice-over narration. This saves the extra

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steps of recording the narration to tape first, digitizing, and then editing the audio clip into the sequence. The narrator can also watch the sequence and hear playback of edited sound tracks while recording.

You access the Audio Punch In tool from the Tools menu.

The following illustration identifies the various elements of the tool.



Features of the Audio Punch In tool are as follows:

- The Record button starts and stops the recording.
- The Cancel button stops a recording without saving the recorded data.
- The Recording status light is black when there is no activity, green during a preroll, red during recording, and blue during a postroll.
- The Audio Tool button displays the Audio tool so that you can monitor and adjust the audio levels during recording.

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- The Preroll text box allows you to provide a visual cue before the recording begins. The Avid system backs up the blue position indicator for the prescribed number of seconds.
- The Postroll text box gives the same kind of visual cue at the end of the recording.
- The Handles text box instructs the Avid system to record audio at the beginning and end of the clip. This allows you to perform trim edits on the audio.
- The input channels identify the channels on the audio hardware that are used for recording. Click the button to select the channel. The button changes to pink when it is selected. Alt+click the button to display a menu and select another channel.



The selected input channels are not used for playback. Do not select the same channels as mix output on the Audio Mix tool.

- The Timeline Track selection menus allow you to specify where the Avid system places the audio in the Timeline. Either choose New Track or choose an existing track. When you choose an existing track, the Avid system overwrites the audio on that track between the IN and OUT points.

Using the Audio Punch In Tool

This section provides an overview of how to set up and use your Avid system for creating voice-overs in the Timeline.

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Connecting the Hardware

Before you can use the Audio Punch In tool, you need to connect a microphone or other input device to your system. The following are typical examples:

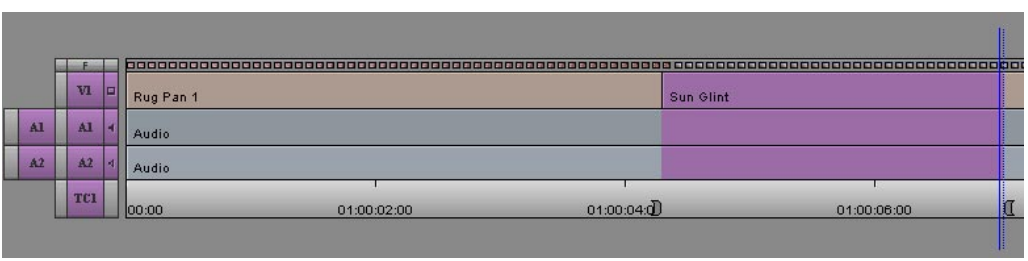
- Connect a microphone to a mixer and connect the mixer to the audio interface I/O device on your Avid system.
- Connect a microphone to a microphone preamplifier and connect the preamplifier to the audio interface I/O device on your Avid system.

For information on connecting the hardware, see the *Avid Composer Products Setup Guide.*

Creating the Voice-Over

You can replace part (or all) of an existing track or you can instruct the Avid system to create a new track for the voice-over. The following procedure shows how to use the tool when you want to mark IN and OUT points and create a new track for the voice-over.

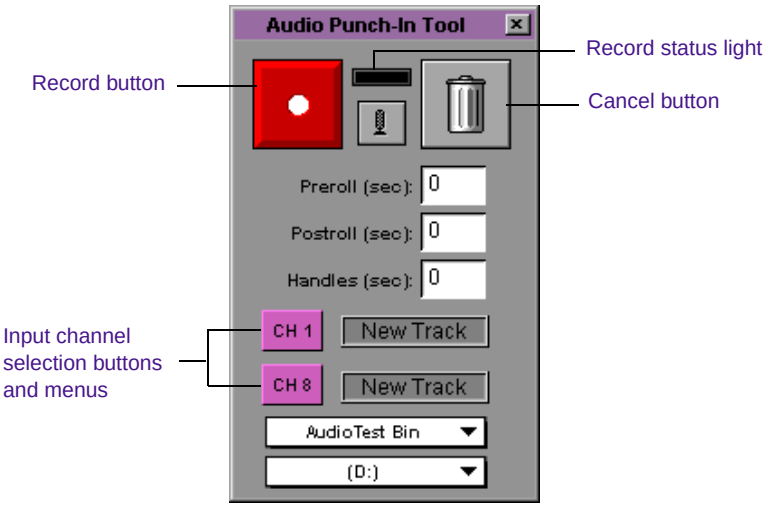
1. Mark the IN and OUT points in the Timeline as shown in the following illustration.



2. Choose Audio Punch In from the Tools menu.

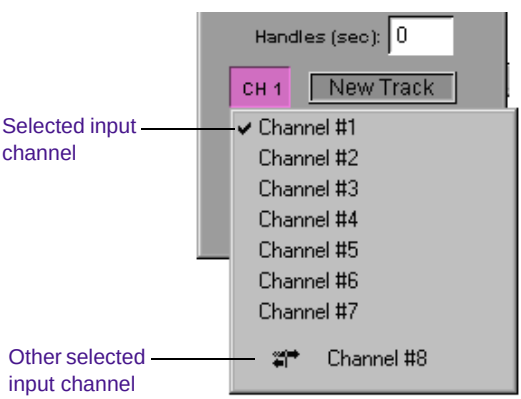
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The Audio Punch In tool opens.



3. Choose the channels that correspond to your hardware setup and set other values in the dialog box as appropriate.

   To choose the input channels you want, click and hold the Input Channel selection button.



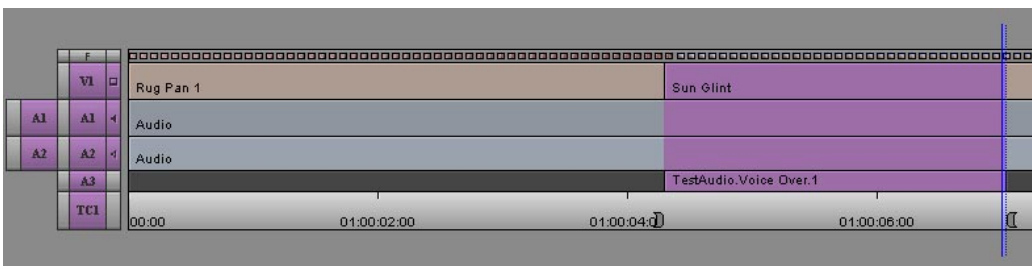
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4. To start recording, click the Record button or press the b key.

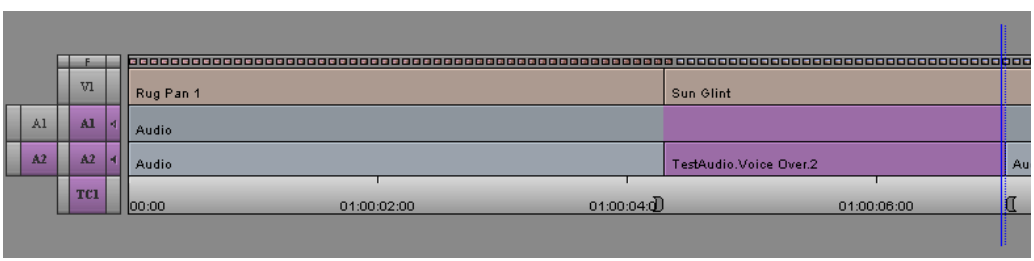
   If you started with both IN and OUT points in the Timeline, the Avid system automatically stops recording when it reaches the OUT point (or after it adds the appropriate audio handle after the OUT point). If you only added an IN point, click the Record button a second time to stop the recording.

The following illustrations show the results of adding a voice-over. The system automatically names the voice-over. You can change the name as you would any clip (for example, change the name in the bin).

Voice-over adding a new track



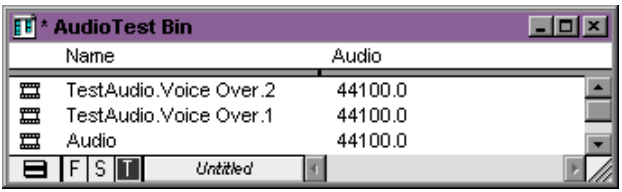
Voice-over replacing a portion of a track



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Voice-Over Media Files

The Avid system automatically names the voice-over and stores it as an audio clip as shown in the following illustration.



Fine-Tuning Audio Transitions

When making audio level and pan adjustments, the Avid system looks at either an individual clip in the Source monitor, a segment in the sequence, or entire tracks. To change level or pan settings in an area not defined by a discrete clip or group of clips, use the Add Edit function to define your own custom area.

To isolate clip portions for adjustment:

1. Find the start of the area where you want to change the pan or level, leaving your position indicator on that frame as a marker.
2. Turn on the appropriate track in the track panel.
3. Click the Add Edit button.

   This places an edit where the position indicator is parked.
4. Find the end of the area where you want to change the pan or level, leaving your position indicator on that frame as a marker.
5. Turn on the appropriate track.
6. Click the Add Edit button.
7. Use the process described in **“Using the Audio Mix Tool” on page 460** to change the level or pan within this new segment.

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Fading and Dipping Audio

In traditional analog editing, you manually change volume levels to smooth audio transitions between elements in an edited sequence by:

- Fading audio up or down
- Dipping to a lower level
- Crossfading between audio elements on two separate channels

With the Avid system, these effects are more accurately termed *audio dissolves* because they occur instantly when you apply the same dissolve effect that you use for video tracks.

Fading Audio

To fade or crossfade audio, you can use the procedures described in **"Using Audio Gain Automation" on page 471**, or you can use the procedure described in this section.

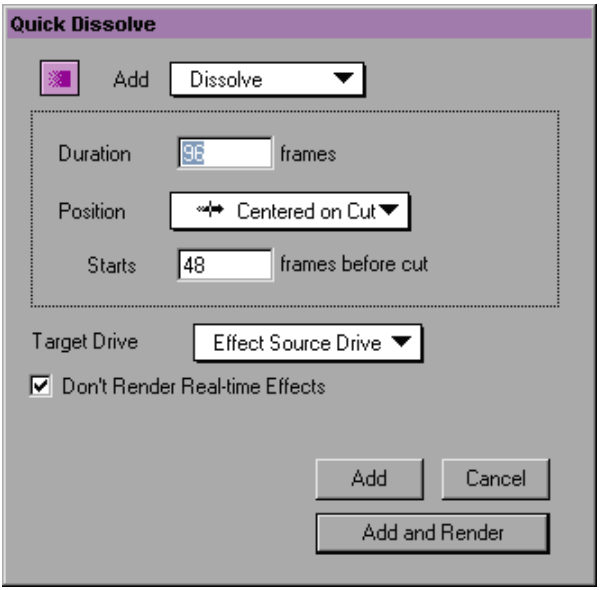
Fading and crossfading audio are easy effects to achieve. The procedure that differs most from analog editing is crossfading. In the analog world, unless you are using a mixer, you must lay down audio on two separate channels and fade one down, then fade up the second on an overlapping section. With the Avid system, you simply apply an audio dissolve.

To apply a fade or crossfade:

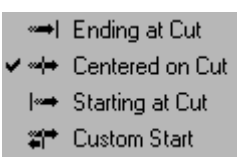
1. Place the position indicator on a transition.
2.  Click the Add Dissolve button (it appears by default on the second row of buttons below the Record monitor).

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The Quick Dissolve dialog box appears.



3. Do not choose another effect from the Add pop-up menu at the top; only dissolves work with audio tracks.
4. Select a duration for the dissolve, measured in frames (30 frames equals 1 second of NTSC footage; 25 frames for 1 second of PAL footage).
5. Choose the location for the dissolve from the Position pop-up menu.



- *Ending at Cut* fades the audio on the A side to 0, ending at the cut point.
- *Centered on Cut* or *Custom Start* creates a crossfade. Custom Start allows you to begin the dissolve off-center — that is, closer to the transition and ending later into the B-side, or the reverse.
- *Starting at Cut* fades the audio up from the B-side starting at the cut point.

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6. If you chose Custom Start, enter the number of frames before the transition to begin the effect in the "Starts *x* frames before cut" text box. Otherwise, leave the default value in the text box.
7. (Option) Choose a media drive other than the default from the Target Drive pop-up menu.
8. Click Add to place the effect at the transition point without rendering. Click Add and Render to do both at once.



In most cases, you can choose the second option, Add and Render, to allow immediate real-time playback of the audio effect (rendering of audio dissolves is usually instantaneous).

The effect is completed.

Dipping Audio

To dip audio from a higher level to a lower one — for example, when bringing music down and under a voice-over track — you can use the procedures described in **"Using Audio Gain Automation" on page 471**, or you can use the procedure described in this section.

To apply a dip in audio:

1. Play back the section of the sequence where the dip will take place to determine the start point for the dip, and apply an add edit to the audio track. For information on add edit, see **"Adding an Edit (Match Framing)" on page 407**.
2. Do the same for the end point where the audio will dip back up.
3. Place the position indicator over the new segment of audio, and open the Audio Mix tool.
4. Adjust the track to the volume level you want, as described in the section **"Using the Audio Mix Tool" on page 460**.
5. Apply a Quick Dissolve to both Add Edit points, using the techniques described in **"Fading Audio" on page 523**. Be sure to

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choose “Centered on Cut” or “Custom Start” from the Position pop-up menu.

After rendering, the audio dips smoothly from the higher levels of the adjacent segments of the track to the lower level applied to the middle segment.

Mixing Down Audio Tracks

When you work with multiple audio tracks while editing your material, you might need to mix the final audio down to two tracks.

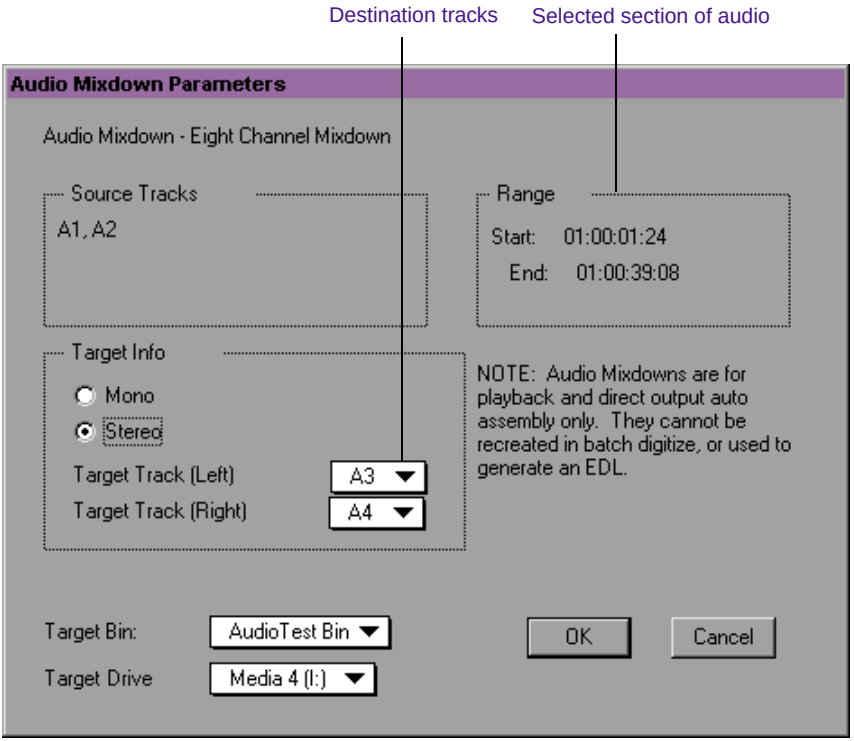
After you edit a number of tracks of audio, mix them down to one or two tracks of audio by following these steps:

1. Load a sequence into the Record monitor.
2. Click the Track buttons to select the audio tracks you want to mix down.
3. Mark an IN and an OUT point at the start and end of the material you want to mix down.

