

Avid[®] Film Composer[®]

User's Guide



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Glossary

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CHAPTER 1

Logging

When you log with a deck or import shot log files, you provide the Film Composer system with frame-accurate clip information used to digitize the source footage. The logs you create form the foundation for organizing, tracking, storing, retrieving, and generating lists of edit information throughout your project. Techniques for preparing log information prior to digitizing are covered in the following sections:

- [Logging Tips](#)
- [Preparing Logs for Import](#)
- [Importing Shot Log Files](#)
- [Logging Directly into a Bin](#)
- [Logging Film Information](#)
- [Modifying Clip Information](#)
- [Exporting Log Files](#)



For film projects, the method used in the film-to-tape transfer has a direct bearing on the procedures required for logging and digitizing. For more information, see Appendix A in the *Avid Film Composer Getting Started Guide*.

Logging Tips

Observe the following important guidelines for preroll, timecode formats, and naming of tapes when logging prior to digitizing.

Logging Preroll

Be sure to leave adequate preroll with continuous timecode prior to IN points when logging your tapes. The recommended minimum preroll is one second for Betacam playback, and five seconds for 3/4-inch U-matic playback.



You set the default preroll for tape playback using Deck Settings. For more information, see the Avid Media Composer Products Reference.

Logging Timecode

Check the timecode format of each tape (drop-frame versus non-drop-frame timecode) when you are logging without a tape in the deck. Log drop-frame timecode using semicolons (;) between the hours, minutes, seconds, and frames. Log non-drop-frame timecode with colons (:).



If you make a mistake and need to change the logged timecode format, you can correct the format using the Modify command. For information, see the section [“Modifying Clip Information” on page 44](#).

Naming Tapes

When entering tape names in the Digitize tool, consider the following:

- Tape names must be alphanumeric characters (A to Z, 0 to 9), with no spaces before the name. They can include upper and lowercase. The maximum length of a name is 32 characters.

- It is possible to have a single tape listed as several different tapes if you alter the case of the letters. For example, if you type a single name as *TAPE*, *Tape*, and *tape* on three different occasions, all three names will appear. This can cause significant problems in keeping track of clips when batch digitizing, redigitizing, and generating an EDL. Choose a case convention and maintain it throughout a project.
- It is important that you devise a naming scheme for your tapes. For example, tapes with similar names can be easily sorted and viewed together in a bin. However, it may be difficult to distinguish among numerous tapes with similar names when trying to locate a specific tape quickly. Name tapes based upon the amount and complexity of your source material.
- If you are planning to generate an EDL for import into an edit controller for online editing, double-check the controller's specifications beforehand. Some edit controllers will truncate source tape names to as few as six characters, while others will eliminate characters and truncate to three numbers. Alterations like these at the EDL stage might cause the system to identify different source tapes with similar names in the same way, causing you to lose track of source material.

Double-Checking the Logs

When importing shot logs for video, the Media Composer system compares the video duration to the video out minus the video in. When importing film shot logs, the system compares the key number out minus the key number in.

If the system detects a discrepancy, it reports the error and does not bring the clip into the bin. The best way to ensure that clips are not discarded on import is to double-check the logs for discrepancies in duration and marks.



If you are working on a film project, you must enter shot log information into the bin before digitizing. If you intend to automate the logging process during digitizing using either the Avid Media Reader or the pulldown flag option, you can skip to [Chapter 2](#).

Preparing Logs for Import

Film Composer provides many useful tools to help you prepare frame-accurate log information for import into the bin from any number of sources. This process may involve one or more of the following methods, which are described in this section:

- To log the material on any Macintosh® or PC, use the MediaLog™ application, and transfer the bins directly into Media Composer with minimum effort, as described in [“Using MediaLog” on page 23](#).
- To quickly convert logs (created by other sources) use the Avid Log Exchange program, as described in [“Converting Logs with Avid Log Exchange” on page 25](#).
- Use a word processor or standard text editor to create and import logs, as described in [“Creating Avid Logs” on page 28](#).

Using MediaLog

For information on specific MediaLog procedures, see the *Avid MediaLog User's Guide*.

MediaLog is a standalone application that speeds the process of creating and importing log information from any Macintosh or IBM®-compatible computer. MediaLog mirrors the Media Composer interface for creating projects, bins, and clip information in the bin, and includes serial deck control for logging directly from tape.



If you purchased Film Composer or Media Composer 1000, 4000, or 8000, the MediaLog application is included with your application disks. If you have the Media Composer 900 or Offline models and would like to purchase MediaLog, contact your Avid sales representative for more information.

Transferring Bins from MediaLog for Macintosh

If you log your source footage using MediaLog for Macintosh, you can transfer the bins directly to Film Composer for batch digitizing by moving the bin files in the Finder.

To transfer bins from MediaLog for Macintosh:

1. Save the MediaLog bins to a 3.5-inch disk.
2. Quit the Film Composer application.
3. In the Finder, open the project folder where you want to store the MediaLog bins. This folder is usually located inside the Composer Projects folder on the Avid disk.
4. Insert the disk from MediaLog into the diskette drive.
5. Double-click the disk icon.

If your MediaLog folders are available through a server or other networked source mounted on your desktop, then locate the MediaLog folder there instead.

6. Shift-select the bins in the Disk Directory window and drag them into the project folder.
7. Restart and open your project.
8. Associate the imported bins with your project by doing the following:
 - a. Choose Open Bin from the File menu.
 - b. Locate the new bin using the Directory pop-up menu.
 - c. Double-click the bin to open it within your project.
 - d. The new bin appears in the Bin scroll list of the Project window.

The bins you have imported contain master clips only with no associated media files. Before you can view or manipulate these clips, you must create the associated media files by batch digitizing the source material.

Transferring Bins from MediaLog on the PC

If you log your source footage using MediaLog on the PC, you can import the logs using the same procedure as you would for other Avid-compatible log formats, as described in [“Importing Shot Log Files” on page 29](#).



To work with PC files such as MediaLog on the PC, you must have the Macintosh 7.5 or later operating system or the DOS Mounter application on your system.

Converting Logs with Avid Log Exchange

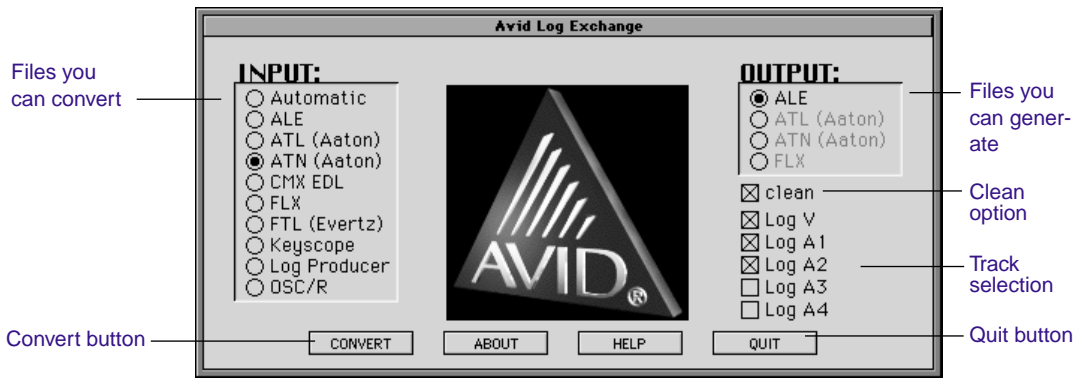
Many telecine and other film-to-tape transfer systems can generate a log which you can import directly into Film Composer. This is the most accurate and the preferred method. You can open some logs directly in bins; others must be converted to Avid Log format first using the Avid Log Exchange utility, as described in this section.

To convert a file:



1. In the Finder, open the utilities folder on the Avid drive and locate the Avid Log Exchange application inside the folder labeled ALE f.
2. Double-click the Avid Log Exchange icon to start the application.

The Avid Log Exchange window opens.



For specific information on the various file types shown here, see the *Avid Media Composer Products Reference*.

3. Make a selection for Input/Output.

The default output selection is the Avid Log Exchange (.ALE) format. This is the required format for import into a Film Composer bin.

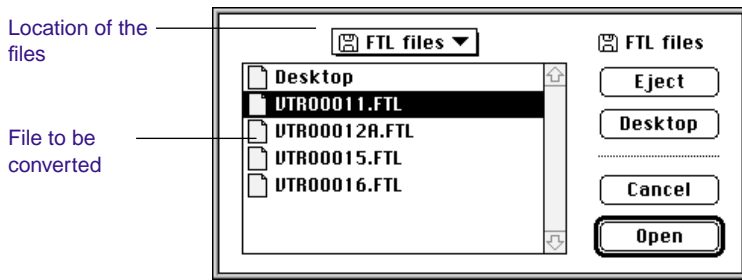
4. Select the tracks to include in the Tracks column of the log. After you import the log into a Film Composer bin, the system digitizes all tracks shown in this column when batch-digitizing.

5. Select the Clean option if you want Avid Log Exchange to clean the input file to eliminate overlapping timecodes for clips.

When you select the Clean option, the utility removes the end timecode from any clip that overlaps the start of the next clip.

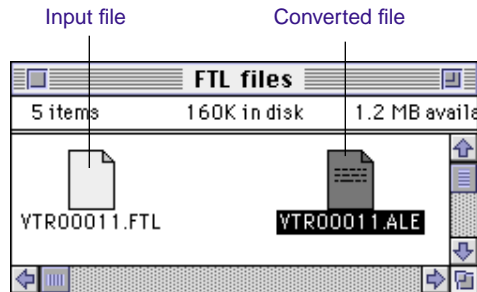
6. Click the Convert button to open the File Selection dialog box.

7. Open the disk and folder that contain the files you want to convert.



8. Double-click the input file name. Only one file is converted at a time.

Avid Log Exchange stores the converted file in the same folder as the original input file.

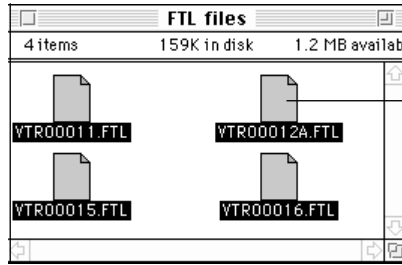


The original filename extension is replaced by the extension for the new format. The .ALE files can be imported only into Avid products.

Drag and Drop Conversion

Use this shortcut to convert any type of file into an .ALE file:

1. Insert the disk in the Macintosh disk drive if the files you want to convert are stored on a 3.5-inch disk.
2. Open the folder that contains the Avid Log Exchange utility icon.
3. Open the folder that contains the files you want to convert, positioning the folder so the Avid Log Exchange icon is visible.
4. Select files for conversion.



Select files, drag to the icon, and release.



5. Drag the selected files to the Avid Log Exchange icon and release.

The system converts the files to Avid format, adding the .ALE extension to the new file names.

Creating Avid Logs

You can prepare an Avid log on any type of Macintosh or IBM-compatible computer using a word processing application or a text editor. In either case, to ensure accuracy you must follow closely the specifications described in the *Avid Media Composer Products Reference*.

When logging manually, you should document the following information:

- Identify the source tape for each shot.
- Document each clip's name, start timecode, and end timecode.
- In the case of NTSC transfer tapes for film projects, you must supply Pulldown information in the Pullin column of the Film Composer bin before you can digitize

This is the minimum information required to digitize successfully. You can also add other information such as comments, auxiliary timecodes, or key numbers for film projects. You can make a separate log file for each videotape, or log clips from several different videotapes in one log.

Using a Word Processor

If you use a rich-text formatted program like Microsoft® Word or WordPerfect®, you must do the following:

1. Enter shot log information according to the specifications described in the *Avid Media Composer Products Reference*.
2. Save your file as a text file in the Save As dialog box.



The Film Composer system only accepts text files (ASCII format).

Using Vantage

Another alternative is to use a text editor, such as the Vantage™ program provided with your system. Text editors like Vantage always maintain the log information in text file (ASCII) format. Vantage also provides useful tools for arranging and conforming text to various shot log, cut list, and EDL (edit decision list) specifications. The Vantage program is located in the Utilities folder.