   If you do not mark the section of audio you want to mix down, the system mixes down all of the selected audio tracks.
4. Choose Audio Mixdown from the Special menu.

   The Audio Mixdown Parameters dialog box appears. The top of the dialog box displays the source audio tracks and the start and end timecodes for the section of audio you have selected to mix down.

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5. Click Mono and select the target track to which you want to mix down the audio.

   If you want stereo, click Stereo and select two target tracks for the mixed-down audio.

6. Choose a target drive and target bin.

   The target drive is the media drive where the system stores the media files for the mixed-down audio.

7. Click OK.

   The audio is mixed down and Avid displays the new master clip in the bin.

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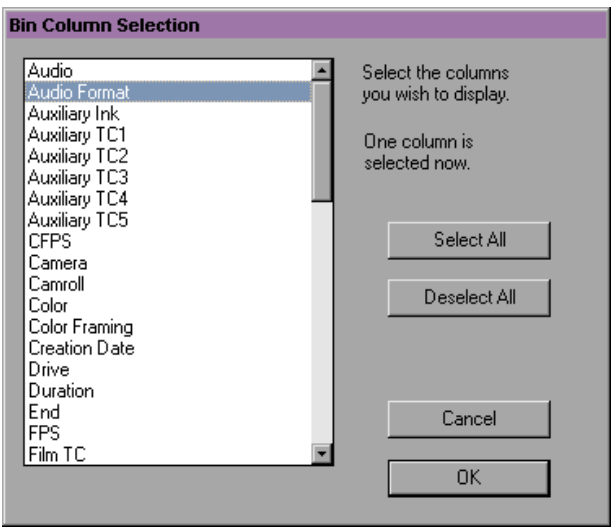
Displaying Audio Formats in Bins

You can select a bin heading to display the audio formats in the bin. The applicable audio format (AIFF-C or WAVE) appears in the Audio Format column for master clips.

To add the Audio Format column to a bin:

1. With a bin in Text view, choose Headings from the Bin menu.

   The Bin Column Selection dialog box appears.



2. Ctrl+click Audio Format from the scroll list to select it.
3. Click OK.

   The Audio Format column appears in the bin.

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CHAPTER 14

Syncing Methods

Your Avid system provides special tools that help you establish and maintain sync relationships between various clips. This includes managing sync between unrelated clips or clips with the same timecode, ganging footage, match-framing footage, and using Sync Point Editing.

These topics are discussed in the following sections:

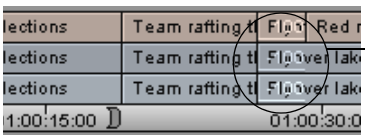
- **Autosyncing Clips**
- **Using the AutoSequence Command**
- **Resyncing Subframe Audio**
- **Managing Sync Breaks**
- **Managing Sync with Multiple Tracks**
- **Using Sync Point Editing**
- **Ganging Footage in Monitors**
- **Using Match Frame**

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Autosyncing Clips

For more information on tracking sync breaks, see **“Displaying Sync Breaks” on page 537**.

When you digitize footage that includes both audio and video, the system automatically establishes sync when it creates clips in the bin. *Autosyncing* applies to audio and video clips that have been digitized separately, usually from two separate sources. Autosyncing creates a new subclip that displays sync breaks in the Timeline as though the audio and video were digitized simultaneously.



Autosyncing is often used for 24p projects in which picture and sound were captured separately. These clips are often synced based on common film timecode, sound timecode, or auxiliary timecode.

You can also autosync any audio and video clips based on a user-defined IN point or OUT point relationship that you establish with marks. For example, use the slate as a common visual and audio reference for autosyncing the clips.

Use the following guidelines when autosyncing:

- You can autosync audio clips with video clips only. To link two or more video clips or audio clips, use the Grouping option described in **“Grouping and Multigrouping Clips” on page 550**.
- You can create only one autosynced subclip at a time. You cannot autosync numerous pairs of audio and video clips simultaneously.
- If the audio and video clips do not have matching source or auxiliary timecode, you must establish common sync frames. To do this, mark IN points (or OUT points) on both clips before autosyncing. When you autosync using this method, the whole clip is taken into the subclip.

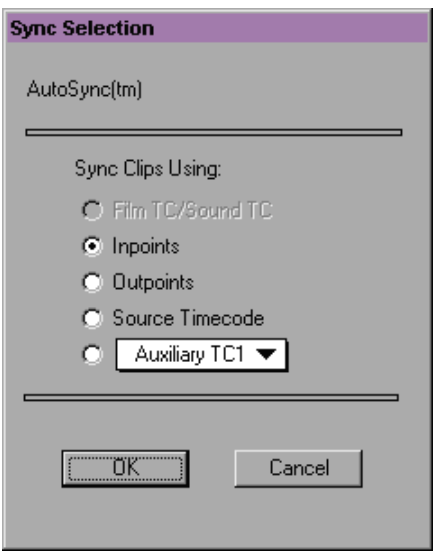
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- If you are autosyncing clips of different lengths, the longer clip is truncated to the length of the shorter clip; video clips override audio clips.
- If you autosync according to common timecodes that are staggered (one clip starts later than the other), the later starting timecode becomes the start of the new subclip. The clip with the earlier starting timecode is trimmed accordingly.

To create an autosynced subclip:

1. Highlight the two clips in the bin.
2. Choose AutoSync from the Bin Fast menu.

   The Sync Selection dialog box appears.



3. Select an option, based on the following:
   - *Film TC/Sound TC* if you are syncing clips with matching film and sound timecode recorded in the field; this option appears dimmed if you are not working on a 24p project.

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- *Inpoints* if you are syncing according to IN points set in both clips.
- *Outpoints* if you are syncing according to OUT points set in both clips.
- *Source Timecode* if the two clips have matching timecode.
- *Auxiliary TC1–TC5* if the two clips have matching timecode in the same auxiliary timecode column. Choose an Auxiliary TC, 1 through 5, from the pop-up menu.

4. Click OK. The subclip is created and named by default after the video clip with the file name extension .sync.*n*, where *n* is the incremental number of subclips created with the same name.

You can change the name according to preference. You can load an autosynced subclip into the Source monitor and immediately edit it into a sequence.

Using the AutoSequence Command

AutoSequence is used with 24p projects in which picture and sound are captured separately. AutoSequence allows you to add audio to the original videotape if it was transferred without sound.

You can use the AutoSync command to create synchronized subclips of the video and audio. You can then use AutoSequence to build a sequence with timecode that matches your original videotape.



*For information and procedures for Autosync, see **"Autosyncing Clips" on page 530**.*

To establish syncing with the original videotape, filler is added where gaps in audio exist in the sequence. After you finish editing the audio, use the Digital Cut command to output only the audio onto the original videotape. The videotape now has synchronized audio and video for viewing.

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If you do not use AutoSync and the video clip timecode does not match the audio clip timecode, you should select only video clips when you use AutoSequence. You can then add audio to the sequence and sync the audio with the video by using Splice-in and Overwrite.

Use the following guidelines when creating a synchronized sequence:

- Your original videotape must have continuous timecode.
- Only use master clips, subclips, AutoSync subclips, and / or group clips to create the synchronized sequence.
- If you select two unrelated clips with overlapping timecodes, an alert box indicates you cannot do this operation. If the clips are related (for example, one clip is a subclip of the other master clip), then one of the clips is chosen automatically.
- Any mark points in the clips are removed and ignored. An alert box provides you with a choice to either continue and remove the mark points, or to cancel the operation.
- Synchronized sequences are named from the Tape Name column.

To add audio to your original videotape:

1. Create synchronized subclips from the videotape's master clips and your audio clips by using the AutoSync command.
2. Open the bins that contain the AutoSync subclips.
3. Select the subclips that you want to include in the sequence.
4. Choose AutoSequence from the Bin menu.

   A synchronized sequence is created that contains the clips you selected.

   The new sequence appears in the Record monitor and in the Timeline. The sequence is also placed in the bin with the same name as the videotape.
5. Edit the audio tracks.

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6. Record a digital cut of the audio directly onto the original videotape when you finish editing the sequence.



Make sure the video tracks are not enabled when you begin recording a digital cut.



You can build a sequence without filler by pressing and holding the Alt key while you choose AutoSequence from the Bin menu.

Resyncing Subframe Audio

When you are working with a 24p project (35mm, 4-perf or 35mm, 3-perf only), you can adjust the sync between the audio and video portions of subclips at the *subframe* or perforation level (1/4 frame adjustments for 4-perf and 1/3 frame adjustment for 3-perf) for more exact sync.

When you perform the subframe resync, you can obtain a closer relationship between audio samples and film frames than that established in the film-to-tape transfer process. For example, when a film lab punches the correct clapsticks frame to match the audio clap, during telecine transfer the process of aligning the sync points is inexact, and as a result true sync might be off by one or more perforations.

The following conditions apply to resyncing at the perforation level:

- You can adjust the sync between a single video and a single audio track within subclips only. These can be the subclips created:
  - When you autosync
  - Manually from master clips in preparation for editing
  - From an imported shot log
  - During digitizing
- You cannot slip beyond the duration boundaries of the source master clip.

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- The sync adjustments you make will be referenced in any cut list you output for any sequence that uses the adjusted subclip.
- The number of perfs you slip appears in the Slip column of the project bin when the Slip heading is selected for display in the bin.

To resync audio for a selected subclip:

1. Load the subclip into the Source monitor.
2. Use one of the audio scrub techniques described in **"Using Audio Scrub" on page 451** to locate the closing-slate frame.
3. Turn on the Audio Waveform display by choosing Audio Data from the Timeline Fast menu, and then choosing Energy Plot or Sample Plot from the Audio Data submenu.



4. Click the Toggle Source / Record in Timeline button in the Timeline toolbar to display a Timeline for the subclip.
5. Zoom in on the area of the subclip that contains the audio-slate frame as follows:
   a. Choose Zoom In from the Timeline Fast menu.
   b. Draw a box around the slate-frame area.



6. Move the audio sync either backward or forward in one-perf increments by clicking the Slip Left One Perf or Slip Right One Perf buttons.

   Each click of the selected perf button performs the sync adjustment.
7. Play the subclip in the Source monitor to evaluate your sync adjustment. Repeat the steps above to further adjust the sync up to eight perfs in either direction.
8. Use the resynced clip to edit into the sequence.

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If you find a subframe sync problem within an edited sequence, be sure to correct the audio sync in the original subclip used in the edit. The sequence will then be updated. For sync problems with 16mm format, the telecine facility must correct the problem.

Managing Sync Breaks

Sync breaks occur when a frame-accurate relationship between two clips or between the audio and video tracks within a single clip is offset during editing. Often this happens unintentionally when you perform one of the following actions:

- Selecting only one track in a synced relationship (for example, audio only or video only) and performing edit functions that lengthen the duration, such as Splice-in, Extract / Splice-in, or adding frames in Trim mode.
- Selecting only one synced track and performing edit functions that shorten the duration, such as Extract, Extract / Splice-in, or removing frames in Trim mode.

Your Avid system provides several features for avoiding, tracking, and removing sync breaks, as described in this section.

Editing to Avoid Sync Breaks

One way to avoid breaking sync is to maintain the duration of the track when adding or removing material, as follows:

- When adding material to a track, use the Replace or Overwrite functions instead of Splice-in, whenever possible.
- When removing material from a track, use Lift instead of Extract (the Lift function leaves filler of the same duration when removing footage).

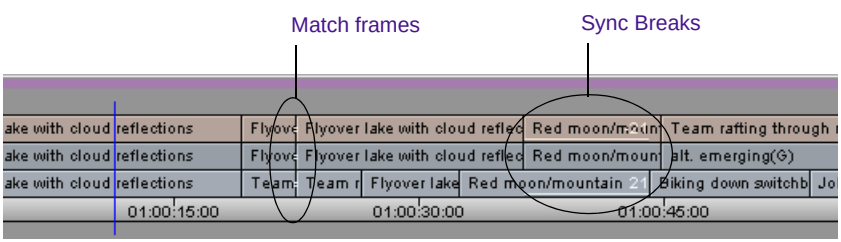
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- When performing Segment mode edits, use the Lift / Overwrite function instead of Extract / Splice-in whenever possible (Lift / Overwrite leaves filler behind and overwrites material at the new destination, maintaining sync in both cases).
- In Trim mode, you can sync lock tracks to avoid breaking sync or use the Alt key function for adding black during trims, as described in **"Maintaining Sync While Trimming" on page 441**. You can also perform dual-roller trims (that maintain duration) instead of single-roller trims.

There are many cases in which you cannot avoid splicing or extracting material, or performing single-roller trims that break sync. The following sections describe features for tracking and fixing sync breaks in those circumstances.

Displaying Sync Breaks

By default, the Timeline displays sync breaks whenever they occur during editing. These appear at break points as white numbers indicating negative or positive offset values relative to zero. The Sync Breaks option also displays match-frame edits by displaying an equal sign (=) on the edits.



You encounter sync breaks and match frames in different circumstances:

- You can encounter sync breaks in one or several video tracks, audio tracks, or both. Sync-break offset numbers appear by default only in the affected tracks.

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For more information on match frames, see **"Adding an Edit (Match Framing)" on page 407**.

- You encounter match-frame cuts whenever you perform an add edit or whenever you move a segment up against footage from the same clip, and the timecode is continuous across the edit.

You can also customize the Timeline view to display sync breaks and match-frame edits in video tracks only, audio tracks only, or none.

To customize the sync break display, choose Sync Breaks from the Timeline Fast menu, and choose an option from the submenu.



This feature applies only to master clips in which audio and video tracks were digitized simultaneously, to autosynced subclips, or to any other subclip with video and audio tracks.

Fixing Sync Breaks

Sync breaks are displayed only when the out-of-sync tracks overlap. If an overlapping portion of one of the tracks is deleted, replaced, moved, or trimmed, then the sync break disappears. You fix sync breaks in one of several ways, based upon the type of break and the needs of your sequence.

Fixing Sync in Trim Mode

For more information on trimming, see **Chapter 12**.

In Trim mode, restore the frames to sync by performing one or more single-roller trims on the out-of-sync tracks. Trim the exact number of sync-break frames displayed in the Timeline to reverse the break. Consider the following:

- Sync lock any additional tracks that are synced to the track you are trimming. Otherwise, you might restore sync in one track and break it in the others.
- Do not perform a dual-roller trim — this does not remove the sync break.
- Do not perform the trim on the OUT point (A-side transition) of the out-of-sync segment. This does not remove the sync break.

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Always perform the trim on the IN point (B-side transition) of the segment.

Fixing Sync in Source/Record Mode

For more information on editing in Source/Record mode, see **Chapter 10**.

In Source/Record mode, restore sync by either adding new material or extracting material from the out-of-sync track. Add or extract the exact number of offset frames displayed in the Timeline, with the following considerations:

- Do not use the Overwrite or Lift functions. These functions do not remove the sync break. You can, however, overwrite or lift the out-of-sync material entirely to eliminate the break.
- You can splice in or extract selected frames of filler when necessary.
- You can use the Add Edit function to isolate only a portion of a clip or filler segment in the sequence for extracting or replacing.

Fixing Sync in Segment Mode

For more information on editing in Segment mode, see **"Using Segment Mode" on page 379**.