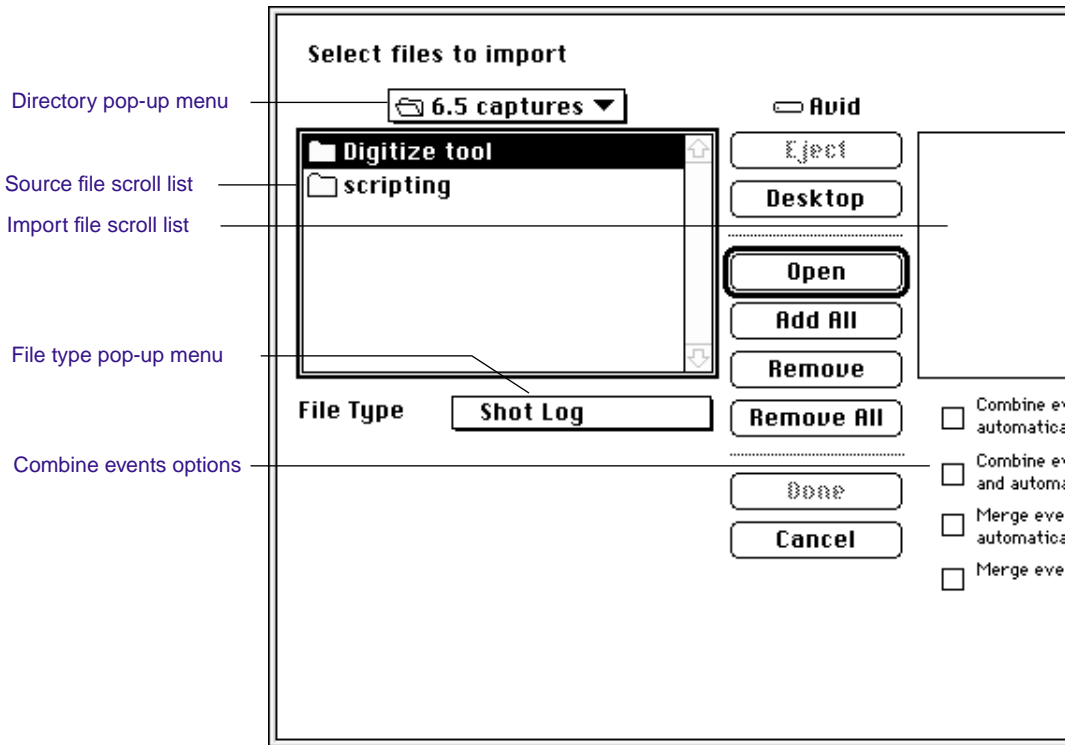
Importing Shot Log Files

You can also import an EDL to a bin for use in digitizing. For more information, see [“Using EDL Manager” on page 473](#).

You can import any log created or converted to meet Avid log specifications. In the case of film projects, most telecine and other film-to-tape transfer systems will generate a log which you can import directly to the bin, often after conversion to .ALE format using the Avid Log Exchange utility. You can also combine or merge events while importing a log so that fewer master tapes require digitizing, as described in this section.

To import log files to the Film Composer system:

1. Open a bin or click an open bin to activate it.
2. Choose Import from the File menu. The import dialog box appears.



3. Choose Shot Log from the File Type pop-up menu.
4. If appropriate, select an option for combining events on import from the list of options in the lower right corner of the dialog box:
 - **Combine events based on scene and automatically create subclips.** The system combines all events for a scene into a single master clip, then links the master clip to subclips that represent the original events for that scene. To use this option, you must have scene numbers logged in a scene column in the bin.
 - **Combine events based on camera roll and automatically create subclips.** The system combines all the events from a camera roll into a single master clip, then links the master clip to subclips that represent the original events for that camera roll.

To use this option, you must have camera roll numbers logged in a camera roll column in the bin for a film project.

- **Merge events with known sources and automatically create subclips.** The system automatically creates subclips for those events that are merged, or relinked to their source clips upon import. Use this option if you have already entered master clips in a bin for each camera roll or master scene, and subsequently logged all the events related to those clips for import.
5. Select the folder in which the log is located in one of the following ways:
 - If the files are located in another folder on your hard drive, click the directory pop-up menu above the source file scroll list and locate the correct folder.
 - If the files are located on another drive, disk, or network source mounted on the desktop, click the Desktop button, then use the directory menu and scroll list to locate the file.
 6. Select the files that you want to import by doing one of the following:
 - Select files individually and click Add.
 - Select all the files by clicking Add All.
 - Remove files from the box on the right by clicking Remove or Remove All.

The screen displays the files you want to import on the right side of the window.

7. When the correct files appear in the Import scroll list, click Done.

The bin fills with master clips derived from the information in the imported shot log. The system imports any additional information logged with each clip. To save this display after importing the log, save the bin.



The master clips you have imported contain only log information with no associated media files. Before you can view or manipulate these clips, you must create the associated media files by digitizing, as described in [Chapter 2](#) and [Chapter 3](#).

Logging Directly into a Bin

You can log clip information in advance, allowing you to batch digitize the clips in one step. To log the clips in advance, do one of the following:

- Prepare shot logs using MediaLog, a word processor, or a standard text editor, and then import the logs directly into Media Composer bins. For more information see [“Preparing Logs for Import” on page 23](#).
- Log the clip information directly into the bin, as described in this section.

You can log clips directly into a bin using the Digitize tool in one of two ways described in this section:

- Log directly into a bin with an Avid-controlled deck for semiautomated data entry.
- Log manually during or after viewing of footage offline with a deck or other source that is not Avid-controlled.

For complete information on working with bin columns and clip information, see [“Using Text Mode” on page 147](#).

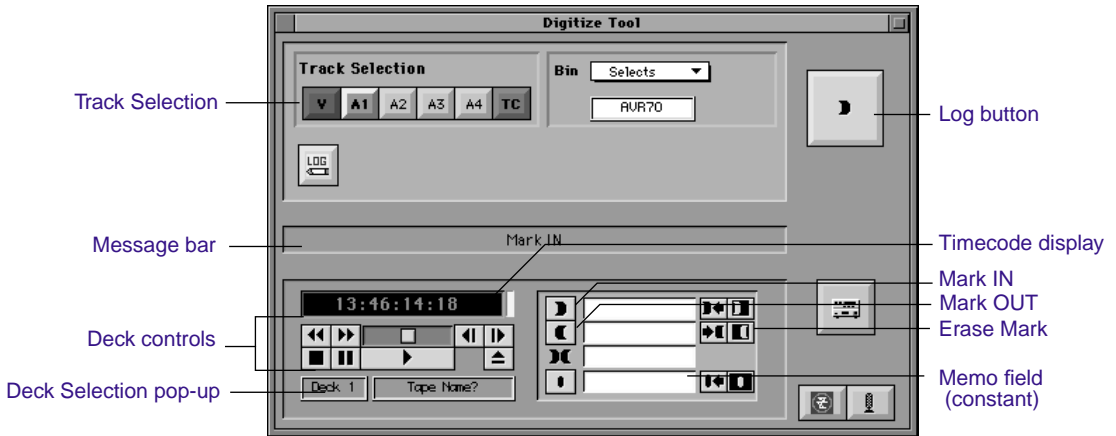
Logging with an Avid-Controlled Deck

For information about connecting a compatible deck to your system, See the *Avid Media Composer Products Connecting Audio and Video Equipment*.

When you log with a compatible tape deck controlled from within Media Composer, you can automate part of the logging process by using buttons to enter frame-accurate timecode information from the deck. This method is more accurate than manual entry, because timecodes are transferred directly from tape to the bin.

To log clips to a bin using the Digitize tool:

1. Turn on power to the tape deck and make sure the deck is properly connected.
2. Open the bin where you want to store the clips.
3. Choose Digitize from the Tools menu. The Digitize tool opens and the third full-screen monitor displays playback from the deck.

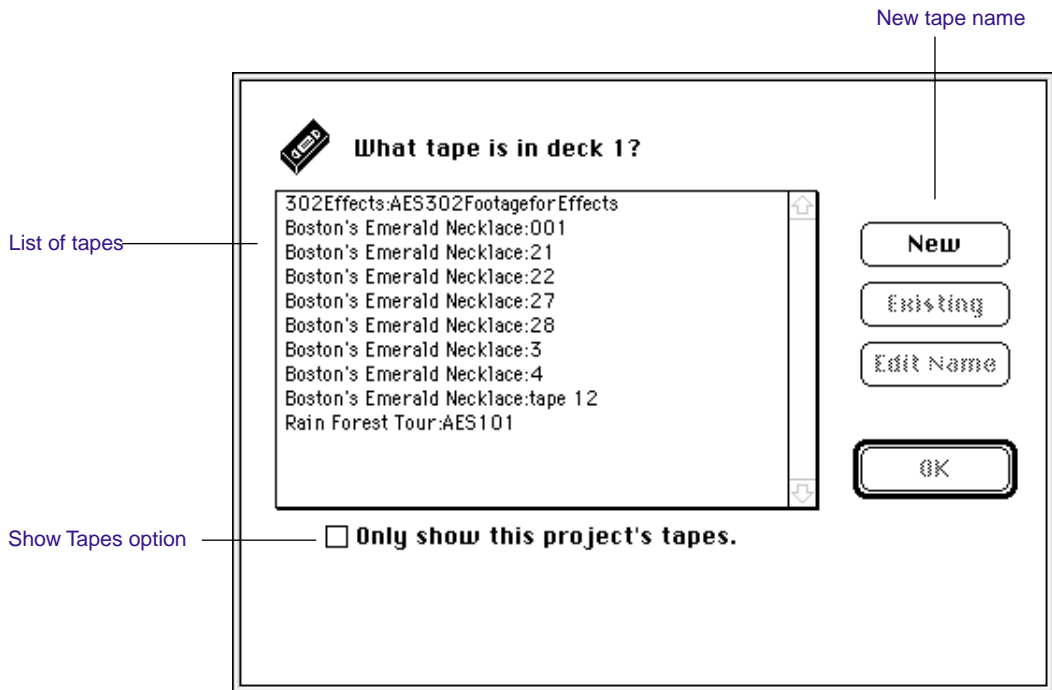


If you forgot to connect and/or turn on the power to the deck before opening the Digitize tool, you can reinitialize deck control after turning it on using the Check Decks command in the Deck Selection pop-up menu.



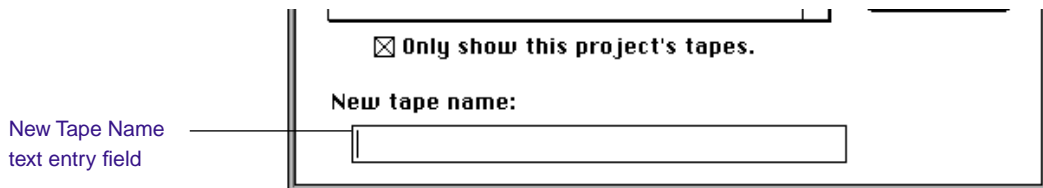
4. If the Digitize tool is not currently in Log mode, click the Digitize/Log mode button to display the log icon.
5. Load your tape into the deck. The system prompts you for a name.

The Tape Selection dialog box shows only the tapes previously logged for the current project. Deselect the option “Only show this project’s tapes” to select a name from other projects.



For guidelines in naming tapes, see [“Logging Tips” on page 21](#).

6. Select a tape name from the scroll list or click the New button and enter a new tape name into the name entry field that appears at the bottom of the dialog box.



7. Press Return. The tape name is displayed in the Digitize tool.
8. Click the Log Mode button in the Digitize tool.

The Capture Messages bar displays a message that the system is waiting for you to mark an IN point. The Log button displays an IN mark.

9. Set either an IN mark or an OUT mark for the clip you want to log, using one of the following methods:

 — Mark IN

 — Mark OUT



- Use the deck controls in the Digitize tool to cue your source tape to the start or end point, and click the Mark IN or Mark OUT button.
- Click the large Log button in the upper right corner of the Digitize tool to enter the mark.
- If the footage starts at a known IN or ends at a known OUT, type the timecode in the display area next to the mark, press the Go To button to scan the tape forward to the mark, or press Return to enter it.



After you set the mark, the icon in the Log button changes to the corresponding OUT or IN mark, and a pencil appears on the button.

10. To finish logging the clip, do one of the following:
- Set the remaining IN or OUT mark on the fly using the buttons.
 - Type a timecode for the clip's IN, OUT, or duration in the timecode entry field next to the corresponding icon and press Return.

The system automatically calculates the appropriate timecode for the remaining mark IN, mark OUT, or duration, and enters the clip into the bin. The clip name, which is chosen and automatically numbered by the system, is highlighted and ready to be changed.



You must enter at least two of the three timecode marks (IN mark, OUT mark, or duration) in order to complete the log entry.

11. Name the clip by typing a new name before clicking any of the buttons in the Digitize tool.



In general, you should change the clip name immediately, because it is very easy to forget the contents of each clip among the dozens that you log. You can, if necessary, accept the clip name and proceed with the logging process and change the clip names in the bin at a later time.

12. Repeat these steps until you have logged all your clips.

While viewing the footage, you can continuously update your marks on the fly by clicking the Mark button repeatedly before entering the second mark.

Logging with Non-Avid-Controlled Decks

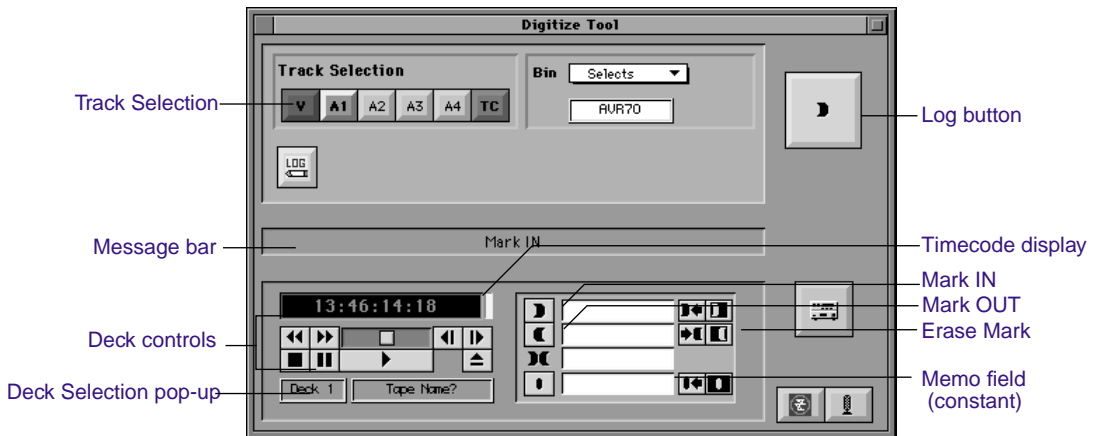
You can use the Digitize tool to log clips directly into a bin from a source that is not Avid-controlled. For example, you can log clips from a deck that is not connected to the system, or from handwritten or printed log information for a tape that was previously logged but is not currently available.

1. If there is a deck connected to the system, eject the tape from the deck.

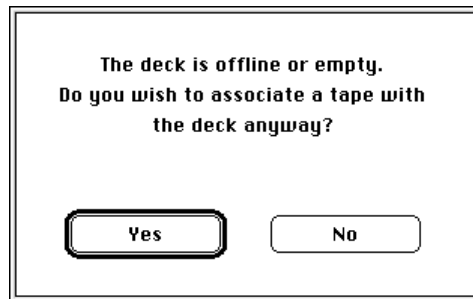


When logging within the Digitize tool you should leave the deck empty. If a tape remains in the deck, the system will determine drop-frame or non-drop-frame from that tape whether or not it matches your tape's timecode format.

2. Double-click Deck in the settings scroll list of the Project window to open the Deck Settings dialog box.
3. Choose Non-Drop-Frame or Drop-Frame from the When No Tape in Deck Log pop-up menu.
4. Click OK to close the dialog box.
5. Open the bin where you want to store the clips.
6. Choose Digitize from the Tools menu. The tool opens.



7. Click the Digitize/Log Mode button in the Digitize tool to activate Log mode.
8. Click the Tape Name display. A dialog box appears.



9. Click Yes to open the Tape Selection dialog box.
10. Double-click the name of the tape in the dialog box, or click New and enter the name of the tape. Click OK.
11. Select the tracks you want to log in the Digitize tool.
12. Type the start and end timecodes in the mark IN and mark OUT displays.



13. Click the Log button, or press the B key.

The clip is logged into the bin.

Logging Film Information

Once you've entered or imported the basic log information into a bin, you might want to add film-related log information before digitizing. This section describes procedures and formats for adding various film headings.

The following are some informational requirements for film projects:

- The minimum information required for digitizing is the data recorded in the Start and End video timecode columns, and the Pulldown frame for NTSC transfers, which is noted in the Pullin column.
- Each reel of film can be logged as a separate clip, and will correspond to a single Film Composer clip, only if the video transfer of the film reel has continuous pulldown, in the case of NTSC format, and continuous timecode, in the case of both NTSC and PAL. If the film reels for your project do not meet this condition, then you must log each *take* on a reel of film as a separate clip, which will correspond to a single Film Composer clip.
- All film and video reference numbers must be in ascending order.

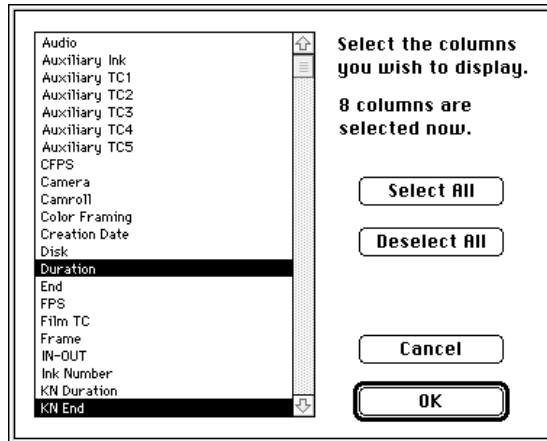
Displaying Film Columns

To display film columns in the bin, do the following:

1. Choose Film from the Bin View pop-up menu to display all the required film column headings.



2. If you want to log data under optional headings (for example, Ink Number, Auxiliary TC1-Auxiliary TC5, or Film TC), choose Headings from the Bin menu and select the specific headings you want to add from the headings dialog box.



3. You can also track custom information for the job with special headings not included in the standard headings by typing the name of a category of information into the headings bar at the top of the bin. For more information, see [“Customizing Bin Views” on page 148](#).

Entering the Pulldown of the Sync Point

Unlike PAL transfers that do not use Pulldown, you cannot digitize NTSC tapes before you first enter pulldown information into the bin. If you are importing a log generated automatically during the telecine

transfer, or if you used the pulldown flag indication, you do not need to add this information manually.

Start TC

Pullin column
(information required for NTSC)

Name	Start	Duration	KN Duration	KN Start	KN End	Pullin
Skiing	01:06:43:09	28:09	16+39	KJ 21 8726-5516&02	5550&00	A
Mountains	01:05:37:12	22:21	13+25	KJ 21 8726-5476&00	5503&04	A
on the set/rhythm	01:04:46:14	50:19	123+31	KJ 21 8726-5260&10	5508&00	A
On	01:04:46:14	0:27	0+22	KJ 21 8726-5260&10	5261&11	A
Studio/rhythm	01:04:16:04	31:07	18+30	KJ 21 8726-5224&02	5261&11	A
Equip CUs 2	01:03:53:24	4:29	11+14	KJ 11 8548-5794&18	5817&11	A
Cowboys	01:03:19:08	35:07	21+06	KJ 11 8548-5753&09	5795&14	A
Underwater	01:02:58:13	12:11	7+17	KJ 11 8548-5685&04	5700&00	A
Equip CUs	01:02:38:22	17:02	36+15	KJ 11 8548-5572&06	5645&00	A
aerial w/camera	01:02:24:18	14:17	62+12	KJ 11 8548-5448&05	5572&16	A
helicopter and ship	01:02:13:20	15:06	9+05	KJ 11 8548-5435&03	5453&07	A
car travelling shot	01:01:47:08	15:10	9+08	KJ 11 8548-5390&02	5408&09	A

By specifying the pulldown frame in the Pullin column, you accomplish the following:

- You ensure that the clips will start with the A-film frame for the pulldown. Otherwise you might experience inaccuracies in key number tracking and in the cut lists.
- You tell the system where the pulldown fields are located so that Film Composer can accurately eliminate the pulldown frames during the digitizing process, leaving you with a frame-to-frame correspondence between your digital media and the original film footage.

To do this, you must indicate whether the sync point at the start of each film clip transferred to tape is an A,B,C, or D film frame, as described in this section.



After you digitize an NTSC transfer, the timecode shows a loss of every fifth frame of video. For example, don't be alarmed if you find that your timecode jumps at one point from 1:00:14:15 to 1:00:14:17. You haven't lost a frame, just an extra pulldown field.

It is easiest to determine the pulldown of a sync point if you ask your film lab to keypunch the sync frame in the original film footage before transferring the film to video. Many film labs or transfer houses can also provide a pulldown frame indicator displayed at the far right of the burn-in key numbers, depending on the equipment available.

If the footage has not been keypunched, you can determine pulldown according to clapsticks or any other distinctive frame at the beginning of the clip.

To determine the pulldown sync point:

1. While viewing the video transfer on a monitor, go to the key-punched (or clapsticks) sync point for the beginning frame of the clip you're logging.
2. Jog past the sync point frame field-by-field, using the jog wheel on the tape deck. You will see either two or three keypunched fields.
3. If there are two fields, the pulldown is either A or C. Jog through the fields again, and note where the timecode changes:
 - a. If the timecode does not change from the first to the second field, it's an A-film frame.
 - b. If the timecode does change from the first to the second field, it's a C frame.
4. If there are three key-punched fields, the pulldown is either B or D. Jog through the fields again and note where the timecode changes:
 - a. If the timecode changes between fields 2 and 3, the video came from a B-film frame.
 - b. If the timecode changes between fields 1 and 2, the video came from a D frame.
5. Enter the information in the Pullin column in the appropriate bin before digitizing.

Entering Frames-Per-Second Rates for PAL Transfers

When logging in advance for PAL transfers, the footage must be logged as clips that have a 25-fps play rate, as listed in the FPS column of the bin. If you wish, you can digitize the footage on the fly, without logging the clips first. The minimum information required to capture the footage is the data logged in the Start and End video timecode columns.

Entering Key Numbers

To add key numbers, in the KN Start column, highlight the default key number, then type the key number for the sync point at the start of the clip, using one of the following formats.

- **Keycode Format:** Type a two-character manufacturer and film type code, a six-digit prefix for identifying the film roll, a four-digit footage count, a two-digit frame offset, then press the Return key.

Film Composer adds a space, hyphen, and plus sign to format the number (for example, to enter KJ 23 6892-1234+20, type KJ236892123420).

- **Other Formats:** Enter other Key Number formats in the Ink Number column. Type up to eight characters for the prefix, up to five characters for the footage count, two digits as the frame count, then press the Return key.



Make sure the correct number appears when you press Return. For some Key Number formats, you may need to type the space, hyphen, and plus sign to format the number correctly.

Entering Additional Timecodes (Optional)

- In one of the Aux TC columns (that is, Aux TC1-AuxTC4) type an auxiliary timecode that syncs with the video timecode logged in the Start column. You can enter up to four auxiliary timecodes.

Only 30 fps drop- or non-drop-frame timecode is supported. Use one of the following formats:

- Enter a two-digit format for hours, minutes, seconds, and frames. You need not enter a leading zero. (For example, to enter 01:23:02:00, type 1230200.)
- When working with drop-frame timecode in the NTSC format (not applicable to PAL) enter a semicolon to indicate drop-frame timecode (for example, to enter 01;23;02;00, type 01;230200).
- In the Sound TC column, enter the Nagra timecode for the original audio for the start of the clip. The timecode should sync with the video timecode logged in the Start column in the bin. Enter the source sound roll identifier in the Soundroll column. Only 30 fps drop- or non-drop-frame timecode is supported.
- In the Film TC column, enter timecode generated by an Arriflex or Aaton camera for tracking the picture at the start of the clip. The film timecode should sync with the video timecode logged in the Start column. Only 24 fps timecode is supported.

Entering the Ink Number (Optional)

To enter ink numbers:

1. Open the Film Settings dialog box by clicking film in the Settings list of the Project window.
2. Make sure the correct options are selected for ink number format and ink number display, and press Return.

You can log different ink number formats in the same project as long as you change the ink number setting to the appropriate format before you log each type. Changing the ink number setting affects only the next ink numbers you log, not numbers that are already logged.

3. Return to the bin, and enter numbers under the INK Number heading.

Use keycode format or use a two-digit prefix to identify the roll, a hyphen, a four- or five-digit footage count, a plus sign, and a two-digit frame count (for example, AA-00924+00).

Entering Additional Film Data

You can continue to log film data into the Labroll, Camroll, Soundroll, Scene, and Take columns, or into your own custom columns, as necessary. You can include the information in these columns on the cut lists you create for your edited sequence.

Modifying Clip Information

For complete information on working with bin columns and clip information, see [“Using Text Mode” on page 147](#).

For additional bin shortcuts, see the “Shortcuts” section of the *Avid Media Composer and Film Composer Quick Reference*.

You can change or modify the information logged in the bin. This is especially useful if you find that some of the data is incorrect, or if you need to update the information based on technical needs, such as varying timecode formats or film specifications.

There are two ways to modify clip information prior to digitizing:

- You can modify the information directly by clicking in a column and entering the new information one field at a time.
- You can use the Modify command to change selected groups of clips all at once.



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

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 for some or all of your clips, to change the timecode format from drop- to non-drop-frame, or to increment or decrement the start and end timecodes by a specified length of time for one or several clips at once.