In Segment mode, you can restore sync in some circumstances by selecting and moving the entire out-of-sync segment. You can move the segment forward or backward in the opposite direction of the break to reverse it, but with the following considerations:

- Use Lift/Overwrite (the red arrow) to leave filler behind and maintain any other sync relationships that might be affected by the move.
- Use Lift/Overwrite to delete the entire segment and leave fill to eliminate the break.
- Use the add edit function to isolate a portion of the clip for moving or deleting.
- Move the out-of-sync track, if possible, beyond the overlapping range with the synced material to eliminate the sync break.

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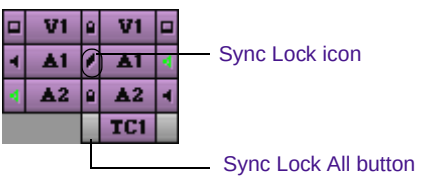
Managing Sync with Multiple Tracks

The Sync Breaks display in the Timeline makes it easy to manage sync between video and one or two audio tracks. You can use additional techniques to manage sync when your work with four or more tracks. They include the sync lock feature, tail leaders, and add edits.

Using Sync Lock

For more information on sync locking tracks in Trim mode, see **"Maintaining Sync While Trimming" on page 441**.

The *sync lock* feature allows you to maintain sync among several tracks while adding or removing frames in Trim mode. For example, if you insert an edit into one track that is sync locked to a second track, the system automatically inserts filler in the second track to maintain sync between the two.



You activate sync locking by clicking a Sync Lock button in the Track Selector panel to display the Sync Lock icon. You can also switch all sync locks on or off by clicking the Sync Lock All button.

There are several unique aspects to sync locking:

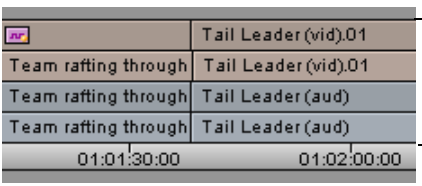
- Sync locking is a Trim mode feature only. Edits performed in Source / Record, Segment, or Effect mode will override sync-locked tracks.
- Sync locking applies to single-roller trims only, because dual-roller trims do not break sync.
- You can sync lock any number of tracks in any combination. The tracks do not require matching timecode or common sources, and can include multiple video tracks as well as audio tracks.

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- Sync locking affects entire tracks. This means that parallel segments in other sync-locked tracks are affected when you trim anywhere in the sequence.

Syncing with Tail Leader

You can add tail leader to the audio or video material in your Avid system to provide a useful visual reference in the Timeline for tracking and fixing sync breaks across any number of tracks.

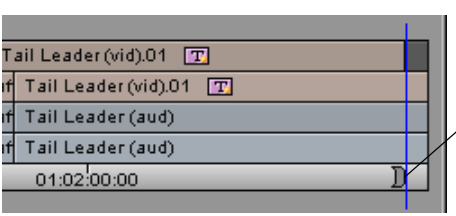


Tail leaders lined up for multiple video (vid) and audio (aud) tracks

Film editors traditionally use standard head and tail leaders for this purpose. You can create your own leader according to any specification, as described in **"Creating Leader" on page 201**.

With tail leader added to synchronized tracks, you can go to the end of the sequence after making a complicated edit and see whether the leaders are lined up. If they are out of line, this indicates a sync break that you can measure and eliminate as follows:

1. Place the position indicator in the black segment that follows the out-of-sync leader.
2. Select the track, then click the Mark Clip button. You can measure the break by checking the IN to OUT duration of the marked segment.

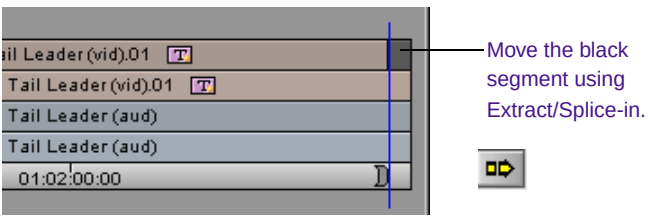


Mark Clip allows you to measure the break.

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3. To restore sync, find the point at which the sync was lost. Add or remove frames by using the appropriate edit function, as described in **"Fixing Sync Breaks" on page 538**.

As a quick fix, you can enter Extract/Splice-in Segment mode by clicking the yellow arrow button. Drag the black segment at the end of the out-of-sync tail leader to the location where the sync was lost. This segment of black, created when the track went out of sync, is the exact length of the sync break.



Syncing with Locators

For more information on using locators, see **"Using Locators" on page 314**.

Like tail leaders, you can add locators to material in the Timeline to track and adjust breaks in sync between any number of tracks. You can place locators anywhere in the sequence and you can add specific notes.

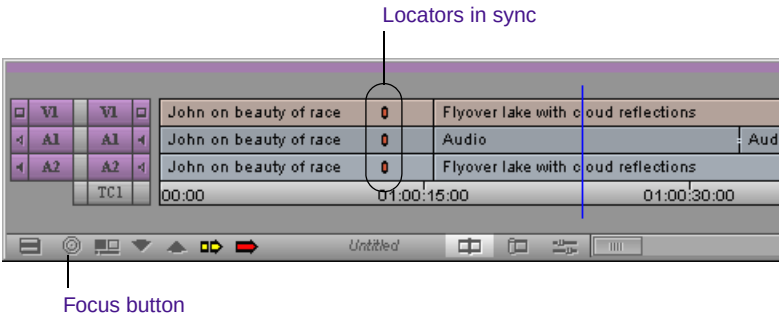
To mark sync points with locators:

1. Place the position indicator at the point in the sequence where you want to maintain sync between two or more tracks.
2. Enable all tracks where you want the locators to appear.
3. Click an Add Locator button.



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The system adds a locator to the enabled tracks in the Timeline and in the Record monitor.



4. To add a note that will appear in the Record monitor whenever you park on the locator frame — such as *Music sync* or *Sound Effect sync* — double-click the locator in the Record monitor, type the text into the Locator Info text box, and click OK.

You can use the Find procedure to go to a locator quickly with text. For more information, see **"Finding Frames, Clips, and Bins" on page 319**.

5. After completing an edit that you think might have affected the sync, return to the segment that contains the locators and click the Focus button. If the locators are not lined up, the sync is broken.

To adjust the sync break:

1. Measure the sync break by first placing the position indicator on the leftmost locator and clicking the Mark IN button. Then place it on the other locators and click the Mark OUT button.
2. Check the IN to OUT duration of the marked section.
3. To restore sync, find the point at which the sync was lost. Add or remove frames by using the appropriate edit function, as described in **"Fixing Sync Breaks" on page 538**.

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Using Add Edit When Trimming

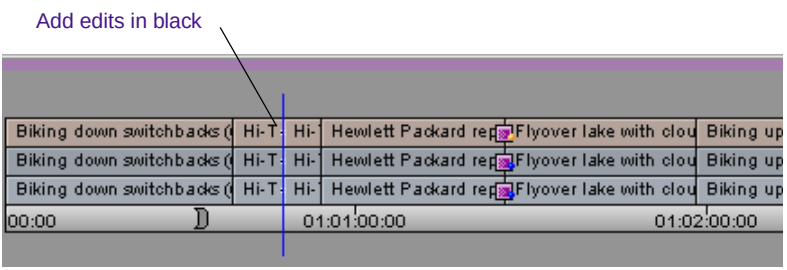
When trimming with several audio tracks in sync, you can use the Add Edit button to create an edit in the silent or black areas of the synced tracks. These occur in line with the track you are trimming, and they trim all the tracks at once to maintain sync.

You can also add an edit to filler. For more information, see ***"Adding Edits to Filler Clips" on page 408***.

To use the Add Edit button while trimming:

1. Place the position indicator on the edit that you want to trim.
2. Select only the additional tracks that are in sync, and click the Add Edit button.

   The system adds a transition at the location of your position indicator in the Timeline.



3. Select the transition and trim (be sure to select all the synced tracks).

   As you trim, frames are added or removed from the additional tracks as well.

4. When you are finished trimming, remove the add edits from the sync tracks by choosing Remove Match Frame Edits from the Clip menu.

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Using Sync Point Editing

Sync Point Editing (SPE) allows you to overwrite material onto your sequence in such a way that a particular point in the source material is in sync with a particular point in the sequence. For example, you can sync an action in the source video with an audio event, such as a musical beat in the Record monitor, then edit it so that the action occurs on the beat.

Like a replace edit, Sync Point Editing uses the relative location of the position indicator in both the source and record material as the sync point. However, Sync Point Editing determines the duration of the new edit according to marks that you set, as opposed to a replace edit, which uses the head-to-tail frame duration already established in the Timeline. You can apply these marks across multiple tracks when marking a sequence. This allows you to add overlap cuts.

SPE requires two pieces of information:

- **The sync points**: These are the points where the synchronized relationship between the source and record material is established.
- **The duration of the relationship**: This is determined by the positions of the head and tail frames (and sometimes by the position indicator). Both marks can be in one monitor, or one mark can be in one monitor and the other mark in the other monitor. The duration of the material being edited into the sequence must be sufficient for the size of the edit.

To perform a sync-point edit:

1. Load a clip or sequence into the Source monitor.
2. Load a sequence into the Record monitor.
3. Mark the material in one of the following ways:
    - Mark the IN and OUT points in either the Source or Record monitor, leaving the opposite monitor clear of marks.

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- Mark an IN or OUT point in the Source monitor, or an IN or OUT point in the Record monitor. For example, if you marked an IN point in the Source monitor, mark the OUT point in the Record monitor.

4. Move the source position indicator to the sync frame in the clip. This establishes the source sync point.
5. Move the record position indicator to the sync frame in the sequence.
6. Select Sync Point Editing in the Composer Settings dialog box, or choose Sync Point Editing from the Special menu.

   Notice the orange box on the Overwrite button that signals that Sync Point Editing is active.



Orange mark indicates Sync Point Editing.

7. Select the source and record tracks for this edit. Click the Overwrite button.

   The sync point edit is completed.

To turn off Sync Point Editing, deselect the option from the Composer Settings dialog box or from the Special menu.

Ganging Footage in Monitors

The Gang function does not combine tracks into a synced relationship, but rather locks monitors in sync so that you can move through footage in two or more monitors simultaneously. This is convenient for viewing and marking the sequence and source material simultaneously, based on syncing of the position indicators in each monitor.

You can gang the Source monitor and any number of pop-up monitors with the Record monitor. For instance, before editing them into a sequence, you can gang a music track in a pop-up monitor, source footage in the Source monitor, and a sequence in the Record monitor. Then you can view the footage, adjust the sync points, and mark them before completing the edit.

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To gang footage in monitors:

1. Load a sequence into the Record monitor.
2. Load one or more clips into the Source monitor and pop-up monitors.
3.  Click the Gang button for each monitor that you want to synchronize (the Record monitor is always ganged). The button changes to green when enabled.



The Gang button appears by default in the second row of buttons below the monitors, and in the second row of information above the Source/Record monitors.

4. View the footage in any of the monitors by using standard playback methods.

   Notice as you move through footage in one monitor, the footage in all other monitors freezes. The footage is updated when the play stops. Simultaneous full-motion playback is not possible, although sync is maintained at all times.

Using Match Frame

The Match Frame feature allows you to call up and display matching footage in the Source monitor from the Record monitor. Reverse Match Frame lets you load a source clip and locate its sync frame in the sequence.

Like the Gang function, match framing does not create a permanent sync relationship between clips, but instead provides you with a convenient way of locating, marking, and editing matching material.

Track selection determines the match frame. If you select a video track, the system matches a frame from the video. If you enable several tracks, the system matches the frame from the highest selected track level, in descending order: V1, A1, A2, and so on.

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The Match Frame button appears by default in the second row of buttons below the Source monitor. To match frame from footage in the Record monitor, you must map the button to the Record monitor palette or the keyboard.

Performing a Match Frame

To use Match Frame:

1. Load a sequence into the Record monitor.
2. Select a track for the footage you want to match, and place the position indicator on a selected frame.
3.  Click the Match Frame button.

   The system loads the source clip into the Source monitor, parks on the match frame, and marks a new IN point to prepare for making an edit.



Any previous IN or OUT points are removed when you use match frame. To override this, Alt+click the Match Frame button.

Performing a Reverse Match Frame

To perform a reverse Match Frame:

1. Place the position indicator on the frame you want in the source footage.
2. Make sure the appropriate tracks are selected in the Timeline.
3.  Click the Reverse Match Frame button.

The system cues the sequence to the matching frame on the record side. If the shot exists in more than one place, the sequence cues to the first location of the match frame, and continues through the sequence to subsequent locations each time you click the Match Frame button.

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Matchframing Tracks

You can matchframe a single track without having to turn off all other tracks. With audio, you can select the audio track that you want to matchframe instead of the system matchframing the top audio track.

To matchframe a selected track, right-click on the track number that you want to matchframe and then choose Match Frame Track from the pop-up menu.

Using Match Frame to Find Sources

The Match Frame function also provides the ability to trace objects quickly through their hierarchy of links. For example, you can match frame a cut in the sequence to its original subclip, then from the sub-clip to the original master clip, and finally locate the bin in which the master clip is saved.

For more information on finding clips and frames with Match Frame, see **“Finding Frames, Clips, and Bins” on page 319**.

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CHAPTER 15

Multicamera Editing

The Media Composer multicamera editing tools allow you to incorporate multiple camera angles easily into the nonlinear editing process. Techniques for using these features are described in the following sections:

- **Grouping and Multigrouping Clips**
- **Multicamera Edit Modes**
- **Multicamera Editing Techniques**
- **Workflow Options**

Grouping and Multigrouping Clips

The grouping and multigrouping procedures gather selected clips into a single unique clip. Both allow you to use special MultiCamera editing features, such as Quad Split and cutting on-the-fly in MultiCamera mode. The difference between the two can be summarized as follows:

- Grouping creates a separate group clip out of a single set of master clips, from the IN point to the OUT point of the longest clip. Multigrouping takes the Group function one step further, literally stringing numerous sequential groups into a rough sequence. For this reason, multigroups are also known as *sequence clips*.

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- The Group function allows you to sync clips based on common source timecode, auxiliary timecode, or marks placed in the footage. Because of the need for complete accuracy in sorting and grouping the clips, multigrouping is performed on the basis of common source timecode only.
- The MultiGroup function is designed primarily for situation comedies and similar productions that record multiple takes sequentially on the same source tapes. Multigrouping does not provide any benefit when you edit with clips that do not share common timecode or were not recorded sequentially, and might even cause the wrong clips to be grouped together.
- Because the Group function allows you to sync the clips based on customized IN marks or OUT points, you can group any collection of shots for quick cutting of montage sequences or music-video sequences.

Creating Group Clips

In addition to the multicamera context, grouped clips can be useful in other circumstances. Unlike multigrouping, which requires clips with matching source timecode, you can group clips that were shot at different times, on different days, and on completely different source tapes. This means that you can:

- Use group clips to create montage sequences quickly with fast-cutting between unrelated shots.
- Use group clips to sync and edit an audio track (music for instance) with two or more video tracks (especially useful in music-video editing).
- Use group clips for multicamera editing when you want to isolate each take as a group, and edit selectively, rather than build a larger sequence clip.
- Use carefully synchronized marks to group selected portions of multicamera clips.

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The last two options are generally for use in smaller multicamera projects. Sorting, marking, selecting, and grouping individual takes of a larger project can be very time-consuming.