To modify selected clips:

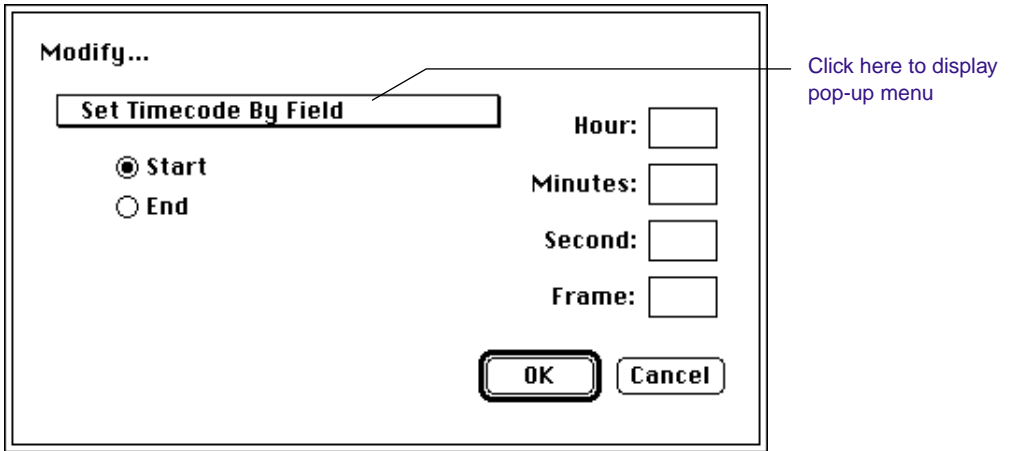
1. Open the bin.
2. Click a clip icon to select it. Shift-click each additional clip you want to modify.

Selected clips are highlighted

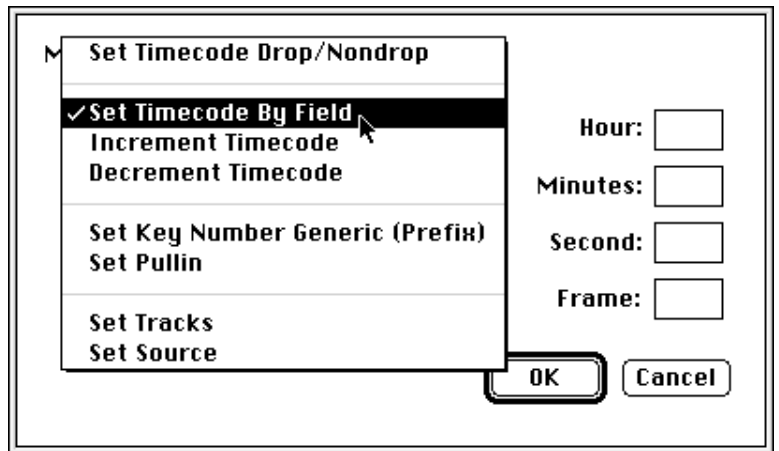
Tape 1					
	Name	KN Duration	End	KN End	KN Start
🎞️	7/7	82+12	01;07;45;21	7469+11	83 01 1610-73
🎞️	5C/3	137+12	01;06;50;15	8566+11	83 01 1610-84
🎞️	5B/1	93+04	01;04;17;06	8057+03	83 01 1610-79
🎞️	5A/2	104+00	01;02;18;22	9735+15	83 01 1611-96
🎞️	5/7	103+14	01;01;09;09	9425+13	83 01 1611-93

3. Choose Modify from the Clip menu.

The Modify dialog box appears.



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



Depending on the modification you select, different options appear in the dialog box that allow you to establish the specific modification as shown in [Table 1-1](#).

Table 1-1 Modify Dialog Box Options

Type of Modification	Options	Description
Set Timecode Drop/ Nondrop	Drop, Nondrop radio buttons	Changes the timecode format between drop- and nondrop-frame
Set Timecode By Field	Start or End radio buttons	Changes either the Start or End timecode
	Fields for Hour, Minutes, Second, Frame	Allow you to enter custom timecode
Increment Timecode	Start or End radio buttons	Changes either the Start or End timecode
	Timecode entry field	Allows you to enter custom incremental timecode
Decrement Timecode	Start or End radio buttons	Changes either the Start or End timecode
	Field for timecode	Allows you to enter new incremental timecode
Set Key Number Generic (Prefix)	Field for Key Number	Allows you to enter a custom generic key number
Set Pullin	Punch frame timecode entry field	Sets the timecode location of the punch frame for pullin
	A, B, C, or D radio buttons	Selects the pulldown frame to match to the timecode entry
Set Tracks	V, A1, A2, A3, A4 track selector buttons	Changes the clips configuration of tracks
Set Source	Opens the Tape Name dialog box	Selects another source tape name for the clips

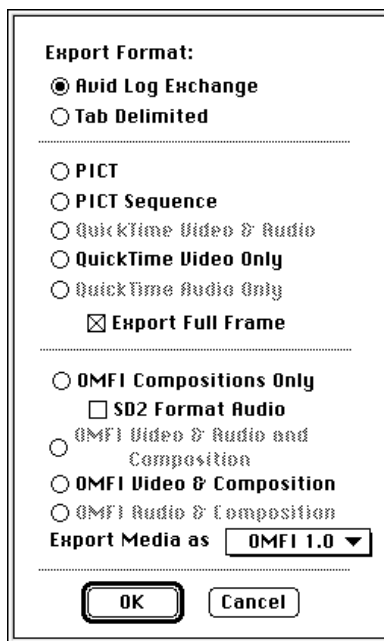
5. After choosing the type of modification, select an option or enter information into the entry fields (timecode values, for example) when they appear.
6. Click OK. The modification takes effect.

Exporting Log Files

You can export a log file from Film Composer in a variety of formats for making adjustments apart from the system, or importing into another system.

To export a log of the clips in a bin:

1. Open the bin you want to export and change to Text view.
2. Choose Export from the File menu. The Export Format dialog box appears.



3. Select an Export format:
 - Select Avid Log Exchange to export an .ALE log file for use in another Avid product.

- Select Tab Delimited to export a bin in generic tab-delimited text file format for use in a text editor, database, or spreadsheet program.
4. Click OK. The Save dialog box appears.
 5. Open the disk and folder where you want to save the file for exporting, type a file name, and click Save.



CHAPTER 2

Preparing to Digitize

Digitizing is the process of converting source material from analog videotape to digital form. Before you begin this process — described in [Chapter 3](#) — you need to complete the following preparations:

- [Selecting Settings](#)
- [Preparing the Hardware](#)
- [Audio Requirements for Film Transfers](#)
- [Setting Up the Compression Tool](#)
- [Setting Up the Digitize Tool](#)
- [Preparing for Audio Input](#)
- [Preparing for Video Input](#)

Selecting Settings

For more information on all settings options, see the *Avid Media Composer Products Reference*. For a complete description of procedures for locating and changing settings, see the *Avid Film Composer Getting Started Guide*.

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

- **Drive Filtering Based on Resolution** causes the system to dim all drives for which speed capabilities are unknown or untested in a particular Avid Video Resolution (AVR). Selected by default in the General Settings dialog box.



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

- **Deck Settings** include various options for source deck, sync mode, preroll, drop/non-drop-frame preference, and deck control.
- **Digitize Settings** include essential options for digitizing and batch-digitizing, including general parameters for capture of the source material, and special conditions such as using the pull-down flag for NTSC transfers, digitizing across timecode breaks or capturing a single video frame.

Preparing the Hardware

Your source material may originate from a videotape, a digital audiotape (DAT), a Compact Disc (CD), an in-house router, a tuner, or straight off-the-air, with the proper hardware configuration. The following are a few last-minute items to double-check prior to digitizing.

- **Full-Screen monitor.** Before you begin digitizing and editing, set up your NTSC or PAL full-screen monitor using a color bar generator (or house pattern) and lock in those settings, if you haven't done so already.

For more information on the 16 x 9 format option, see *Avid Film Composer Getting Started Guide*.

- **16 x 9 format.** You can edit with video in the 16 x 9 wide screen format. To digitize footage shot in the 16 x 9 format, you must have a compatible playback deck. To view the footage full-screen, you must have a 16 x 9 compatible full-screen NTSC or PAL monitor.
- **Remote switch.** The deck control switch on the front of the source deck must be set to remote rather than local to control the deck with the Digitize tool.
- **Striped drives.** If your footage contains complex images that you digitize at high resolution, you must use striped drives as described in the *AVIDdrive™ Utility User's Guide*. In addition, various models and AVRs have different striping requirements. For more information, see the *Avid Media Composer Products Reference*.



Media Composer does not support input and output of S-Video. Use the composite input/output to and from your S-Video equipment or a transcoder to digitize from S-Video format.

Audio Requirements for Film Transfers

Transferring your film to videotape affects not only the play rate of the picture, but the audio as well. In order to compensate, you must use the following settings for the pulldown switch on the Video Slave Driver:

- If digitizing audio from NTSC tapes, set the pulldown switch to .99.
- If digitizing from simul-DAT tapes created during the telecine transfer, set the pulldown switch to .99.
- When digitizing from PAL transfers, set the pulldown switch to 1.00.
- If digitizing audio directly from field DAT or Nagra with a normal play rate, set the pulldown to 1.00.

Also, when digitizing from DAT you must choose Digital from the Sync Source pop-up menu in the Audio Tool Setup display. For more information, see [“Preparing for Audio Input” on page 63](#).

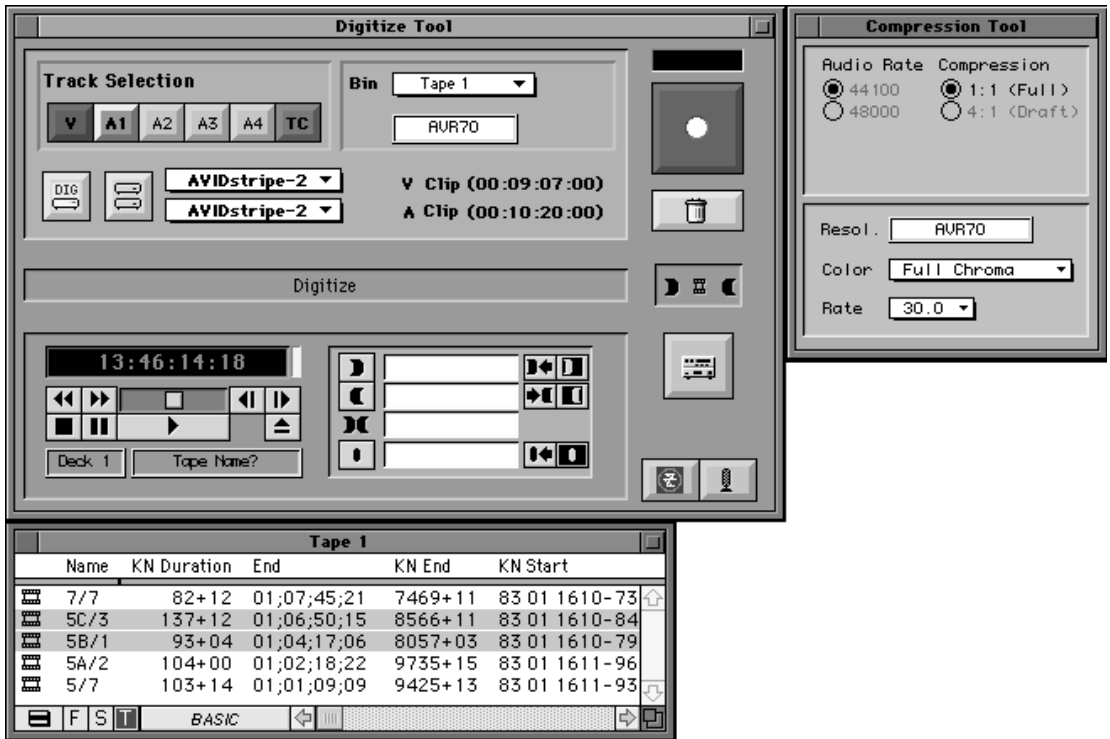


For complete information on audio for film projects, see the Avid Film Composer Getting Started Guide.

Entering Capture Mode

Capture mode provides all the tools and controls you need to capture your footage in digital form. When you enter Capture mode, the system initializes these tools and establishes an interface with the analog playback equipment attached to the system.

1. Make sure the playback deck is turned on and properly connected to the system.
2. Open your project and the bin in which you want to store your master clips.
3. With the bin active, choose Go To Capture from the Bin menu. The Bin monitor displays the Digitize tool, Compression tool, and the active bin.



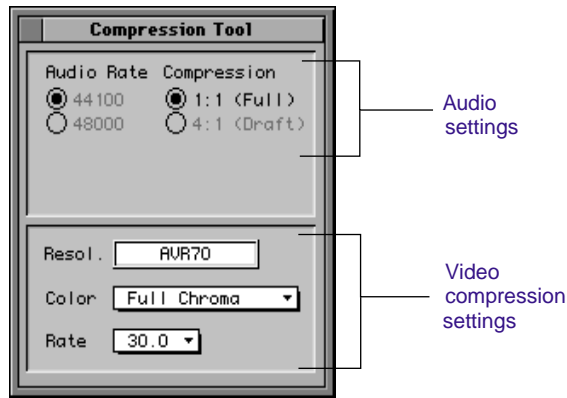
In Capture mode, the Client monitor displays the playback footage full screen at all times when the video track is selected in the Digitize tool.