To create a group clip:

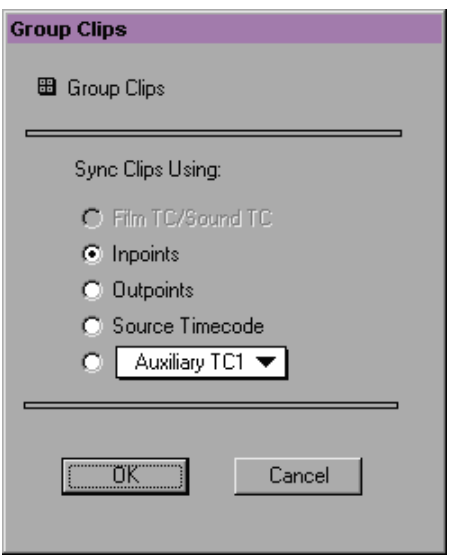
1. If you are using a sync point, load the clips and mark an IN at the sync point at the start of each clip, or mark an OUT at the sync point at the end of each clip.



For multicamera video or film shoots, you typically use a slate for marking IN and OUT points. But you can use any visual or aural event that is recorded by all cameras simultaneously.

2. In the bin, select all the clips you want to group.
3. Choose Group Clips from the Bin menu.

   The Group Clips dialog box appears.



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4. Select an option, based on the following:

    - *Film TC/Sound TC:* If you are syncing clips with matching film and sound timecode recorded in the field. This option appears dimmed if you are not working on a 24p project.
    - *Inpoints:* If you are syncing according to IN points set in each clip.
    - *Outpoints:* If you are syncing according to OUT points set in each clip.
    - *Source Timecode:* If the clips have matching timecode.
    - *Auxiliary TC1–TC5:* If the clips have matching timecode in the same auxiliary timecode column.

5. Click OK. A group clip appears in the bin, with the name of the first clip in the group, followed by the file name extension Grp.*n*.

    The *n* is an incremental numbering of group clips with the same name in the same bin. You might want to rename this to something easier to read, such as *name*.Group.

Creating Multigroup Clips

Multigrouping is strictly for use in large multicamera productions, such as situation comedies, in which all synchronous camera shots are recorded with the same timecode. The MultiGroup function is a single Bin menu command that eliminates the time-consuming steps of collecting, sorting, grouping, and assembling large volumes of multicamera clips.

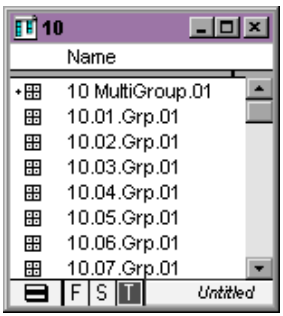
To multigroup your material:

1. Sort the clips by name in the bin.
2. Choose Select All from the Edit menu to select the master clips.

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3. Choose MultiGroup from the Bin menu.

   The system creates several group clips for each take in the bin, then creates a multigroup from the groups. The multigroup has the same icon as the groups, but the icon is preceded by a plus sign.



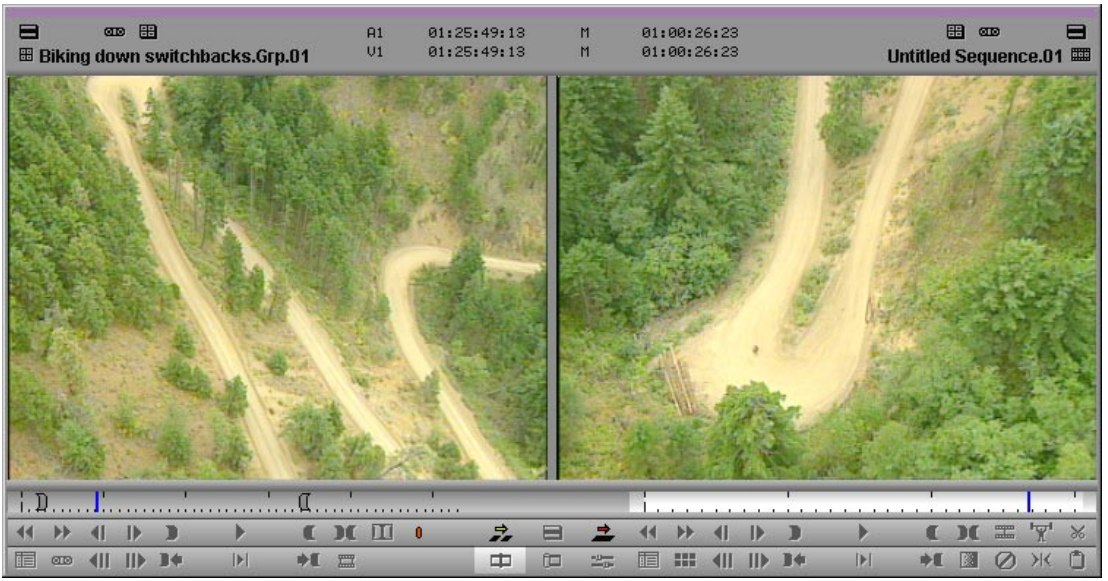
Multicamera Edit Modes

The three edit modes you use during multicamera editing are Full-Monitor display, Quad Split, and MultiCamera mode. You can edit with either group clips or multigroup clips in all three modes.

Full-Monitor Display

When you first load a grouped or multigrouped clip, the Source monitor displays a single frame from one clip in the group in Source/Record mode. This is called Full-Monitor display when working with group clips because you can view each angle in full-monitor size as you edit. Also, in Full-Monitor display, the Client monitor remains full screen.

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The basic features of Full-Monitor display are as follows:

- Provides *source-oriented* control of multicamera material. You can switch camera angles, cue, and mark material without affecting the sequence.
- Provides all the same Source monitor controls that are available when editing other clips in Source/Record mode.
- Provides all the same multicamera editing tools that are available in Quad Split and MultiCamera mode. These tools are described in **"Multicamera Editing Techniques" on page 559**. The only difference is that in Full-Monitor display, you can view each angle as full-size while you edit.

Quad Split

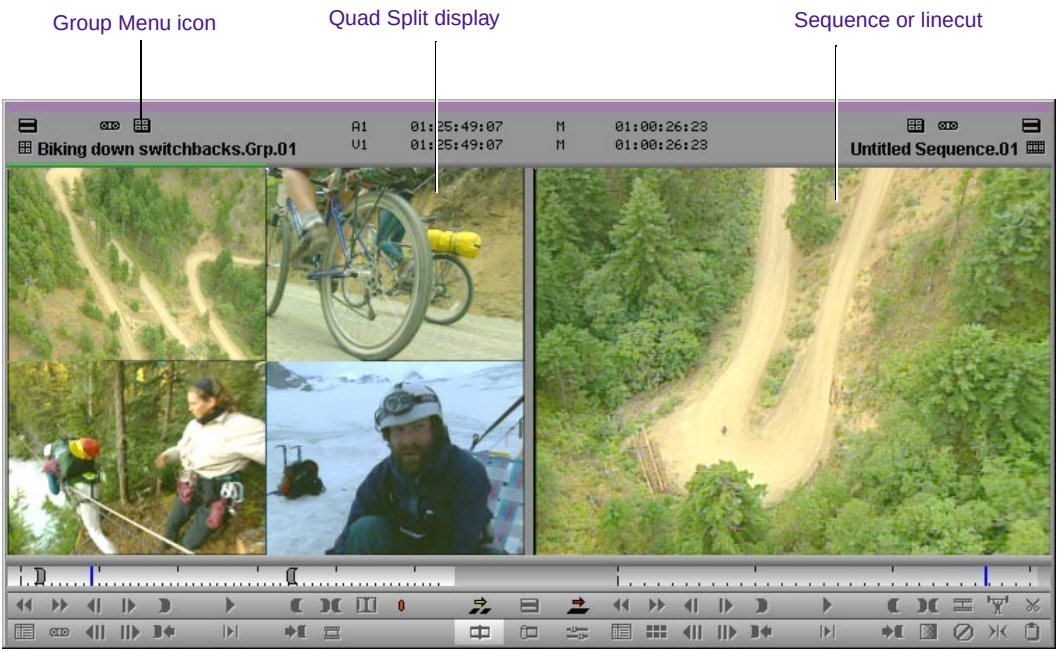


Quad Split button

After loading a group clip into the Source monitor, you enter Quad Split by clicking the Quad Split button located in the Command palette on the MCam tab. The Source monitor splits into four quadrants.

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A Group Menu icon appears in the second row of information above the Source and Record monitors.



The basic features of Quad Split are as follows:

- Provides *source-oriented* control of multicamera material, like Full-Monitor display. You can switch camera angles, playback (one camera angle at a time), cue, and mark material without affecting the sequence.
- Provides the same Source monitor controls that are available when editing other clips in Source/Record mode.
- Provides all the special multicamera editing features that are available in Full-Monitor and MultiCamera mode, as described in **"Multicamera Editing Techniques" on page 559**.
- Provides a list of all group clip video and audio tracks in the Group menu for custom selection and patching.

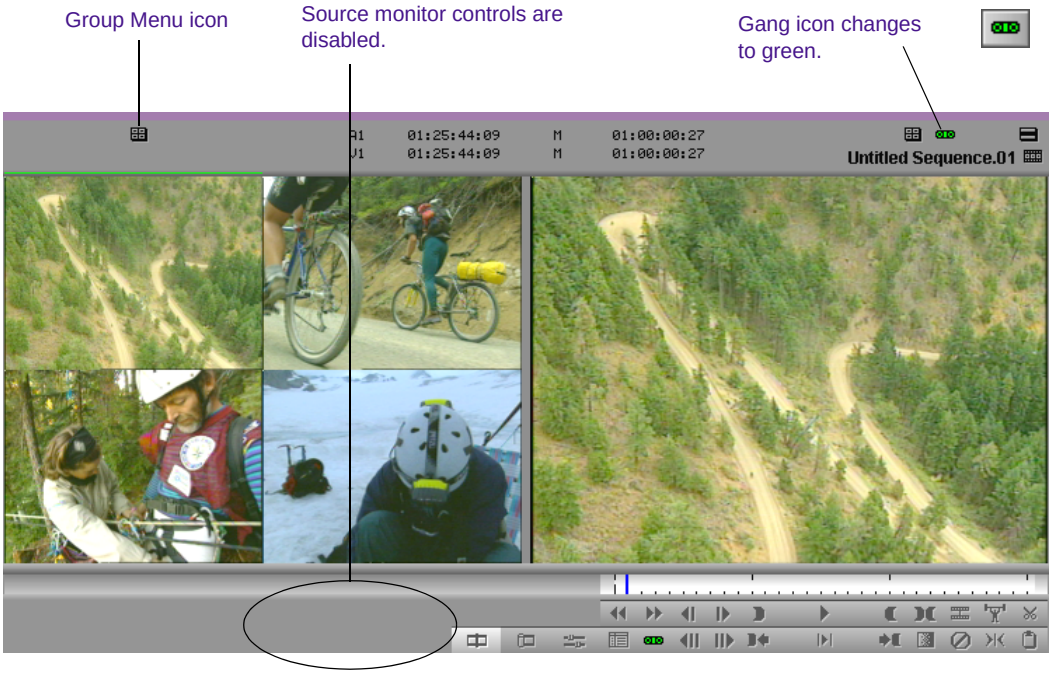
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- Allows you to use the Quad Split button to switch the Source monitor between Full-Monitor and Quad Split viewing and editing (editing functions are the same in both).
- Displays whichever monitor is active in the Client monitor.

MultiCamera Mode

After loading a group clip into the Source monitor and editing it to create a new sequence, you choose MultiCamera Mode from the Special menu to activate the features. MultiCamera mode takes the Quad Split one step further: it gangs all shots in the group clip displayed in the Source monitor to the sequence footage displayed in the Record monitor. All shots are synchronized and continuously updated during editing.

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The basic features of MultiCamera mode are as follows:

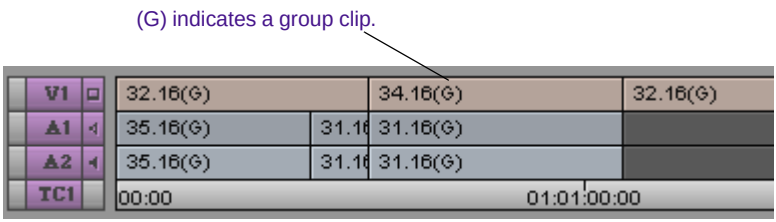
- Provides *sequence-oriented* control of multicamera material, in contrast to Full-Monitor and Quad Split. Whenever you play back, cue, switch camera angles, or mark material, your changes take place in the sequence.
- Provides only Record monitor controls.
- Provides special MultiCamera editing features that are available in Full-Monitor display and Quad Split, as described in **“Multicamera Editing Techniques” on page 559**.
- Provides the ability to cut between shots on-the-fly during full-motion playback, as you would during live switching of a show.

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- Provides a list of all video and audio tracks in the group in the Quad Split menu, for custom selection and patching.
- Lets you deselect MultiCamera Mode in the Special menu at any time to switch between source-oriented and sequence-oriented multicamera editing.
- Lets you deselect MultiCamera Mode when you need to play back full-screen.

Multicamera Editing Techniques

When you load a group or multigroup clip into the Source monitor and begin editing, the Timeline provides a unique display of the clip name to indicate the presence of a group.

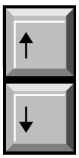


The system uses the name of the clip within the group to identify the shot in each cut, but adds a G in parentheses to indicate the group.

Using various keys and functions, you can switch and edit the displayed group shot at any point in the sequence, as described in this section. These features apply to both group and multigroup clips.

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Switching Shots with the Arrow Keys



You can switch the display of camera angles by using the Up Arrow and Down Arrow keys. The angle selection switches in either the Source monitor (source material) or in the Record monitor (sequence material), whichever is active.

If the group contains more than 4 camera angles, the Up Arrow and Down Arrow keys will cycle through all the clips, but only the first four clips are displayed in the Quad Split display.

When the Record monitor is active, you can place the position indicator within any segment and use the arrow keys to switch the group shot selected for that segment.

Whenever you switch camera angles, you also switch the frame representing the group in the bin. You can use this method to change the representative frame for bin display and storyboarding.

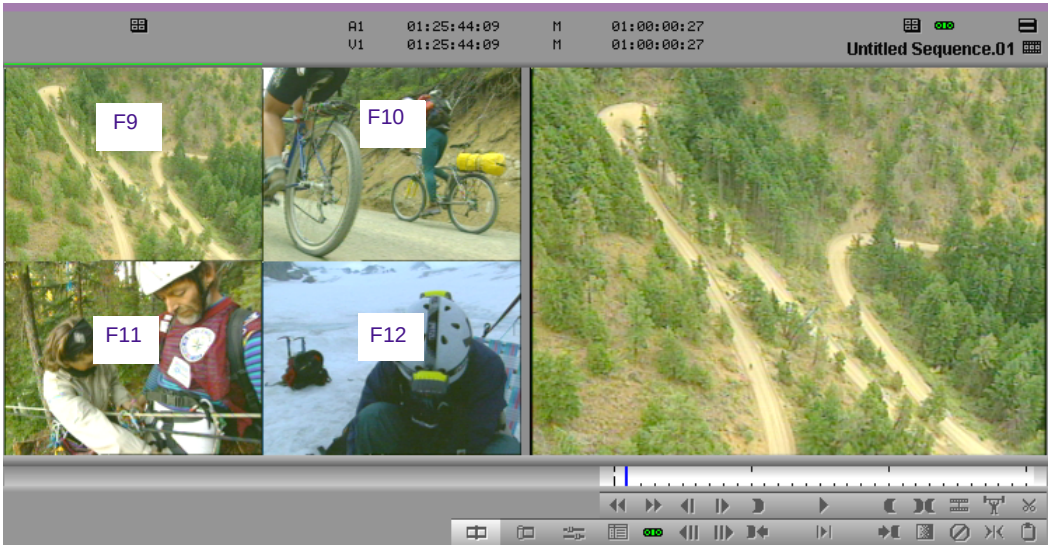
Cutting On-the-Fly with Quad Keys

You can switch the display of up to eight camera angles by using Quad keys on the keyboard. The default keys are F9 to F12 for cameras 1 to 4. You can map an additional four cameras from the MCam tab of the Command palette to the keyboard for all eight cameras.