Setting Up the Compression Tool

You can choose various compression parameters in the Compression tool. To choose compression settings:

1. Choose Compression from the Tools menu, or click the Compression tool icon in the Digitize Tool window if the tool is closed.

The Compression tool appears.



2. Make sure the proper audio sample rate is indicated under Audio Rate. The audio sample rate shown cannot be adjusted within the tool, but reflects hardware settings, as follows:
 - Systems using a two-channel audio board support 44100 Hz (44 kHz) only, and this setting is reflected by default in the Compression tool.
 - If your system uses the Digidesign audio interface and a four-channel audio card, you can set the audio sample rate at either 44100 Hz or 48000 Hz by adjusting the sample rate switch on the front of the Video Slave Driver.



Settings in both the Compression tool and the audio interface do not affect the sample rate of digital audio signals.

3. Choose the desired AVR, detail, color rate, and frame rate from each pop-up menu.

About the Color Rate Option

In addition to the AVR, the Color Options pop-up menu allows you to choose filter out color from each frame of video with either one of the following options:

- Reduced Chroma does not encode as much color information per frame.

- Monochrome removes all of the color information.

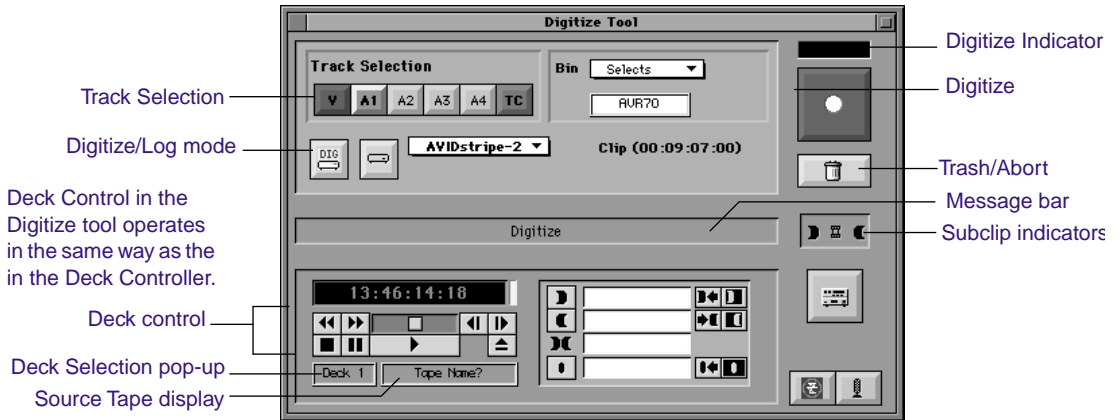
If you are digitizing black-and-white images, storage space will not be affected by these settings.



If you choose one of these settings and you intend to record professional-quality digital cuts, you will need to redigitize at Full Chroma before recording.

Setting Up the Digitize Tool

The Digitize tool provides controls for cuing, marking, and logging footage, and specifies digitizing parameters such as source and target locations. Click anywhere in the Digitize tool to activate it.



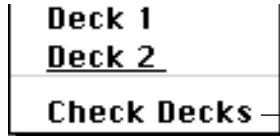
Using the Deck Selection Pop-Up Menu

The Deck Selection pop-up menu in the Digitize tool contains a list of all decks that were connected to the system, powered up, and initialized when you entered Capture mode. Deck 1 is selected by default.

You must have VLAN/VLX hardware to control more than one deck at a time. For more information on VLAN equipment, contact your Avid sales representative.

To activate playback from another available deck, choose the deck from the menu.

The menu also contains the command Check Decks below the list of decks. The check decks command helps you re-establish deck control if the power on your decks was turned off or the decks were disconnected when you first entered Capture mode.



Check Decks appears at the bottom of the Deck Selection pop-up menu

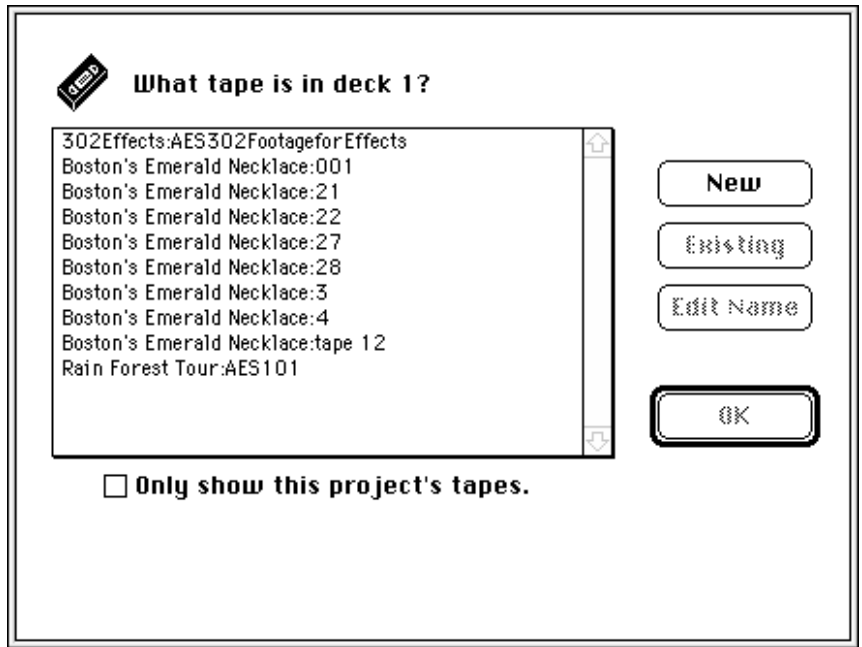


Once deck control has been properly initialized, it will remain active for all deck controllers throughout the session, until you quit the application.

Selecting a Tape

To select a source tape:

1. Insert a tape into your deck. The Tape Name dialog box appears.



2. Play the tape briefly so that the system can detect the timecode format of the tape (drop-frame or non-drop-frame). Otherwise, the system maintains the timecode format set in Deck settings, regardless of the format on the tape, and you may get a Wrong Tape message.



Drop-frame timecode appears in the Timecode indicator with semicolons between hours, minutes, and seconds, and frames. Non-drop-frame timecode appears with colons.

For information on tape naming conventions in Media Composer, see [“Naming Tapes” on page 21](#).

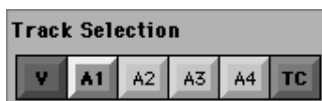
3. Provide the system with a tape name in one of the following ways:
 - Select the name of the tape from the list displayed in the Tape Name dialog box and click OK.
 - Click New if the tape is not in the list. A new tape name line appears at the bottom of the dialog box. Type the new name and click OK.

Selecting Source Tracks

You can choose the tracks to digitize from the source tape. Click the video and audio track buttons in the Digitize tool to select only those tracks that you want to digitize.



When using an Avid-controlled deck connected, the TC (timecode) track will be selected by default, and the system will digitize the timecode from the source tape. If you deselect the TC button, the system will digitize with timecode-of-day. For more information, see [“Digitizing with Timecode-of-Day” on page 97](#).



If you are not seeing the source video or hearing source audio in Capture mode, toggle these buttons to make sure they are not the cause.



You can select or deselect all tracks at once by pressing the Option key and clicking any track selector.



When batch digitizing, if the tracks are already logged into the bin, this selection will be made automatically, unless you deselect the option “Digitize the tracks logged for each clip” in the Digitize settings. For more information on Digitize Settings, see the *Avid Media Composer Products Reference*.

Choosing a Resolution in the Digitize Tool



If you did not already choose a resolution in the Compression tool, or the Compression tool is closed, you can use the Resolution pop-up menu in the Digitize tool.

To choose a resolution, click the pop-up menu above the deck controls in the Digitize tool and make a selection.



For more information on AVRs, see the Avid Media Composer Products Reference.

Choosing the Target Bin

You select a target bin as the destination for the master clips created when you digitize on the fly. Or, you select a target bin containing the logged clips you will use to batch digitize your media.

To choose a target bin, do one of the following:

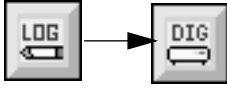
- Choose an existing bin from the pop-up menu.



- Activate a previously created bin by choosing Open Bin from the File menu, locating, and opening the bin in the Open Bin dialog box.
- Create a new bin by choosing New Bin from the File menu, and then naming and opening the new bin in the New Bin dialog box.

Targeting Drives

Targeting drives for the digitized media is a three-step process:



For tips on targeting media drives for effective storage and playback, see the *Avid Media Composer Products Reference Guide*.

1. Make sure you are in Digitize mode. If the tool is in Logging mode, click the Digitize/Log button to return to Digitize mode.
2. Decide whether to digitize audio and video to a single drive, or separate drives, as described in the following sections.
3. Choose the specific target drives from the pop-up menus, as described in the following sections.

Targeting a Single Drive

By default, the Digitize tool targets a single media drive volume for digitizing the audio and video for each clip. Use this option when you are digitizing in a single-field resolution, for instance, and playback performance is generally not an issue.

To target a single drive:



1. Click the Single/Dual Drives button to display a single drive icon.
2. Choose a drive volume from the Target Drive pop-up menu.



The name shown in bold in the menu has the most storage available. Time remaining on the selected drive, displayed above the menu, is calculated based on your AVR selection.

Targeting Separate Drives for Audio and Video

Optionally, you can target separate drives for video and audio tracks. This option improves performance because the system is not required to address all the information in separate locations on a single disk. You can also digitize for the longest continuous amount of time because the system is storing material on two disks rather than one.

To target separate drives for audio and video:

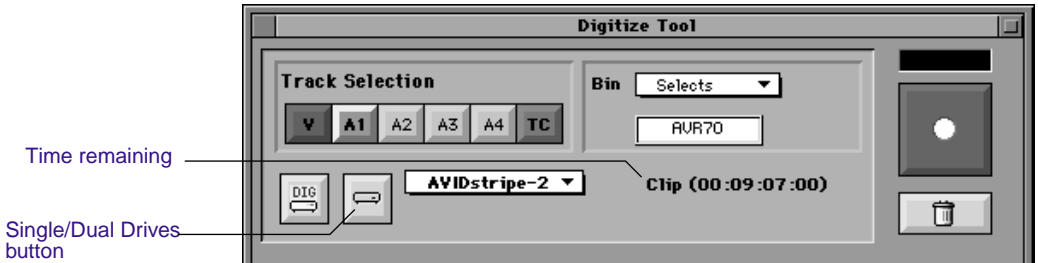


1. Click the Single/Dual Drives button to display a two-drive icon.
2. Choose separate drive volumes for audio and video from each Target Drive pop-up menu.

Names shown in bold in the menus have the most storage available. Time remaining on each selected drive, displayed above each menu, is calculated based on your AVR selection.

Interpreting the Time-Remaining Display

By default the Digitize tool displays a time-remaining for each clip after you select an AVR and target drive or drives for the digitized media.



You can interpret this display based on the following factors:

- Each digitized clip is limited by the Macintosh operating system to a maximum file size of 2 gigabytes.
- When adequate space exists on the chosen drive, the time-remaining displayed in the Digitize tool is based on 2 gigabytes per clip at the chosen AVR. This number will reappear for each clip digitized, as long as there is adequate disk space.
- When you choose another AVR, the time-remaining display adjusts accordingly.

- When the storage space on the chosen drive is less than 2 gigabytes, the time-remaining will begin to decrease for each clip digitized, until the drive is full.

You can also press the Option key and click the Single/Dual Drives button to show the total time-remaining on the chosen drive at the selected AVR.

Preparing for Audio Input

The Audio tool, along with your hardware’s audio parameters, allows you to do the following in preparation for input:

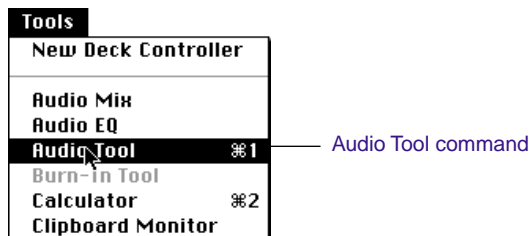
- Check and manage your audio hardware setup
- Calibrate system input levels
- Set audio levels before digitizing

In addition, controls in the Audio tool allow you to calibrate, set levels, and generate customized calibration tone for output to the speakers or a record device. For more information on output procedures involving the Audio tool, see [“Preparing for Output” on page 449](#).

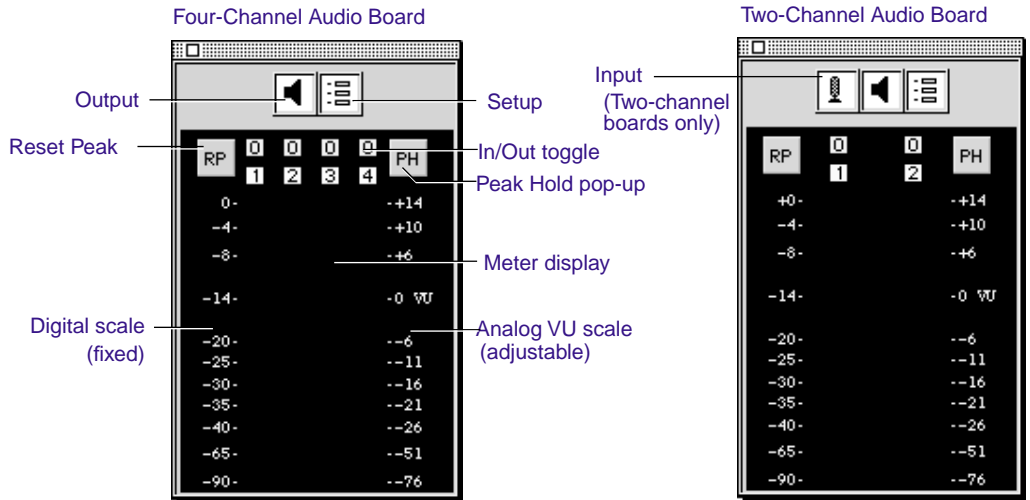


Audio Tool button

To open the Audio tool, choose Audio Tool from the Tools menu, or click the Audio Tool button in the Digitize tool.



The Audio tool appears. The tool displays meters for either four or two channels, depending upon your Media Composer model.



The Audio tool has the following characteristics:

- The Output button displays a panel that contains a single slider control for raising or lowering global audio output.
- The Setup button displays a panel that contains information and controls for adjusting various audio hardware parameters.
- The Reset Peak button resets the current maximum peak measurements. It also stops the playback of the internal calibration tone.
- The In/Out buttons toggle the meter displays for each channel between input levels from a source device and output levels to the speakers and record devices. I indicates Input, and O indicates Output.
- The Peak Hold pop-up menu allows you to choose options for customizing the meter displays, and setting and playing back the internal calibration tone.
- The digital scale to the left of the meters displays a fixed range of values from 0 to -90 dB (decibels), according to common digital peak meter standards.

- The VU (Volume Unit) scale to the right of the meters displays a range of values that you can conform to the headroom parameters of your source audio.
- The meters dynamically track audio levels for each channel as follows:
 - Meters show green below the target reference level (default reference level is -14 dB on the digital scale).
 - Meters show yellow for the normal headroom range, above the reference level to approximately -3 dB.
 - Meters show red for peaks approaching overload, between -3 dB and 0 (zero) dB.
 - Thin green lines at the bottom indicate signals below the display range.

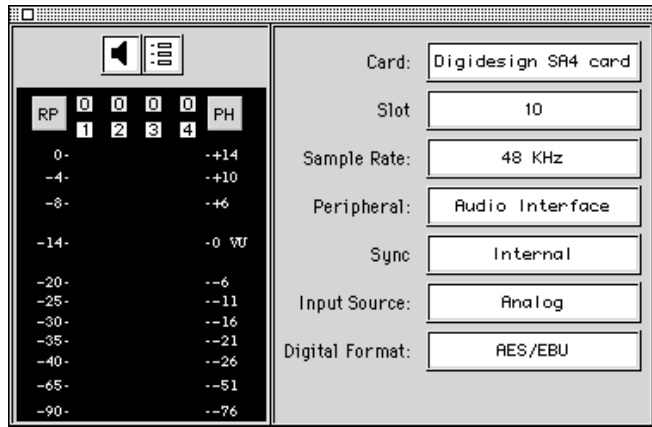
Using the Audio Tool Setup Display

You can use the Audio Setup display in the Audio tool to check the current configuration of audio hardware, and to choose various input options.



- To open the Audio Setup display, click the Setup button in the Audio tool.

The screen displays the audio setup controls and information about your system's audio hardware and configurations.



The first four items in the display are informational, and cannot be changed from within the Audio tool. These include:

- The type of audio card installed
- The slot number where the card is located
- The sample rate for audio input, determined by the position of the Sample Rate switch on the Digidesign audio interface (four-channel systems only)
- The type of peripheral audio device attached to the system (audio interface)

You can make adjustments to any of the final three options from within the Audio tool by clicking the option and making a new selection from the pop-up menu. These selections include:

- The Sync pop-up menu, which includes two optional sources for audio sync:
 - *Internal*—This sets the clock and timing for the sample rate internally. If your system is equipped with the Avid Digidesign audio interface and black burst generator, set the Sync Mode to Internal.

- *Digital*—If you are using a digital source that provides a digital word-clock signal, set the Sync Mode to Digital. Choose digital if you are digitizing from DAT (digital audiotape).



You must plug a digital source device to the through the Avid Digidesign audio interface if you have system with a four-channel audio board.

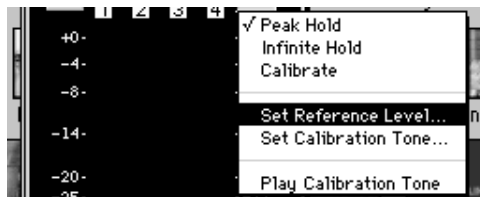
- The Input Source pop-up menu, which includes two options for the type of input: analog or digital.
- The Digital Format pop-up menu (systems with four-channel audio boards only), which provides two options for the digital input format if you chose Digital as the input source:
 - AES/EBU (Audio Engineering Society / European Broadcast Union)—the industry format
 - S/PDIF (Sony / Phillips Digital Interface Format)—the consumer format

Adjusting the Reference Level

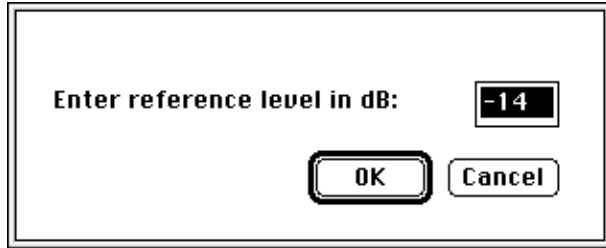
The VU (Volume Unit) scale to the right of the meters is a sliding scale relative to the fixed digital scale displayed on the left. You can adjust the VU scale up or down based upon the *headroom* parameters of your playback devices.

To customize the VU scale:

1. Choose Set Reference Level from the Peak Hold pop-up menu.

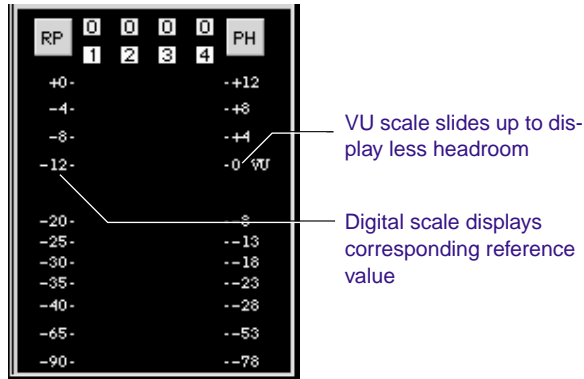


The Reference Level dialog box appears.



2. Enter the new value for the reference level (-12, for example), and click OK.

The VU meter scale slides to match the new reference level, which is displayed on the digital scale.



Choosing a Peak Hold Option

The Peak Hold pop-up menu provides two options for displaying peak levels in the meters, as follows:

- When you choose Peak Hold, the meters display a normal rising and falling volume trail in the meters. This is the default option.
- When you choose the Infinite Hold option, each meter permanently retains a single bar at the peak volume level measured dur-

ing playback. The effect is cumulative: the bar continues to rise and hold with each new peak, and serves as a record of the highest peak for each channel.



To delete the peaks and start over at any time, click the Reset Peak button.

To enable either Peak Hold or Infinite Hold, click the pop-up menu and choose an option.

Adjusting Input Levels

This section describes procedures for calibrating and adjusting audio input levels with the Audio tool. The types of adjustments you can make—and the procedures you use—vary depending upon whether your system is equipped with a two-channel audio board or a four-channel audio board, as follows:

- You can use the calibration controls in the Audio tool to calibrate the Avid Digidesign audio interface input levels on systems equipped with four-channel audio boards.
- You can use input level controls in the Audio tool on systems equipped with two-channel audio boards to calibrate and set levels during digitizing.
- You can use additional procedures described in this section to avoid digitizing over- or under-modulated audio due to variations in levels among the source material, playback devices, and the Media Composer system.

To adjust input levels:

1. Click the IN/OUT toggle buttons for the appropriate channels to display the I for Input.
2. Play back the source audio (from a videotape or DAT, for example). If the recording includes reference tone, cue to the tone and play it back.



Voice recording serves as a good backup reference. Upper peaks of inflection should reach the normal target range (around -14 dB on the digital scale or 0 dB on the VU scale with playback from videotape, for example).

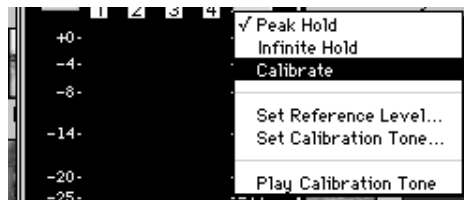
3. Adjust the output on the playback device so that the device's volume meter shows the appropriate level for the reference signal (0 dB for videotape playback, for example).
4. Adjust the input levels using the following procedures for either two- or four-channel systems.

Adjustments for Four-Channel Audio Board Systems

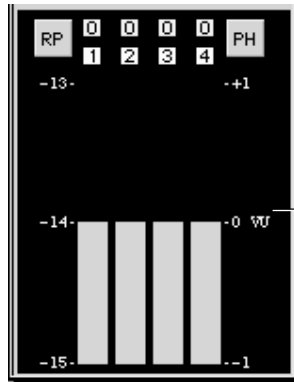
You can use the calibration features of the Audio tool to fine-tune the Trim level settings of the Avid Digidesign audio interface. These adjustments should be made when you first install the system, and repeated occasionally thereafter (once a month, for example).

To calibrate the audio interface:

1. Choose Calibrate from the Peak Hold pop-up menu.



The Audio tool changes to Calibrate mode: the scales display a range of approximately 2 dB, and the meters indicate levels within this range.



VU scale varies, displaying custom reference level setting, +1 dB above and -1 dB below.

2. Use a jeweler's screwdriver to fine-tune the Input Level Trim pots on the Avid Digidesign audio interface until the peaks rest at the appropriate value.
3. To return to the default display, choose Calibrate from the Peak Hold menu.

To set the input level during digitizing, adjust the level externally until the signals fall within the appropriate range on the meters:

- Adjust the output level on the playback device.
- Put an audio mixer in line, and use it to adjust each of the tracks separately.
- Put an audio compressor in line. This allows other adjustments of the audio levels as well as overall volume.

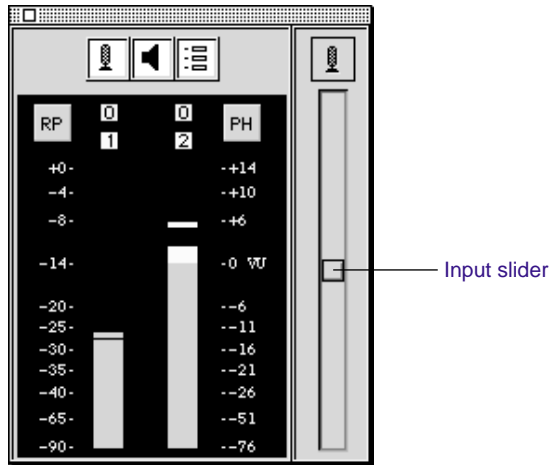


You cannot adjust the levels for four-channel audio board systems from within the Audio tool.

Two-Channel Audio Board Systems

To set the input level during digitizing for two-channel audio board systems:

1. Click the Input button (microphone icon) to display the input level slider.



2. View the meters and adjust the slider to the appropriate level.

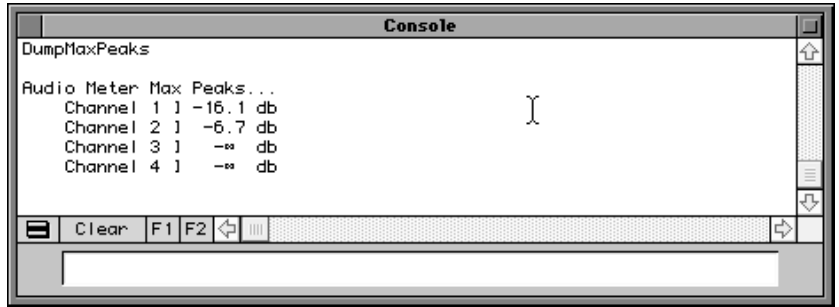
Checking Levels in the Console

Once you have played back audio through the Audio tool, you can use the Console to view a list of precise information about the peak levels.

To check peak levels in the Console:

1. Click the Reset Peak button to clear the system's record of the most recent maximum peaks.
2. Open the Audio tool, and play a sequence or portion of the sequence.
3. After playing back the audio, open the Console by choosing Console from the Tools menu.
4. In the Console command line, type:
`DumpMaxPeaks`
5. Press Enter.