If the group contains more than four camera angles, the Quad keys will cycle through all the clips, but only the first four clips are displayed in the Quad Split display.

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Key equivalents for quadrants:



If you press a Quad key when the footage is stopped, the system switches the camera angle and also creates an edit in the sequence. You can use this method to walk through one long group or multigroup sequence and edit camera angles as you go.

To switch without creating a cut, press the Alt key while pressing a Quad key.

Using the Add Edit Button

You can use the Add Edit button like a hot key to add edits while stepping through a sequence, or on-the-fly during playback. The only difference is that you are not switching camera angles until *after* you set the edit points.

This method is especially useful when editing to music because it allows you to concentrate on the beats and ignore camera angles until the edits are placed.

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To use this method, you must first map the Add Edit button onto the keyboard. Consider mapping the Add Edit button to a function key next to the default Quad keys. For more information on mapping keys, see **“About Button Mapping” on page 130**.

To add edits on-the-fly:

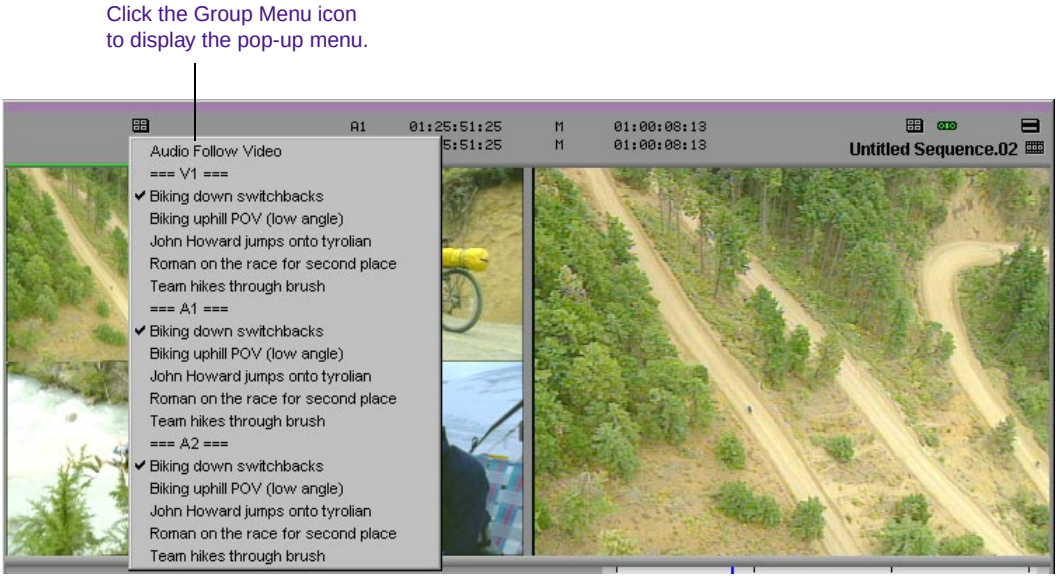
1. Load the group or multigroup into the Source monitor and splice it into a sequence.
2. Play the sequence. Each time you want to make an edit, press the Add Edit key. When you stop the sequence, the edits appear in the Timeline.

   Play the sequence repeatedly to add more edits, or remove edits in Trim mode by lassoing them in the Timeline and pressing the Delete key.
3. After adding the edits, place the position indicator within each segment and use the arrow keys to switch camera angles.

Using the Group Menu

The Group menu allows you to select video or audio channels from any of the clips in the group and patch to the tracks available in the sequence. This means that you can potentially have eight camera angles and eight or more audio tracks synchronized and available for patching at any time.

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The Second Row of Info option must be selected in Composer Settings to display the Group Menu icon above the Source monitor.

In addition, you can choose the Audio Follow Video option from the Group menu to instruct the system to switch both audio and video for each camera angle when you cut on-the-fly or selective camera style. The Group Menu icon changes to green when you select the Audio Follow Video option.

Audio Follow Video overrides the track selection beside the Timeline and switches audio in track A1 only. Audio-Follow-Video edits appear in the Timeline as match frames (that is, the transition contains an equal sign).

To use the Group menu:

1. Click the Group Menu icon in the second row of information above the Source monitor to display the Group menu.
2. Select video or audio channels from any clip in the group to patch the video or audio channels to the tracks available in the sequence.

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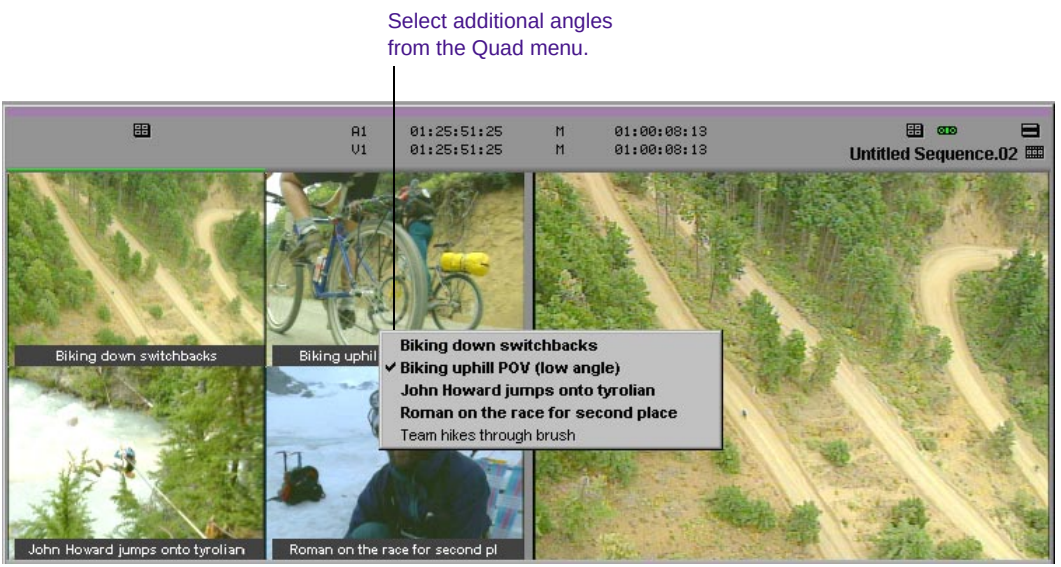
3. (Option) Choose the Audio Follow Video option to switch both audio and video for each camera angle together when you cut on-the-fly or selective camera style.

Using the Quad Menus

You can use the Quad menus to group up to eight clips at a time, and select additional shots to display in any of the Source monitor quadrants.

To select an additional shot from the group to display in one of the quadrants:

1. Press the Ctrl key to activate the display of shot names in the Source monitor quadrants.
2. Click the name of the quadrant where you want to display the new shot. The shots in the group appear in the Quad menu.



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3. Choose the shot you want to display from the menu. The new shot appears in the quadrant.

Using Match Frame in Multicamera Editing



You can use the Match Frame button to call up the matching shot within the group when matching from the sequence, or you can call up the original clip when match framing from the source group. For more information on using the Match Frame feature, see **"Using Match Frame" on page 547**.



If the group contains more than four shots and you match a clip that is not visible (shot 5 and above), the Avid system will select the clip but not display it.

Workflow Options

The Media Composer MultiCamera editing features make possible three basic workflow models for cutting multiple-angle shows: selective camera cutting, cutting on-the-fly, and combination cutting. Each workflow option has its own advantages. When and how to use them is a matter of preference.

Selective Camera Cutting

Selective camera cutting involves marking and editing source material into the sequence, much as you build a sequence by using nongrouped clips in a normal session. You can play, cue, and mark clips on the source side, then splice, overwrite, and trim shots in the sequence.

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You can perform selective camera cutting in two ways:

- Lay down an entire group as a master sequence, then add edits, switch camera angles, and trim within the sequence or cut in new shots.
- Edit one clip at a time, without laying down a master sequence first, effectively building a sequence as you would with single-camera material.

The advantage of selective camera cutting with grouped clips is that all the clips are synchronized, for simplified selection of camera angles. Selective camera cutting generally requires use of a detailed line script, or detailed notes, that enable you to select shots and assemble the sequence one clip at a time.

To perform selective camera cutting:

1. Load the group or multigroup into the Source monitor.
2. Using timecode notes and the numeric keypad, type in the timecode for the first take to begin the sequence, and press Enter to cue the clip in the Source monitor to the take.
3. Mark IN and OUT points for the entire scene.
4. Select a camera angle for the first shot, then splice the entire scene into a sequence.
5. Use the arrow keys, the Add Edit button, or both to select edit points and switch to different angles throughout the master scene in the sequence.
6. To replace a portion of the take with a better part from another take, use the timecode notes again to cue up the take, set marks, and perform a replace edit.
7. When you are finished with a scene, repeat the procedure for each additional scene in the sequence.

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Cutting On-the-Fly

When cutting on-the-fly, you use MultiCamera mode in conjunction with the Quad keys (function keys F9 to F12) to switch between Quad Split camera angles ganged to the record sequence.

While you are cutting on-the-fly, the Source monitor controls are disabled. You cannot mark IN and OUT points as you do during selective camera cutting. Generally, you are editing from the quads according to the action in the Record monitor.

To cut on-the-fly:

1. Load the group or multigroup into the Source monitor.
2. Using timecode notes and the numeric keypad, type in the timecode for the first take to begin the sequence, and press Enter to cue the clip in the Source monitor to the take.
3. Mark IN and OUT points for the entire scene.
4. Select a camera angle for the first shot, then splice the entire scene into a sequence.
5. Choose MultiCamera Mode from the Special menu to enter MultiCamera mode.
6. Play the sequence from the beginning. Watch the shots in the Quad Split and the sequence footage in the Record monitor; then use the Quad keys to switch to different angles on-the-fly.



Only the highlighted Quad Split camera angle plays.

7. Press the space bar to stop the sequence and update the Timeline to include all the edits you made while cutting. Repeat the procedure until you have the edits you want.
8. When you are finished with the scene, repeat the procedure for each additional scene in the sequence.

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After cutting in various angles, you can adjust transitions and edit out the superfluous material from the sequence in Trim mode.

Combination Cutting

Combination cutting involves the use of both selective camera cutting and cutting on-the-fly interchangeably. Most productions use both methods at one time or another. Others use them in combination throughout postproduction. Two examples are:

- If you are editing a situation comedy or similar production that requires a specific show length for the finished master, you can begin using selective camera cutting to edit the show for time. This often involves emphasizing the audio on the first editing pass (also known as a *radio edit*), and then cutting on-the-fly in subsequent passes to get the timing of shot transitions and cutaways.
- If you are editing a live-on-tape event, such as a concert or comedy club performance, you can begin by cutting on-the-fly to capture transitions spontaneously. However, you have the added benefit of stopping and returning to a transition if you make a mistake, and trimming or adjusting edits in a nonlinear fashion.

The difference in alternative editing styles is a matter of preference. Choose the approach that works best for your production.

Additional Offline Editing Aids

If you are editing your multicamera material with the intention of generating an EDL and preparing a master tape in an online tape editing suite, Media Composer provides features specifically designed to aid the offline editing process, including:

For more information on these features, see **Chapter 11**.

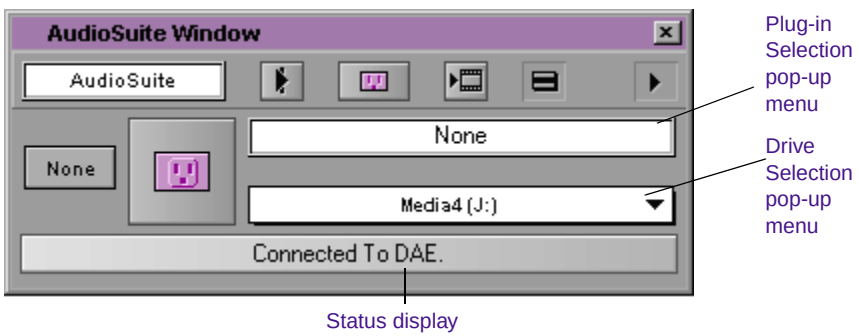
- Color Frame tracking to avoid color frame shifts in online editing with 1-inch videotape
- Dupe Detection to avoid duplicate frames in online editing

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APPENDIX A

Using AudioSuite Plug-Ins

This appendix describes how to use the AudioSuite Plug-Ins. Access the plug-ins by choosing AudioSuite from the Tools menu. The following illustration shows the AudioSuite window.



For details on installing and accessing the plug-ins, see **Chapter 13**.

Supported AudioSuite Plug-Ins

Your Avid Media Composer system comes with a set of core plug-ins. This section lists the core plug-ins as well as other plug-ins that are supported by this release.

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Core AudioSuite Plug-Ins

The following basic plug-ins are installed automatically as part of the Avid Media Composer system software installation:

- Invert — Inverts the polarity (phase of the audio file).
- Duplicate — Creates a new master clip from a selected audio clip. The plug-in uses the IN and OUT points on the selected clip to define the boundaries of the new clip.
- Normalize — Finds the peak value in the source audio file and scales the entire file proportionally to that maximum value.
- Gain — Same as Normalize, but allows positive or negative gain adjustment.
- Reverse — Rewrites the selected audio in reverse.
- DC Offset — Removes an audio artifact that is common in digital audio files. A DC offset is caused by poorly calibrated analog-to-digital converters (A / Ds), and can produce clicks and pops on clip edit transitions if not removed.
- Time Compression / Expansion — Allows you to adjust the duration of a selected clip by creating a new master clip. This increases or decreases the selection's length without changing pitch.
- Pitch Shift — Changes pitch with or without changing length.
- EQ — Allows you to adjust frequency equalization on individual audio clips.
- Compressor — Reduces the dynamic range of signals that exceed a selected threshold by a specific amount.
- Limiter — Prevents signal peaks from exceeding a chosen level so that they don't overload amplifiers or recording devices.
- Gate — Reduces noise by decreasing the gain of signals that fall below a user-selectable threshold.
- Expander / Gate — Performs the same function as the Gate plug-in with the addition of expander features. Expanders are particularly

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useful for reducing noise or signal leakage that creeps into recorded material as the signal level falls, as often occurs in the case of headphone leakage.

- Mod Delay — Provides time-delay-based effects. Effects obtained through the use of Mod Delay include slap echo, doubling, chorusing, and flanging.

The following sections give a brief overview of each plug-in and, where appropriate, describe how to use the plug-in.

Additional Supported Plug-Ins

The following AudioSuite Plug-Ins can be purchased separately and have been qualified for this release.

Digidesign D-FX Plug-Ins

This set of plug-ins provides analog synthesizer effects:

- Lo-Fi™ adds noise generation, bit-rate reduction, distortion, and saturation to sound.
- Sci-Fi™ adds analog synthesizer-type ring modulation, frequency modulation, and variable frequency resonator.
- Recti-Fi™ generates new harmonics and subharmonics through waveform rectification.
- Vari-Fi™ adds tape and turntable “start up” and “slow down” effects.