A list of peak values appears in the Console.



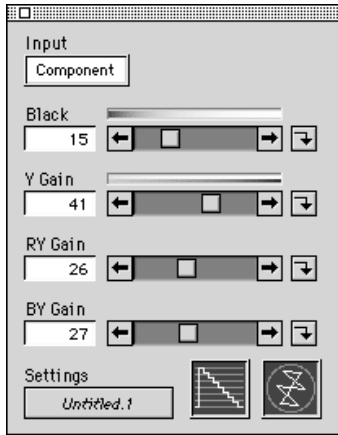
Preparing for Video Input

Film Composer provides both a Video Output tool and a Video Input tool for calibrating either composite or component video.

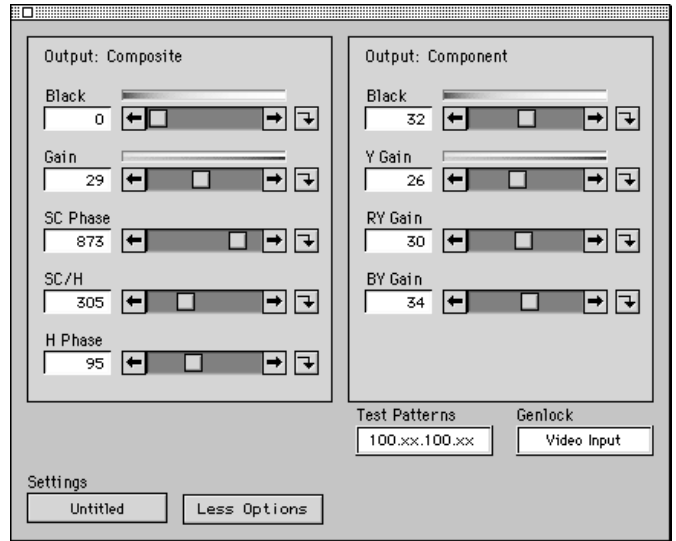
If your system is equipped with the Serial Digital card (replacing the Betacam card) you can digitize material directly from a D1 or digital Betacam VTR without the need of calibration — much like direct input of digital audio from DAT or CD.

To open either the Video Input or the Video Output tool, choose one from the Tools menu.

Video Input tool



Video Output tool



You can also open the Video tool in Capture mode by clicking the Video Tool button at the lower right corner of the Digitize tool.

For more information on calibrating for video output, see [“Calibrating for Video Output” on page 451](#).

Film Composer supports the SMPTE/EBU component standard, but does not support the MII component video standard.

This section provides essential information for input calibration. You should proceed as follows:

- Make sure your monitor is properly calibrated for displaying footage accurately. See your monitor’s hardware documentation for more information.
- If your system’s output settings have not already been calibrated according to house standards, use the procedures described in [“Calibrating for Video Output” on page 451](#). If you are in a facility where this is not necessary, leave the output settings at their preset values.

- If you are using footage in the Japanese NTSC format standard, deselect the option NTSC Has Setup in the General Settings dialog box. This will enable the appropriate display for the setup portion of the signal in the waveform monitor.
- Proceed to calibrate the input levels for each videotape when you digitize in order to ensure continuity of picture quality between tapes, as described in [“Calibrating for Video Input” on page 76](#).



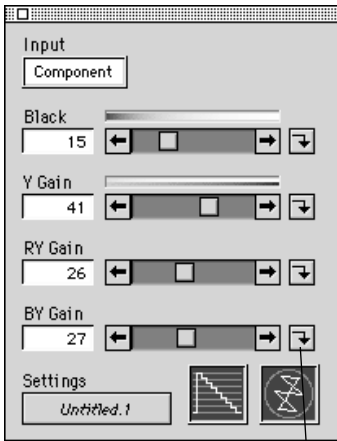
If your system is equipped with the Serial Digital card for input from a D1 or digital Betacam VTR, you do not need to calibrate input signals. Proceed to [Chapter 3](#).

Using the Factory Presets

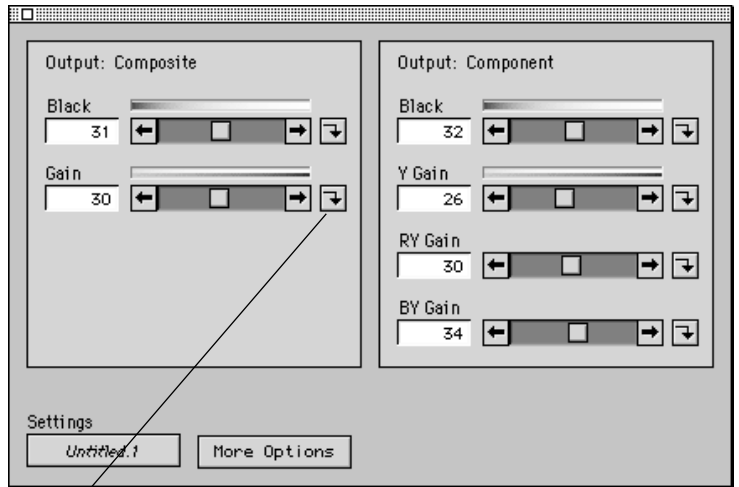
The preset buttons on both the Video Input tool and the Video Output tool show the status of each calibration setting as follows:

- When you first open the Video Input or Output tools, all preset buttons are lit (green), with the factory presets loaded for each slider.

Video Input tool



Video Output tool



Preset buttons

- When you click a lit preset button, the button becomes unlit (gray), and the slider returns to the most recent manual level setting.
- When you click an unlit preset button, it becomes lit (green), and the slider moves to the factory preset level for that parameter.

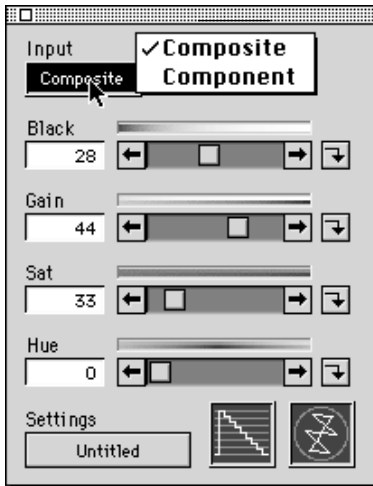
As you adjust levels in the Video Input or Output tools, you can toggle the preset buttons between the levels you set manually and the factory preset levels.

Calibrating for Video Input

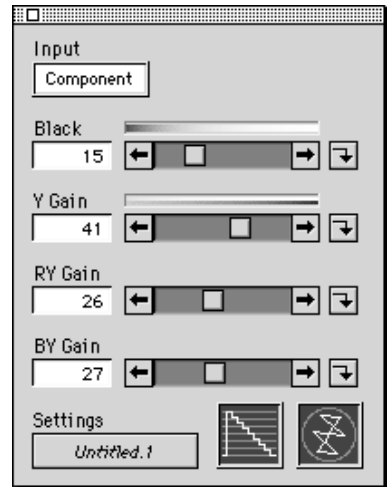
To calibrate for videotape input:

1. Choose Video Input Tool from the Tools menu. The Video Input tool opens.

2. Choose the appropriate input channel from the Input menu: Composite or Component.



Choose either Composite or Component to display the correct controls and select the proper input channel



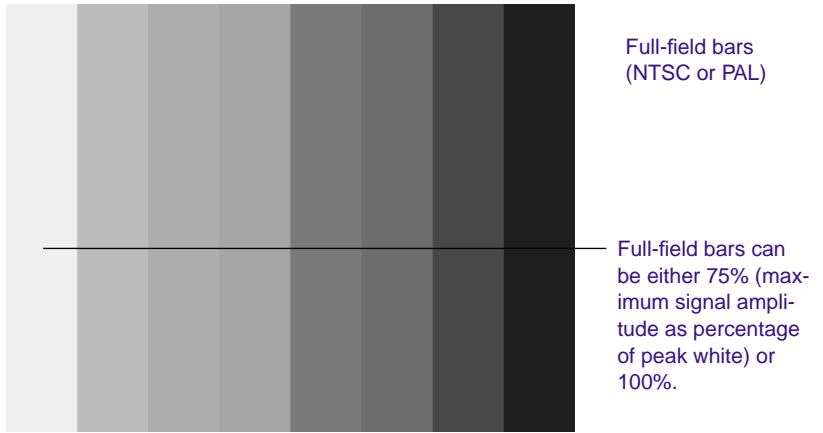
3. Cue the tape to the section containing bars and tone (usually the beginning) and play the tape.



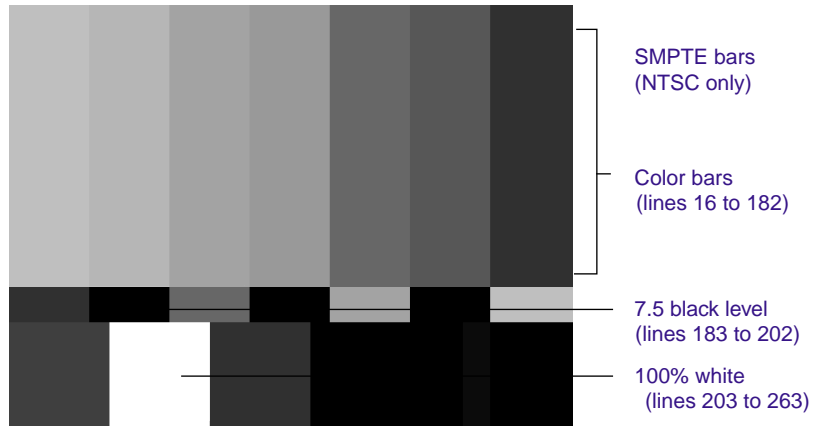
Always play the tape when calibrating. Signal display is unstable when the tape is paused.

The third Full-Screen monitor displays either of the following types of bars:

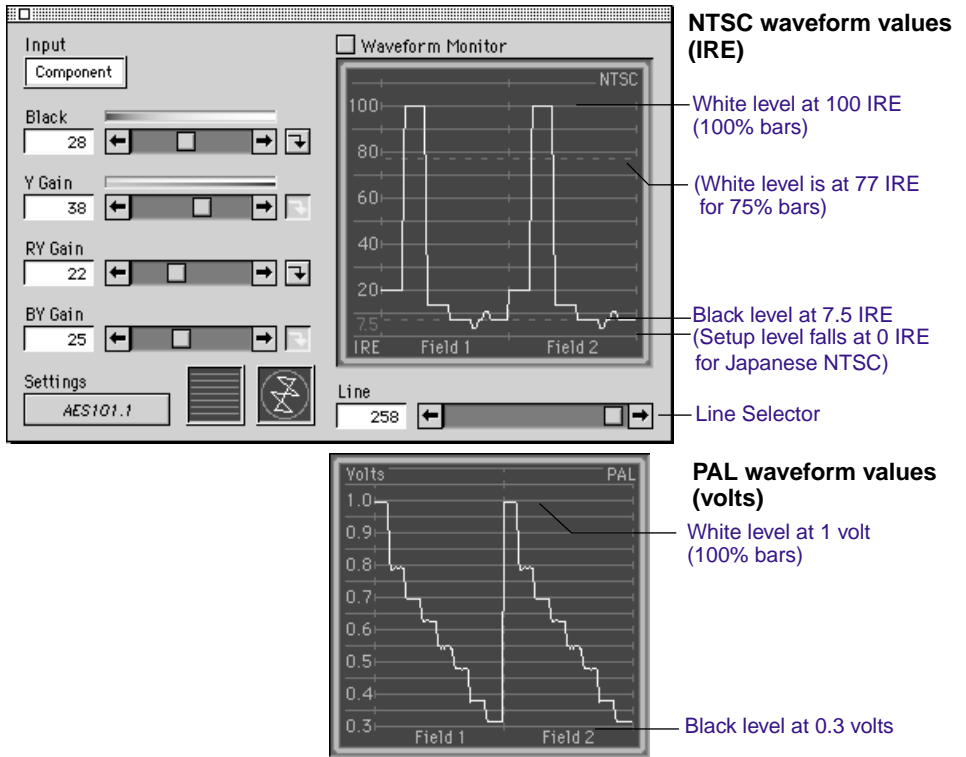
Full-field color bars



SMPTE standard split bars



4. Open the internal waveform monitor by clicking the icon located at the lower right of the tool.

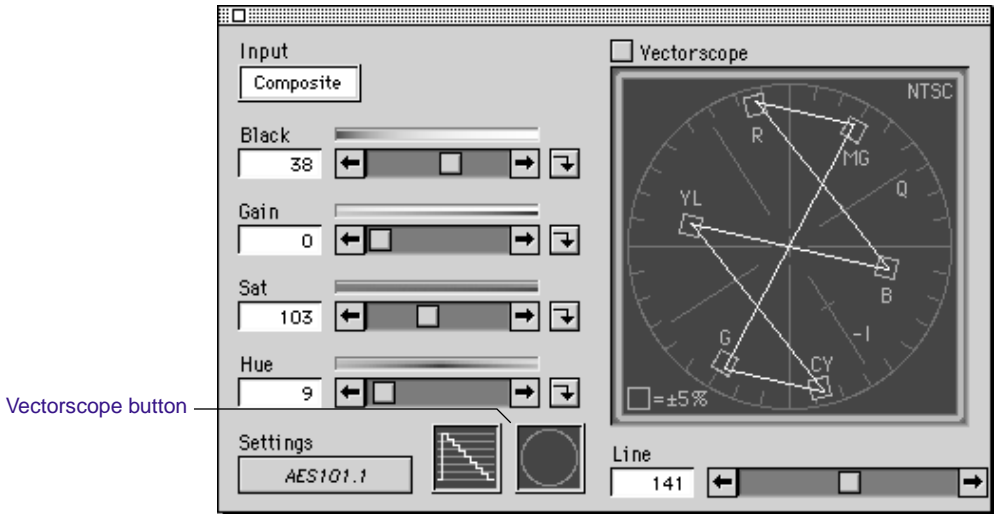


- Adjust the Line Selector slider located below the waveform monitor to display the appropriate line of the test pattern, then adjust the luminance values based on [Table 2-1](#).