Digidesign D-Fi Plug-Ins

This set of plug-ins contains a selected group of basic effects:

- Chorus
- D-Verb™
- Flanger

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- Multi-Tap Delay
- Ping-Pong Delay

The D-FX™ and D-Fi™ plug-ins come with their own documentation. For more information, see the following Web page:

http://www.avid.com/products/audio/product_list.html

Invert

The Invert plug-in reverses the polarity of the selected audio. All positive sample amplitude values are made negative, and all negative amplitudes are made positive. This process is useful for permanently altering the phase (polarity) relationship of tracks. Inverting can be useful when mixing because it alters frequency response between source tracks recorded with multiple microphones and also allows you to correct for audio that was recorded out of phase.

Duplicate

Duplicate creates a new master clip from a selected audio master clip. The plug-in uses the IN and OUT points on the selected clip to define the boundaries of the new clip. This plug-in applies only if you are using the Create New Master Clips features of the AudioSuite Plug-Ins.

Normalize

In cases where a sound file has been recorded with too little amplitude, the Normalize function ensures that the inherent dynamics of the performance remain unchanged while the overall volume level of the passage is raised.

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In addition to the standard AudioSuite parameters, the Max Peak At controls let you specify how close to maximum level (the clipping threshold) the peak level of your selection or file will be boosted. You can enter this information in three ways:

- By entering a numeric decibel value below the clipping threshold
- By entering a percentage of the threshold
- By adjusting the on-screen slider

Editing any of these controls automatically calculates the equivalent value in the others.

To configure the Normalize parameters:

1. Type the amount of boost you want applied during the Normalize process.
2. To set a specific decibel amount below maximum, double-click and type that value in the Max Peak at: (dB) text box.
3. To set the amount of normalization as a percentage of maximum, type the percentage you want in the Max Peak at: (%) text box. To manually set the amount, click and adjust the Max Peak slider (press and hold the Ctrl key while dragging the slider to fine-adjust).

Gain

Gain allows you to boost or lower amplitudes in a file or selection by a specified amount. The Change Gain command is ideal for smoothing out undesirable peaks and other dynamic inconsistencies.

To configure the Gain parameters, do one of the following:

- Enter the new level as a decibel amount (dB) or percentage (%) by double-clicking on the respective text box and typing a new value.
- Use the slider to adjust the gain manually (press and hold the Ctrl key while dragging the slider to fine-adjust).

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Reverse

Reversed sounds are useful effects in many music and film and video projects. The Reverse plug-in lets you perform this type of processing very easily.

DC Offset

The DC Offset plug-in removes DC offset from your audio files. The term “DC offset” describes a specific type of audio artifact that might appears in digital audio signals.

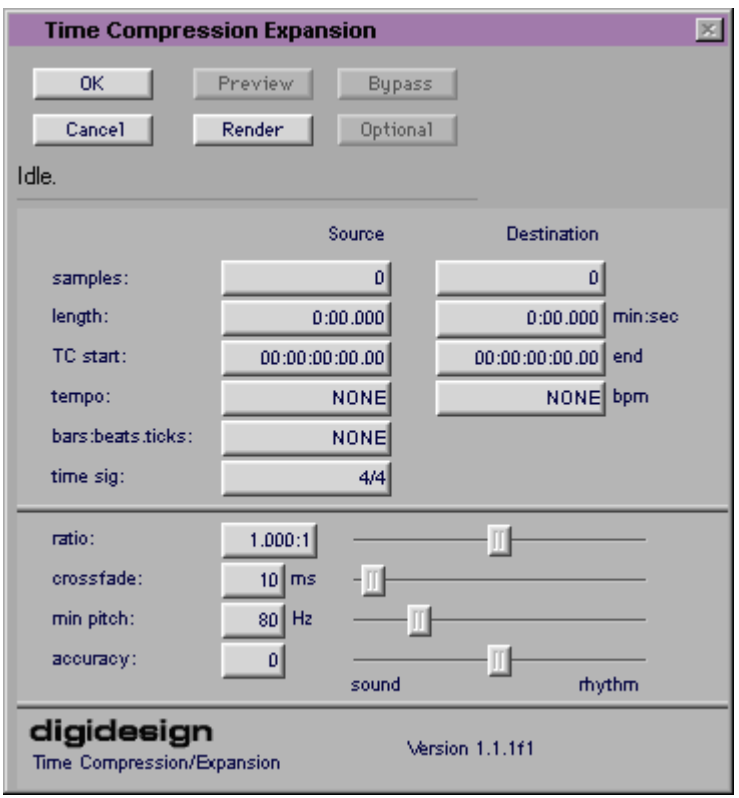
DC Offset plug-ins can be identified in a waveform overview because they appear to have a near-vertical fade in with a constant or “steady-state” offset from zero, when the file is actually “silent” (it contains no audible audio). The DC Offset plug-in can help remove (or at least reduce) the DC offset from your source audio files.

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Time Compression/Expansion

The Time Compression / Expansion plug-in allows you to adjust the duration of any selected regions by increasing or decreasing the selection's length without changing pitch. This function is particularly important in audio post-production applications because it allows you to adjust sounds to specific time lengths or timecode durations for synchronization.

To change duration (length) and pitch simultaneously, use the Pitch Shift plug-in.



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Master Clip Mode Parallel Processing

The Time Compression / Expansion plug-in allows two tracks to be time-compressed or expanded as a “stereo pair,” so that the two sides of the stereo signal are processed relative to each other.

The Time Compression / Expansion plug-in has many special parameters that let you enter time compression or expansion values in different formats, as explained below. These are located in the Source and Destination columns and also include the Ratio slider. Additional controls for fine-tuning the compression / expansion process are also included.

Special control features include:

- Press and hold the Ctrl key to engage slider fine-tune mode.
- Alt +click a field or slider to reset its default value.

Time Compression/Expansion Parameters

The Time Compression / Expansion plug-in has the following parameters:

Source and Destination

The Source fields display the length of the current selection before processing in each of the listed formats. All the fields in both columns are constantly active, and a change made to one value is immediately reflected in the values displayed in the other fields.

The fields in the Destination column both display and control what the length of the selection will be after processing by using the current settings. You can enter the length of the Destination file by double-clicking the appropriate field in the Destination column. Type the number of samples in min:secs:msec format or type timecode values as start and end locations. All the Destination fields are constantly updated, and a change made to one value is immediately reflected in the values displayed in the other fields.

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You can also enter a new tempo, bars:beats:ticks length, or time signature for regions that have tempo or Bars & Beats settings. This can be any region associated with a MIDI Metronome value (such as an overdub recorded to a MIDI click) or regions that have been processed with the Pro Tools Identify Beat command.

The Ratio slider lets you set the destination length in relation to the source length. Dragging the slider to the right increases the length of the destination file, while dragging the slider to the left decreases its length.

The controls below the bar line allow you to fine-tune the time compression/expansion process. They include the Crossfade, Min Pitch, and Accuracy sliders.

Crossfade

The Crossfade slider allows you to manually adjust the crossfade length in milliseconds to optimize performance of the Time Compression/Expansion plug-in according to the type of audio material you are processing. The Time Compression/Expansion plug-in achieves length modification by replicating or subtracting very small portions of audio material and very quickly crossfading between these alterations in the waveform of the audio material.

Crossfade length essentially affects the amount of smoothing performed on audio material to prevent audio artifacts such as clicks. In general, small narrow-range time (length) changes require longer crossfades while larger changes in length require smaller crossfades. The disadvantage of long crossfade times is that they smooth the signal, including any transients. While this can be desirable for audio material such as vocals, it is not appropriate for material with sharp transients such as drums or percussion.

The default setting for this parameter is Auto (leftmost position), in which crossfade times are set automatically according to the percentage of change in length for the current process. This setting should be sufficient for most applications. However, by using this slider, you can

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manually adjust and optimize crossfade times if necessary. For audio material with sharper attack transients, use smaller crossfade times. For audio material with softer attack transients, use longer crossfade times.

Min Pitch

The Min Pitch slider lets you select the minimum, or lowest, pitch that will be used in the plug-in's calculations during the time compression / expansion process. The slider has a range of 40 Hz to 400 Hz. By controlling the minimum pitch, you can focus the time compression / expansion process for maximum efficiency — it all depends on the audio's spectral shape.

This slider should be set lower when processing bass guitar or another instrument with a similarly low range. Set the min pitch higher when processing instruments such as snare drums, violins, and other higher range instruments and sounds. Experiment with combinations of the other fine-tune controls in relation to the Min Pitch slider.

Accuracy

Use the Accuracy slider to prioritize the processing resources allocated to audio quality (sound) or timing (rhythm). Dragging the slider toward sound generally results in better sonic quality and fewer audio artifacts. Dragging the slider toward rhythm puts the emphasis on keeping the tempo consistent. When working with loops, listen carefully and adjust accuracy until you find the setting that keeps timing solid within the region. Start and end times will be precise, but the perception of beats may be "shuffled" if the Accuracy slider's rhythm setting is too low.



The smallest time ratio allowed for time compression/expansion is 0.25. The largest time ratio allowed is 4.0.

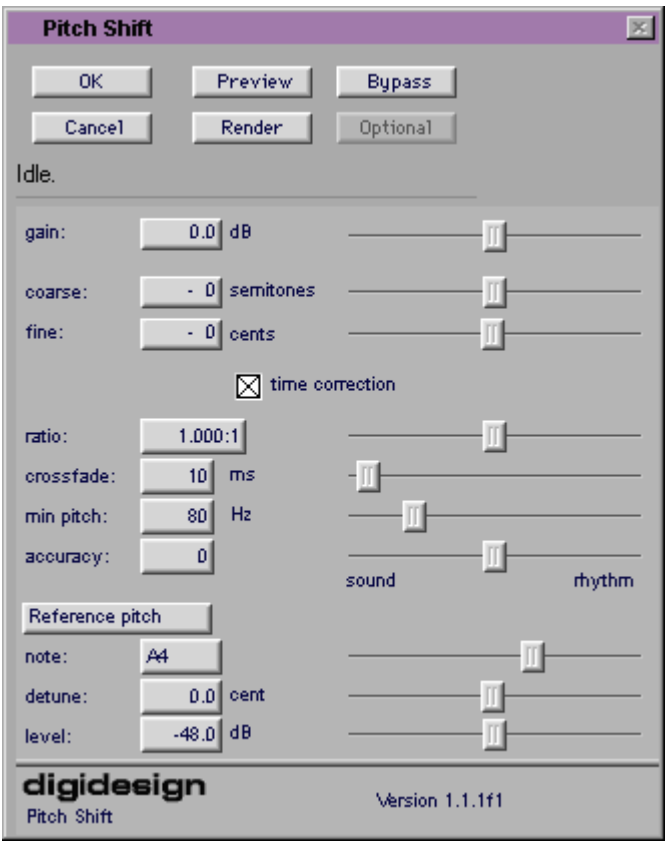


Normalizing a selection before applying Time Compression/ Expansion can sometimes produce better-sounding results.

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Pitch Shift

The AudioSuite Pitch Shift plug-in allows you to adjust the pitch of any source audio file with or without a change in its duration. This powerful function allows sounds to be transposed a maximum of a full octave up or down in pitch with or without altering playback speed.



Edit the Pitch Shift parameters by double-clicking and typing in any Destination field or by clicking and dragging the sliders. All Pitch Shift plug-in controls are linked so that changing one changes the others.

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Pitch Shift Parameters

The Pitch Shift plug-in has the following parameters:

Gain

The Gain controls set the input level, in tenths of a decibel. The input level should be set so that the plug-in can adequately handle amplitude peaks in the selection. Dragging the slider to the right increases gain, and dragging to the left decreases gain.

Coarse and Fine

Adjust the pitch by dragging either of the two faders, or by typing values in the Coarse and Fine text boxes. The Coarse slider transposes in semitones (half steps); the Fine slider transposes in cents (hundredths of a semitone).

Time Correction

Clicking the Time Correction check box allows you to enable or disable time correction.



You can deselect Time Correction if you are using the Create New Master Clips features of the AudioSuite Plug-Ins. This box must be selected when you are applying AudioSuite Plug-Ins to audio clips in the Timeline.

If Time Correction is deselected, this will have the effect of “permanently varispeeding” your audio file. Like working with tape, the file’s duration will be compressed or extended according to the settings of the coarse and fine-pitch controls. Playback speed will increase proportionally as the sound file is transposed up in pitch and decrease proportionally as it is transposed down in pitch, just like a tape recorder that is varispeeding.

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Keep in mind that altering a file in this way has little detrimental effect on the fidelity of audio files, whereas time correction can affect fidelity in a pronounced way.

Ratio

The Ratio slider lets you set the amount of transposition (pitch change). Moving the slider to the right raises the pitch of the processed file, while moving the slider to the left decreases its pitch. Press and hold the Ctrl key while dragging the slider to fine-adjust.



For a description of the Crossfade, Min Pitch, and Accuracy sliders, see **“Crossfade” on page 577**.

Reference Pitch

The Reference Pitch feature generates a sine wave tone that you can adjust to match a selected portion of audio material and then use as an audible reference when pitch-shifting other audio material in your session.

To use the Reference Pitch feature:

1. Select the audio material you wish to use as a pitch reference. Click Preview to begin playback of the selected audio.
2. Click Reference Pitch to activate the reference sine wave tone.
3. Adjust the note and detune settings to match the reference tone to the pitch of the audio playback. Adjust the level setting to change the relative volume of the reference tone. It might also be helpful to switch the reference pitch on and off to compare pitch.
4. Select the audio material to be pitch shifted.
5. Adjust the Coarse and Fine Pitch Shift controls to match the pitch of the audio playback to the reference pitch.

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EQ

There are four EQ plug-ins:

- 1-Band EQ II
- 4-Band EQ II
- Digidesign 1-Band EQ
- Digidesign 4-Band EQ

The EQ II versions are new, and provide an enhanced “British EQ” sound that is favored by contemporary audio engineers and producers.

The Digidesign 1- and 4-Band EQ plug-ins provide compatibility with sequences created on Macintosh systems (Media Composer 7.0 and later, and Avid Xpress 2.0 and later).

EQ II Parameters

The EQ II plug-ins have the following parameters:

Input

Allows you to control the input gain of the EQ to prevent the possibility of clipping.

Phase Invert

Allows you to invert the phase (polarity) of the input signal in order to change frequency response between multi-miked sources (a common technique for miking a guitar amplifier), or to correct for miswired microphone cables.

Type

Allows you to select an EQ type (high-pass, low-shelf, peak, high-shelf or low-pass).

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Freq

Allows you to designate the center of the frequency region to be cut or boosted.

Gain

Allows you to control the amount that the selected frequencies are cut or boosted.

Q

(Peak only) Allows you to set the bandwidth of the Peak filter. Higher values represent narrower bandwidths. Lower values represent wider bandwidths.

Bypass

Bypasses the EQ. The 4-Band EQ has individual Bypass buttons for each band (black buttons with EQ curve icons).

High-Pass Filter

Attenuates all frequencies below the selected cutoff frequency setting at a rate of 12 dB per octave while allowing all others above the frequency to pass through. For this reason, no gain control is available for this filter. High-pass filters can be useful for removing low-frequency rumble or thinning out the lower end of a sound for special effects, such as a “telephone simulation” effect.

Low-Shelf EQ

Produces a lift or a cut below the specified frequency.

Peak EQ

Boosts or cuts only those frequencies around the selected center frequency. The Q button sets the bandwidth of the Peak filter, which determines the width of the filter’s overall slope — from a broad

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"bell" shape to a narrow notch. Broad curves tend to be most useful for musical applications. Narrow curves are useful for special-purpose processing such as hum removal. Higher values represent narrower bandwidths. Lower values represent wider bandwidths.

High-Shelf EQ

Produces a lift or a cut at the specified frequency and above it.

Low-Pass Filter

Attenuates all frequencies above the selected cutoff frequency setting at a rate of 12 dB per octave while allowing all others below the frequency to pass through. For this reason, no gain control is available for this filter.

Compressor

The Compressor plug-in reduces the dynamic range of signals that exceed a selected threshold by a specific amount. The increase of input signal needed to cause a 1-dB increase in the output signal of the compressor is called the compression ratio. With a ratio of 4:1, for example, an 8-dB increase of input produces a 2-dB increase in the output.

Audio material often varies in loudness, and can be above the threshold at one moment and below it the next. The Attack slider sets the compressor's response time, or attack. The Release slider sets the amount of time that it takes for the compressor's gain to return to its original level.

Using Compression Effectively

To use compression most effectively, the attack time should be set so that signals exceed the threshold level long enough to cause an increase in the average level. This helps to ensure that gain reduction doesn't decrease the overall volume.

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Release times should be set long enough so that if signal levels repeatedly rise above the threshold, they cause gain reduction only once. If the release time is too long, a loud section of the audio material could cause gain reduction that persists through a soft section. Of course, compression has many creative uses that break these rules.

The Compressor has built-in metering that allows you to monitor the amount of gain reduction taking place. The gain reduction meter usually remains at 0 level when the input signal is below the threshold, and falls to the left to show the amount of gain reduction in decibels when the input signal exceeds the threshold.

Compressor Parameters

The Compressor plug-in has the following parameters:

Phase Invert

Allows you to invert the phase (polarity) of the input signal in order to change frequency response between multi-miked sources or to correct for miswired microphone cables.

Gain

Provides overall output gain adjustment. It allows you to compensate for heavily compressed signals.

Input Meter

Indicates the level of the unprocessed input signal to the Compressor.

Output Meter

Indicates the output level of the Compressor, including any gain compensation added via the Gain parameter.

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Reduction

Indicates the amount of gain reduction in dB.

Threshold

Allows you to set the threshold level. Signals that exceed this level will be compressed. Signals that are below it will be unaffected. A level setting of 0 dB is equivalent to no compression. Unlike scales on analog compressors, metering scales on a digital device reflect a 0-dB value, which indicates full scale (fs)—the full-code signal level. There is no headroom above 0 dB.

Ratio

Allows you to set the compression ratio. The range is based on decibels above the threshold. If this parameter is set to 2:1, for example, it will compress changes in signals above the threshold by one half.

Attack

Allows you to set the Compressor's attack time. The smaller the value, the faster the attack. The faster the attack, the faster the Compressor applies attenuation to the signal. In general, if you use fast attack times and heavy limiting, you should use a proportionally longer release time, particularly with material that contains many peaks in close proximity.

Release

Allows you to control how long it takes for the Compressor to be fully deactivated after the input signal drops below the threshold level. In general, if you use heavy compression, you should use proportionally longer release times. This will prevent pumping, which may occur when the Compressor is forced to jump back and forth between compressed and uncompressed signal levels. Lengthening the release time will help smooth these changes in level by introducing a lag in the ramp-up and ramp-down times of attenuation. Use shorter release

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times on material with fewer peaks that do not occur in close proximity to each other.

Knee

Allows you to set the rate at which the compressor reaches full compression once the threshold has been exceeded. This parameter ranges from 0 (hardest response) to 200 (softest response).

Graph

Displays the response curve set by the Compressor's Threshold, Ratio, and Knee settings. As you adjust these parameters, refer to the graph to see how the shape of this curve changes. It allows you to see the effect of your settings.

External Key

This parameter has no effect on the AudioSuite Plug-Ins.

Key Listen

This parameter has no effect on the AudioSuite Plug-Ins.

Limiter

The Limiter plug-in is used to prevent signal peaks from exceeding a chosen level so that they don't overload amplifiers or recording devices. Most limiters have ratios of 10:1 or 20:1, although some provide ratios of up to 100:1. Large ratios effectively limit the dynamic range of the signal to a specific value by setting an absolute ceiling for the dynamic range.

Limiting is used to prevent short-term peaks from reaching their full amplitude. Used carefully, limiting allows you to achieve higher average levels, while avoiding overload (clipping or distortion) by limiting some short-term transients in the source audio. To prevent the ear

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from hearing the gain changes, use extremely short attack and release times.

Limiting is used to remove occasional peaks because gain reduction on successive peaks wouldn't be noticeable. If audio material contains many peaks, the threshold should be raised and the gain manually reduced so that only occasional, extreme peaks are limited.

The Limiter's ratio is internally set to 100:1, and the Attack time is automatically set to 0 milliseconds. The Limiter is similar to heavy compression. It can be useful for reducing pops and clicks, or for hard-limiting dynamic range for broadcast or band-limited media such as cassette.

Limiter Parameters

The Limiter plug-in has the following parameters:

Phase Invert

Allows you to invert the phase (polarity) of the input signal in order to change frequency response between multi-miked sources or to correct for miswired microphone cables.

Gain

Provides overall output Gain adjustment.

Input Meter

Indicates the level of the unprocessed input signal to the Limiter.

Output Meter

Indicates the output level of the Limiter, including any gain compensation added via the Gain parameter.

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Reduction

Indicates the amount by which the signal is being attenuated.

Threshold

Allows you to set the threshold level. Signals that exceed this level will be limited. Signals that are below it will be unaffected.

Attack

Allows you to set the Limiter's attack time. The smaller the value, the faster the attack. The faster the attack, the faster the Limiter applies attenuation to the signal. In general, if you use fast attack times and heavy limiting, you should use a proportionally longer release time, particularly with material that contains many peaks in close proximity.

Release

Allows you to control how long it takes for the Limiter to be fully deactivated after the input signal drops below the threshold level. In general, if you use heavy limiting, you should use proportionally longer release times.This will prevent pumping, which may occur when the Limiter is forced to jump back and forth between limited and unlimited signal levels. Lengthening the release time will help smooth these changes in level by introducing a lag in the ramp-up and ramp-down times of attenuation. Use shorter release times on material with fewer peaks that do not occur in close proximity to each other.

Graph

Displays the response curve set by the Limiter's Threshold setting. As you adjust this parameter, refer to the graph to see how the shape of this curve changes. It allows you to see the effect of your settings.

External Key

This parameter has no effect on the AudioSuite Plug-Ins.

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Key Listen

This parameter has no effect on the AudioSuite Plug-Ins.

Gate

The Gate plug-in reduces noise by decreasing the gain of signals that fall below a user-selectable threshold.

Gate Parameters

The Gate plug-in has the following parameters:

Phase Invert

Allows you to invert the phase (polarity) of the input signal in order to change frequency response between multi-miked sources or to correct for miswired microphone cables.

Gating

Indicates the amount of reduction in dB.

Threshold

Allows you to set the threshold level. Signals that exceed this level will pass through. Signals that are below it will be gated, depending on the settings of the Attack, Hold, Decay, and Range parameters (explained below).

Attack

Allows you to set the attack time of the Gate.

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Hold

Allows you to specify a duration (in seconds or milliseconds) that the Gate will stay open after the initial attack cycle. This can be used as a one-time function to keep the Gate open for longer periods of time with a single crossing of the threshold. It can also be used to prevent gate chatter, which may occur if varying input levels near the threshold cause the Gate to open and close very rapidly.

Decay

Allows you to control how long it takes for the Gate to close after the signal falls below the threshold level.

Range

Sets the depth of the Gate when closed. This parameter has a maximum depth of -80 dB. Setting the Gate to higher range levels allows more of the gated audio that falls below the threshold to peek through the gate at all times. This is useful for problems such as drum leakage, where you might want to suppress the overall drum kit sound by a specific amount while emphasizing the gated instrument such as a snare.

Graph

Displays the response curve set by the Gate's Threshold and Range settings. As you adjust these parameters, refer to the graph to see how the shape of this curve changes. It allows you to see the effect of your settings.

External Key

This parameter has no effect on the AudioSuite Plug-Ins.

Key Listen

This parameter has no effect on the AudioSuite Plug-Ins.

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Expander/Gate

The Expander / Gate plug-in reduces noise by decreasing the gain of signals that fall below a user-selectable threshold. Expanders are particularly useful for reducing noise or signal leakage that creeps into recorded material as the its level falls, as often occurs in the case of headphone leakage.

Expanders can be thought of as soft-noise gates because they provide a gentler way of cutting off noisy low-level signals than the typically abrupt cutoff of a gate. If you want, however, you can use this plug-in as Gate by setting the Ratio to its maximum value and using short Attack, Decay, and Hold settings.

Expander/Gate Parameters

The Expander / Gate plug-in has the following parameters:

Phase Invert

Allows you to invert the phase (polarity) of the input signal in order to change frequency response between multi-miked sources or to correct for miswired microphone cables.

Reduction Meter

Indicates the amount of signal reduction in dB.

Threshold

Allows you to set the threshold level. Signals that fall below the threshold will be reduced in gain. Signals that are above it will be unaffected. (When adjusting the Threshold slider, be sure that audio material is playing through the Expander / Gate to see changes reflected in the Reduction meter.)

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Ratio

Allows you to set the amount of expansion. If this parameter is set to 2:1, for example, it will lower signals below the threshold by one half. At higher ratio levels (30:1 or 40:1, for example) the Expander / Gate functions as a gate by reducing lower level signals dramatically. As you adjust the Ratio parameter, refer to the built-in graph to see how the shape of the expansion curve changes.

Attack

Allows you to set the Expander's attack time. This parameter determines how quickly a signal's level is reduced once it falls below the threshold. This setting, along with the Ratio setting, allows you to control how soft the Expander's gain reduction curve is.

Hold

Allows you to specify a duration (in seconds or milliseconds) that the Expander / Gate will stay open after the initial attack cycle. This can be used as a one-time function to keep the Expander / Gate open for longer periods of time with a single crossing of the threshold. It can also be used to prevent gate chatter, which may occur if varying input levels near the threshold cause the Gate to open and close very rapidly.

Decay

Allows you to control how long it takes for the Gate to close after the input signal falls below the threshold level and the hold time has passed.

Range

Sets the depth of the Gate when closed. This parameter has a maximum depth of -80 dB. Setting the Gate to higher range levels allows more of the gated audio that falls below the threshold to peek through the Gate at all times.

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Key HPF

This parameter has no effect on the AudioSuite Plug-Ins.

Key LPF

This parameter has no effect on the AudioSuite Plug-Ins.

Graph

Displays the response curve set by the Expander / Gate's Threshold, Ratio, and Range settings. As you adjust these parameters, refer to the graph to see how the shape of this curve changes. It allows you to see the effect of your settings.

External Key

This parameter has no effect on the AudioSuite Plug-Ins.

Key Listen

This parameter has no effect on the AudioSuite Plug-Ins.

Mod Delay

The Mod Delay plug-ins provide time-delay-based effects. Effects obtained through the use of Mod Delay include slap echo, doubling, chorusing, and flanging.

There are four Mod Delays, each of which is capable of a different maximum delay time:

- Short Delay provides 1024 samples of delay (23.2 ms at 44.1 kHz or 21.3 ms at 48 kHz).
- Slap Delay provides 7186 samples of delay (162 ms at 44.1 kHz or 149 ms at 48 kHz).

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- Medium Delay provides 16384 samples of delay (371 ms at 44.1 kHz or 341 ms at 48 kHz).
- Long Delay provides 162474 samples of delay (3.68 seconds at 44.1 kHz or 3.38 seconds at 48 kHz).

Mod Delay Parameters

The Mod Delay plug-ins have the following parameters:

Input

Allows you to control the input volume of the delay to prevent clipping.

Wet/Dry

Allows you to control the balance between the delayed signal and the original signal. If you are using a delay for flanging or chorusing, you can control the depth of the effect somewhat with the Wet / Dry setting.

LPF (Low-Pass Filter)

Controls the cutoff frequency of the low-pass filter. This allows you to attenuate the high-frequency content of the feedback signal. The lower the setting, the more high frequencies are attenuated.

Delay

Allows you to set the delay time between the original signal and the delayed signal.

Depth

Allows you to control the depth of the modulation applied to the delayed signal.

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Rate

Allows you to control the rate of modulation of the delayed signal.

Feedback

Allows you to control the amount of feedback applied from the output of the delay back into its input. It also controls the number of repetitions of the delayed signal. Negative Feedback settings give a more intense “tunnel-like” sound to flanging effects.

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APPENDIX B

Connecting an External Fader Box to Your Avid System

Your Avid system supports the following external fader boxes for Audio Gain Automation recording:

- *JL Cooper FaderMaster Pro MIDI automation controller.* This low-cost unit allows you to make fine adjustments to audio clips. This unit does not support “flying faders,” which means that the faders don’t move automatically as you record audio gain information and they must be manually zeroed prior to recording. For information on setting the faders manually, see **“Position Indicator Lights” on page 481**.
- *JL Cooper MCS-3000X MIDI automation controller.* This unit supports touch-sensitive flying faders. While recording gain, the faders automatically move. You can grab a fader and move it during an automation gain recording to quickly punch in a small change in volume.
- *Yamaha 01v digital mixing console.* This unit is a full-feature digital mixer that also supports Audio Gain Automation with flying faders. The faders are not touch sensitive.

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An external fader box is optional. It is not required to perform Audio Gain Automation recording.

Table B-1 compares the three external fader boxes.

Table B-1 External Fader Box Features

Feature	FaderMaster Pro	MCS-3000X	Yamaha 01v
Record gain	Yes	Yes	Yes
Flying faders	No	Yes	Yes
Touch-sensitive faders	No	Yes	No
Solo / mute	Yes	Yes	Yes[a]
Supports audio mixing	No	No	Yes
Snap mode	No	Yes	No
Number of steps of accuracy between 0–max	127	127	551

a. Solo works only if you don't use the unit for audio mixing.

The following list provides additional information on touch sensitivity and Snap mode:

- **Touch sensitivity:** As soon as you touch a moving fader on the MCS-3000X, the unit passes control of the fader to you. For more information, see **"The MCS-3000X Buttons" on page 600**.

  On the Yamaha 01v, you must press the fader's On button to gain control of a moving fader. For a description of how to control the faders on the Yamaha 01v, see **"Operational Notes for the Yamaha 01v Mixer" on page 606**.

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- **Snap mode:** In Snap mode, the fader box automatically stops recording as soon as you release the fader. In addition, the fader continues to display the volume information in the Timeline. For more information, see **"Using the Snap Mode Feature on the MCS-3000X" on page 601**.

For more information on using these external fader boxes, see **"Recording Audio Gain Information" on page 483**.

Using the FaderMaster Pro and MCS-3000X

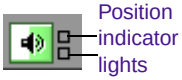
The setup procedure is similar for both units. To connect and initialize the fader boxes, see the *Avid Composer Products Setup Guide*.

For the MCS-3000X to recognize the Avid application software, you must set the rear DIP switch #4 down (ON).

To test the external fader box:

1. Choose Automation Gain from the Tools menu. The Automation Gain Tool window opens.
2. Alt+click the Hardware Toggle (HW) button in the Automation Gain Tool window. The box changes to blue.





3. Check the color of the position indicator lights. If the external fader box is connected, at least one of the lights should be on (blue). If the external fader box is not connected properly, the lights will probably appear gray.
4. Move the faders on the external fader box. The corresponding fader should move in the Automation Gain Tool window.

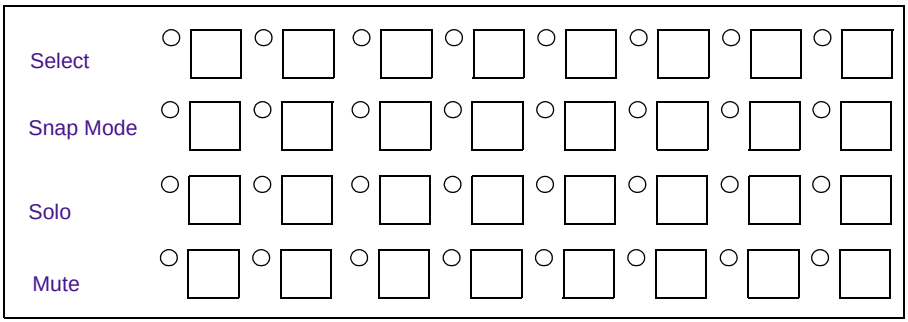
An external fader box is optional. It is not required to perform Audio Gain Automation recording.

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The MCS-3000X Buttons

There are four rows of unlabeled buttons at the top of the MCS-3000X fader box.

The following illustration labels each row of buttons:



- *Select buttons*: The green light next to the Select button for a track is on when you are recording Audio Gain Automation on the track. The green light is off when you are listening to the volume level in the Timeline.

  If the track is in Snap mode, as soon as you touch the fader, the Select button light turns on to indicate that you are recording. When you release the fader, the Select button light turns off and the fader begins moving with the Timeline volume.

  When the track is not in Snap mode, as soon as you touch the fader, the Select button light turns on to indicate that you are recording. However, when you release the fader, the Select button light stays on, indicating that you are still recording. To stop recording, press the Select button.

- *Snap Mode buttons*: For information on these buttons, see **"Using the Snap Mode Feature on the MCS-3000X" on page 601**.

- *Solo buttons*: These buttons solo the selected tracks.

- *Mute buttons*: These buttons mute the selected tracks.

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Using the Snap Mode Feature on the MCS-3000X

The MCS-3000X has a Snap Mode button for each track that allows you to easily punch-in and punch-out small sections of automation gain information. The second row from the top contains the Snap Mode buttons. For more information on button locations, see **"Using the Automation Gain Tool and Audio Mix Tool Windows" on page 487**.

In Snap mode, the fader automatically stops recording as soon as you release the fader. In addition, the fader continues to display the volume information in the Timeline.

To use Snap mode:

1. Click the Snap Mode button for the appropriate tracks on the external fader box. You can click the button before or during a recording session.
2. Set your IN and OUT points and click the Record button. The system begins playing the section and the faders move accordingly.
3. When you want to make an adjustment, grab the fader and move it to change the volume. The system immediately begins recording.
4. When you are finished adjusting the section, release the fader. The system stops recording (but keeps playing) and the fader snaps back to the level that is in the Timeline.

When the track is not in Snap mode, the system continues to record audio volume information after you release the fader. Press the Select button (top row) to stop recording and snap the button back to its current Timeline position.

The green light next to the Select button for a track is on when you are recording Audio Gain Automation on the track. The green light is off when you are listening to the volume level in the Timeline.

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Ganging Faders on the FaderMaster Pro

You can use the features available on the FaderMaster Pro to gang faders. When the faders for two tracks are ganged, the fader sends identical volume messages for both tracks when you move one fader. This can be useful when you have stereo tracks.

Note that the ganged faders do not move together physically. For information on ganging the faders, see the FaderMaster Pro user's manual. For example, if you have two stereo tracks and want to gang faders 1 and 2 to respond to movement on fader 1:

1. On the FaderMaster Pro, press the PROG button to light the Fader LED.
2. Press the Group button and move fader 2 until 1 is displayed.
3. Press the PROG button to turn off the Fader LED.

Now, when you move fader 1, the Avid system will receive identical volume information for fader 2.

To turn off the group feature, repeat steps 1 to 3, but assign fader 2 to 0.

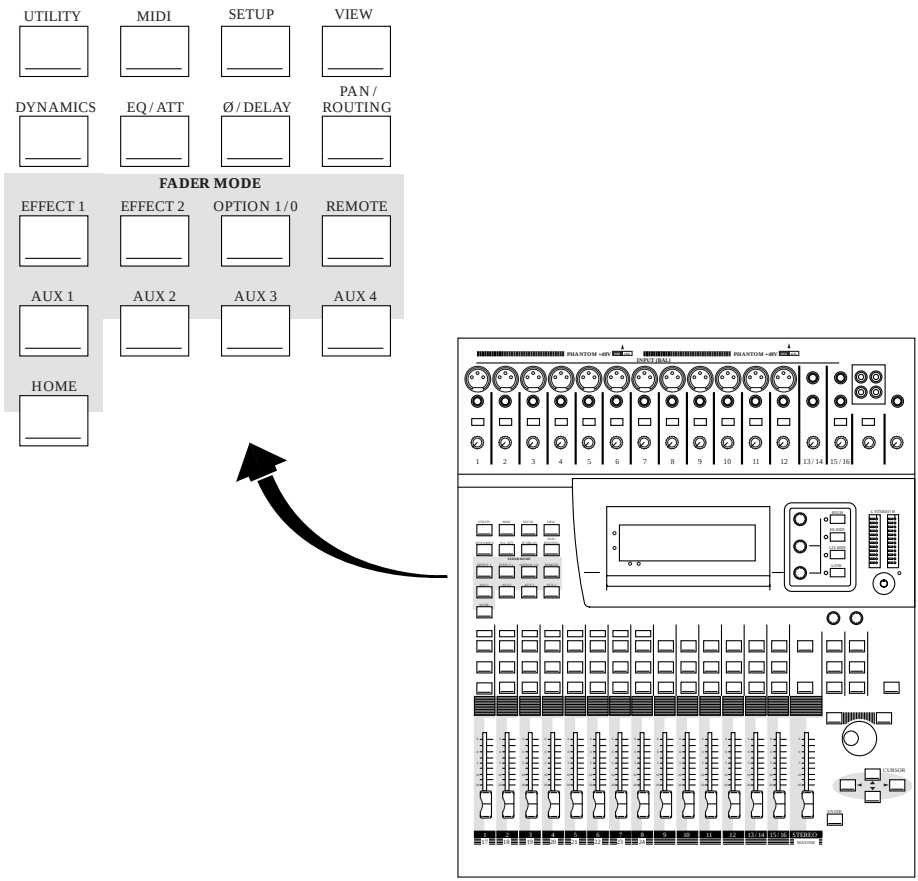


You cannot gang faders on the MCS-3000X or Yamaha 01v fader boxes.

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Using the Yamaha 01v Digital Mixing Console

The Avid system supports the Yamaha 01v Digital Mixing Console. The Yamaha 01v is a fully functional digital audio mixer that also supports Audio Gain Automation recording. The following illustration shows the Yamaha 01v controls. The exploded view shows the buttons that you use to operate the unit for Audio Gain Automation recording. For a comparison with other external fader boxes, see **Table B-1 on page -598**.



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Setting Up the Yamaha 01v Digital Mixer

This section describes how to set up the Yamaha 01v digital mixer. For instructions on connecting the Yamaha 01v to your Avid system, see the *Avid Composer Products Setup Guide*.

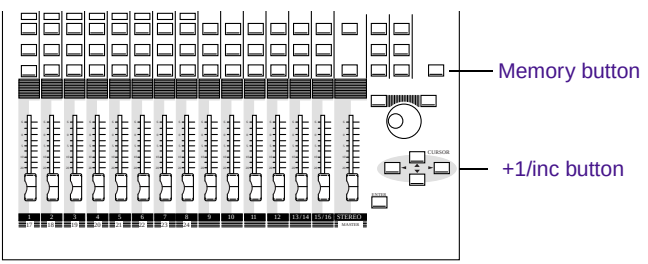
Initializing the Yamaha 01v

This section describes how to initialize the Yamaha 01v digital mixer. These steps should only have to be done once, and repeated only if the mixer's operational parameters have been manually changed to settings that are incompatible with the Avid system.

You should perform these steps when you first set up the unit. You might also find it necessary to perform the steps if the unit stops working correctly with your Avid system. Because you can perform a wide variety of mixing tasks with the Yamaha 01v, it is possible that some changes you make to the unit might cause it to stop working with the Avid system. If this happens, use these steps to reinitialize the mixer to the factory defaults.

To return to factory defaults:

1. Turn on the mixer while pressing and holding the red Memory button.



   The LCD panel displays a message asking if you want to reset the system.

2. Answer yes by pressing the +1/inc button.

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Configuring the Mixer to Recognize MIDI Control Messages

After you initialize the mixer, you must configure it to receive and transmit MIDI messages.

1. Press the MIDI button.

   The system displays the first pane of the MIDI Options window.

2. Set the following controls in the MIDI Options window:

   - Set Control Change TX to ON.
   - Set Control Change RX to ON.

Starting the Avid System with the Yamaha 01v Mixer Attached

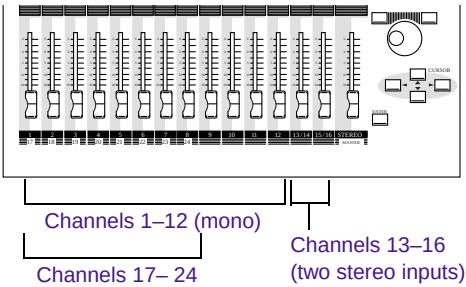
When you start your Avid system with the Yamaha 01v attached, you can use the faders for mixing audio channels or for performing Audio Gain Automation recording. You use the Home and Option I/O buttons to switch between the two modes. This section describes how the Yamaha 01v utilizes the faders.

The Yamaha 01v digital mixer allows you to work with 24 input channels as follows:

- 12 mono input channels (1 through 12)
- 2 stereo input channels (13/14 and 16/16)
- 8 digital inputs (17 through 24)

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Channels 17 through 24 use the same physical controls as channels 1 through 8, as shown in the following illustration. You use the Home and Option I/O buttons to switch the assignments from 1 through 8 to 17 through 24.



When you start the Avid system, it automatically configures the Yamaha 01v to use channels 17 through 24 for automation gain control. Use the Home and Option I/O buttons to switch between audio mixing (Home) and audio gain recording (Option I/O).

The Yamaha 01v supports a digital I/O option that uses channels 17 through 24. If you intend to use the digital I/O option, you should move the digital I/O option to channels 1 through 8 by using the SWAP mode. You can access SWAP mode from pane 5 of the OPTION I/O screen. For more information, see the Yamaha documentation.

Operational Notes for the Yamaha 01v Mixer

Using the Yamaha 01v for Audio Mixing

To access the audio mix (channels 1–16), press the Home button. When the Home button is lit you can use the faders for audio mixing.

For information on audio mixing, see the Yamaha 01v documentation.

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Accessing Audio Gain Automation Recording

You must be in Option I/O mode to record gains in the Automation Gain tool.

1. Press the Option I/O button.

   The faders move into the correct position for recording automation gain.

2. When recording automation gain, use the On button on each channel to switch between Timeline control of audio gain to user control of audio gain.

   You can punch-in and punch-out of gain recording as many times as you want.

The Yamaha 01v faders are not touch sensitive in the same way as the JL Cooper MCS-3000X MIDI automation controller. As soon as you touch a moving fader on the MCS-3000X, the unit passes control of the fader to you. On the Yamaha 01v, you must press the fader's On button to gain control of a moving fader.



If a fader is not moving, you can move the fader to take control without pressing the On button.



If you attempt to catch a moving fader, the mixer will try to control the fader. Press the On button to take control of the fader.

Soloing Avid System Channels

If you are not using the Yamaha 01v to mix the audio outputs of the Avid system, you can use the Solo button on the 01v to solo audio channels during automation gain recording.

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To enable Solo mode:

1. Press the MIDI button.

   The mixer displays pane 1 of the MIDI Options window in the LCD display.

2. Set the following controls in the MIDI Options window:

   - Set Param Change TX to ON.
   - Set Param Change RX to ON.

However, if Solo mode is on when you are mixing audio, it interferes with the normal operation of the mixing board functions. If the Avid system audio outputs are connected to the Yamaha 01v, leave Param Change TX and Param Change RX set to OFF.

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APPENDIX C

Keyboard Shortcuts: Macintosh and Windows NT Equivalents

This appendix compares keyboard shortcuts on Media Composer® for Macintosh systems with the keyboard shortcuts on Media Composer for Windows NT systems. Keyboard shortcuts are listed in the *Avid Media Composer and Film Composer Quick Reference* and the Shortcuts topic, which you can access from the Media Composer Help menu.

Command Key = Control Key

For most shortcuts that use the Macintosh Command (Apple or ⌘) key, substitute the Windows NT Ctrl key. Note the following *exceptions*:

Macintosh Key Combination	Windows NT Key Combination	Action
⌘ + clip icon	Ctrl + Alt + clip icon	Opens the Clip Info box
⌘ + click a keyframe	Ctrl + Alt + click a keyframe	Selects all keyframes

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Option Key = Alt Key

For most shortcuts that use the Macintosh Option key, substitute the Windows NT Alt key. Note the following *exceptions*:

Macintosh Key Combination	Windows NT Key Combination	Action
Option + drag Track Selector edge	Ctrl + drag Track Selector edge	Resizes the height of a track
Option + drag Track Selector button	Ctrl + drag Track Selector button	Repositions the track vertically in the Timeline

Macintosh Control Key

For shortcuts that use the Macintosh Control key, substitute the following keys or key combinations:

Macintosh Key Combination	Windows NT Key Combination	Action
Control + 	Alt + 	Starts an in-to-out playback loop
Control +  or 	Alt  + or 	Edits to position indicator on record side, ignoring record-side marks
Control +  or 	 or 	Steps forward or backward one field
	Alt +  or 	

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Macintosh Key Combination	Windows NT Key Combination	Action
Control + 	 Ctrl + Alt + 	Marks between locators (or marks entire sequence) when no locators present
Control + 		Reverses a match-frame edit
Control + trim A or B side	Alt + trim A or B side	Adds black filler at trim to maintain sync
Control + click in Timeline	Alt + click in Timeline	Allows lassoing inside Timeline
Control + click a control point in Paint Effect	Alt + click a control point in Paint Effect	Changes a Straight Edge Join into a Smooth Join, and vice versa
Control in Title tool	Ctrl + Alt	Temporarily displays and enables the Selection tool
Control + click in Corner Pinning	Ctrl + Alt + click in Corner Pinning	Lets you Quick Pin
Control + click a direction handle of a smooth join in the Paint Effect	Shift + click a direction handle of a smooth join in the Paint Effect	Enables lengthening of direction bar, independent of one on opposite side of control point
Control + drag segment in Timeline	Ctrl + Shift + drag segment in Timeline	Restricts movement to vertical only

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Other Keys

For shortcuts that use other keys, substitute the following keys or key combinations:

Macintosh Key Combination	Windows NT Key Combination	Action
Option + drag a trim roller	Ctrl + Alt + drag a trim roller	Allows for single-frame motion while dragging trim rollers
B key	F4	Begins digitizing in Digitize mode, and enters IN and OUT points for logging clips in Log mode
Shift + Command + =	Shift + Ctrl + L	Sends to front (Title tool)
Shift + Command + hyphen	Shift + Ctrl + K.	Sends to back (Title tool)

Add Alt Key Button in Command Palette

The Command palette includes a button labeled AL (Add Alt key button), which functions the same way as the Option button on the Macintosh system. For example, if you want to map Alt + a Media Composer command to F4, you need to use the AL button because Windows NT uses Alt + F4 to close an application. To modify the key, map the command button, and then map the AL modifier over it. To perform the modified function, press the key. Pressing Alt + the key will perform a Windows NT command.

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