Table 2-1 Luminance Settings

Parameter	SMPTE bars	Full-field bars at 75% signal level	Full-field bars at 100% level	Japanese NTSC
Black level (setup)	Adjust Line Selector to approx. 183	Adjust Line Selector to approx. 150	Any line	Any line
	Adjust Black slider to 7.5 IRE (NTSC)	Adjust Black slider to 7.5 IRE (NTSC), 0.3 volts (PAL)	Adjust Black slider to 7.5 IRE (NTSC), 0.3 volts (PAL)	Adjust Black slider to 0.0 IRE
White level (gain)	Adjust Line Selector to 203	Adjust Line Selector to 150	Adjust Line Selector to 150	Adjust Line Selector to 203
	Adjust Gain/Y Gain slider to 100 IRE (NTSC)	Adjust Gain/Y Gain slider to 77 IRE (NTSC), .825 volts (PAL)	Adjust Gain/Y Gain slider to 100 IRE (NTSC), 1.0 volts (PAL)	Adjust Gain/Y Gain slider to 92.5 IRE (NuVista card systems) or 100 IRE (ABVB card systems)

6. Close the waveform monitor, and open the vectorscope monitor by clicking the Vectorscope button.



7. Adjust the Line Selector to display the signal for color bars at around line 150 (this applies to all formats and all types of bars).
8. Adjust the Sat and Hue sliders (composite) or the RY Gain and BY Gain sliders (component) until the angle and amplitude of the six color vectors fall within the target boxes on the vectorscope.



There is no hue adjustment for PAL video.

Saving Settings

You can also color correct shots by applying the Color effect to segments in the Timeline and making adjustments in Effect mode. For more information, see the *Avid Media Composer and Film Composer Effects Guide*.

You can save the settings for an individual tape each time you calibrate bars. For example, you may have one or a series of shots that require color correction (the shots are dark, too bright, or were not shot with the proper color balance or filtering). You can make corrections using the Video Input tool now, or at any time during or after editing in order to match shots in the sequence.

To save the calibration settings for an entire tape:

1. After calibrating as described in the previous section, choose Save As from the Settings pop-up menu. The Save As dialog box opens.
2. Type a name for the settings.
3. Click OK.



If you give the settings the same name as the tape name, Film Composer will apply the settings automatically when that tape is loaded into the deck in the future (for example, when redigitizing).

Whenever you batch digitize or redigitize, the system recalls the saved settings as follows:

- The system looks for a tape setting. If the setting exists, the system recalls it.
- If no tape setting exists, the system uses the default Video Input tool settings.

Adjusting Video Levels by Eye

Color bars are the best way to set the video levels consistently. However, if you have a tape or series of tapes with no color bars, you may need to adjust levels by eye. To do this, use the following criteria:

- Blacks should not seem flat and lacking detail. Find the blackest region of an image (shadows work better than black objects) and adjust the setup.
- Whites should not be washed out or lacking detail. Find the whitest region of an image (bright, well-lit regions work better than white objects) and adjust the gain.
- Skin colors should be realistic. Find a skin color and adjust both hue and saturation as necessary.
- Pure yellows should be a rich gold and not reddish or greenish in tone. Find a pure yellow and adjust both hue and saturation as necessary.

Digitize Preparations Checklist

- Make sure you have the desired options selected in the General Settings, Deck Settings, and Digitize Settings dialog boxes.
- Check your hardware configurations: power on switches, cable connections, pulldown switch on the Video Slave Driver, and remote switch on the source deck for deck control.
- Consider striping your drives in advance according to the *AVIDdrive Utility User's Guide* if you are working on a complex project with multiple streams of video and high-resolution images.
- Insert a tape into the deck and set up the Digitize tool for track selection, target bin, target drives, source tape, and source deck.
- Set up the Compression tool for audio sample rate, AVR, detail and color compression, and frame rate.
- Use the Audio tool to set the audio input levels.
- Use the Video tool to set the video input levels for setup, gain, saturation, and hue; save your video settings for future use.



CHAPTER 3

Digitizing

When you digitize, you convert source material from videotape into master clips that contain reference information. You also create associated media files that contain the digital audio and video. Once you prepare the capture tools as described in [Chapter 2](#), you can digitize the source material in one of several ways, as described in the following sections:

- [Before You Begin](#)
- [Special Digitizing Procedures](#)
- [Digitizing and Logging at the Same Time](#)
- [Batch Digitizing](#)
- [Redigitizing Your Material](#)

Before You Begin

Depending upon your immediate needs, use the following guidelines for working through this chapter based on a chosen digitizing method:

- If you would like to use the Avid Media Reader, the pulldown flag indication, add locators, create subclips, or log errors to the con-

sole during digitizing, read [“Special Digitizing Procedures” on page 85](#).

- If you have no logs and would like to begin digitizing right away, see [“Digitizing and Logging at the Same Time” on page 89](#).
- If you have logs already entered in a bin and would like to automate the digitizing process with playback from an Avid-controlled deck, see [“Batch Digitizing” on page 98](#).
- If you are redigitizing deleted media or have imported a sequence that lacks the associated media files, see [“Redigitizing Your Material” on page 102](#).

Preparing Digitize Bins

If you have not already prepared a structure of bins for your project as described in the *Avid Film Composer Getting Started Guide*, consider the following tips before digitizing:

- You can create one bin for each day’s worth of dailies transfers. This helps avoid slowing the system with large bins, associates each bin with a source tape for better organization, and simplifies redigitizing.
- You can name the bin after the tape, so that when you autodigitize or digitize on the fly without noting a tape name, the system will automatically name each clip or take after the bin (tape) and number them sequentially for easy reference.

Special Digitizing Procedures

This section describes several optional procedures that you can use during the digitizing process.

Using the Avid Media Reader

If your system has the Media Reader, see your *Avid Media Reader Setup and User's Guide* before digitizing. If you are interested in learning more about the Media Reader, contact Avid for details.

The Avid Media Reader is a powerful and flexible external standalone LTC/VITC timecode reader and encoder. It enables the Film Composer system to decode up to three lines of VITC (vertical interval timecode) or one line of VITC and one line of LTC (longitudinal timecode) while digitizing. It automatically adds the information to the bin while creating subclips based on timecode breaks in any or all of the VITC lines.

Logging Errors to the Console

The Console is useful during the digitizing process for logging digitize errors, as described in the *Avid Film Composer Getting Started Guide*.

To open the Console, choose Console from the Tools menu.

For more information on Digitize Settings, see the *Avid Media Composer Products Reference*.

- If the option “Log errors to the console and continue digitizing” is selected in the Digitize Settings dialog box, when you batch digitize and the system encounters an error it will abort the clip, enter error comments into the console, and continue digitizing the next clip.
- If the option “Log errors to the console and continue digitizing” is not selected in the Digitize Settings dialog box, an alert message will appear and the system will pause if an error occurs while digitizing. If this happens, do the following:
 - a. Click Try Again to retry the operation. The clip may digitize successfully.
 - b. If the clip does not digitize the second time you try, the error message appears again. Click Next Clip to skip the clip that caused the error, and continue batch digitizing any remaining clips, or Click Abort to cancel the entire Batch Digitize process.

- c. Make note of all errors, messages, and steps that you've taken and decide whether to troubleshoot the problem on your own or contact Avid Support.

Creating Subclips On the Fly

For information about creating subclips after digitizing, see the *Avid Film Composer Getting Started Guide*.

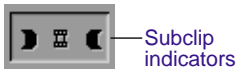
Subclips are marked sections of a longer master clip that you can view and edit like any other object in a bin. This section describes a shortcut method for creating subclips on the fly during digitizing. The maximum number of subclips you can generate while digitizing a clip is 50.

To create a subclip on the fly:

1. Start digitizing as usual.
2. At the point where you want to begin the subclip, press the F1 key.

This highlights the subclip IN mark indicator in the Digitize tool.

3. While the system is digitizing, you can enter a name for the subclip by typing the name. Press the Tab key to enter comments about the clip.
4. When you want the subclip to end, press the F2 key. This highlights the subclip OUT mark in the Digitize tool.



You can press the F2 key repeatedly as you search for the end point of the subclip. The system accepts the last occurrence as the end point. You can also press the F1 key again remove the previous subclip marks.

The subclip appears in the target bin when you press the F1 key again to mark another subclip, or when you stop digitizing.

As you continue to mark subclips while digitizing, a number appears between the subclip indicators to show the number of subclips created so far.

Using the Pulldown Flag While Digitizing

If you are digitizing on the fly for a film project with an NTSC film-to-tape transfer prepared with the white flag option (transfers which incorporate the “white flag” or white bar indication in the blanking interval of every A-frame), you can select the “Use pulldown flag while digitizing without an IN point” option in the Digitize Settings to automate the selection of the pulldown frame of the sync point.

This option does not affect batch-digitizing, only the procedures described in the the section [“Digitizing and Logging at the Same Time” on page 89](#). When you cue the tape or mark a chosen inpoint and start the digitize process, the system will automatically begin digitizing at the first white flag or A-frame for calculating the pulldown of the sync point.

To enable the pulldown flag option:

1. Click the Settings button in the Project window.
2. Double-click Digitize.
3. Check “Use pulldown flag while digitizing without an IN point.”
4. Press the shadow box and select the correct line from the list.
5. Click OK or press Return.

When you are ready to digitize, use any of the methods described in the section [“Digitizing and Logging at the Same Time” on page 89](#), and the sync point will be automatically calculated based in the white flag indication.

Adding Locators On the Fly

For more information on specific uses for locators, see the *Avid Film Composer Getting Started Guide*.

Locators mark a single frame within a clip or sequence so that you can attach a note or find the frame at a later time. This section describes a shortcut method of adding locators on the fly while digitizing.

To add a locator mark to a frame while digitizing, watch the playback of the footage in the Edit monitor and press the F3 key when you see the appropriate shot or frame.

Adding Comments On the Fly

Film Composer's annotate feature allows you to type comments during the digitizing of a clip. These comments are saved in the clip Comments column. You can add comments about such things as color correction or directions for editing.



To carry your comments over to the sequence so that they will appear in the Timeline, in EDLs, or in cut lists, you must add the comments again when creating the sequence using the Add Comments command in the Monitor menu.

To add comments on the fly, start typing at any time during the digitizing of a clip. The annotate window will appear on screen, allowing you to see the text as you type. You cannot edit the text until after the digitizing is complete, but you can backspace and retype the information.

Digitizing and Logging at the Same Time

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

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

- **Digitizing from a mark IN to a mark OUT.** This method lets you specify the exact timecode location to begin and end digitizing. You can also specify only a mark IN or mark OUT, and enter the

other mark on the fly. These procedures are described in [“Digitizing from a Mark IN to a Mark OUT” on page 91](#).

- **Digitizing on the fly.** This method is easier than setting marks, but it is more imprecise. It involves using the deck controls in the lower left corner of the Digitize tool to cue, play, and stop the source footage manually while digitizing. These procedures are described in [“Digitizing On the Fly” on page 93](#).
- **Autodigitizing.** This method requires the least amount of supervision and effort, but usually calls for more digitizing time and disk storage space. It involves playing each source tape from a cue point near the beginning and letting the system digitize the entire tape, automatically naming and entering each cut into the bin. These procedures are described in [“Autodigitizing” on page 95](#).

Two additional techniques you can use when digitizing and logging at the same time are described in [“Digitizing from a Non-Avid-Controlled Deck” on page 96](#) and [“Digitizing with Timecode-of-Day” on page 97](#).

You can log and digitize at the same time with both PAL and NTSC transfers as the source, but when digitizing an NTSC transfer you must observe the following basic rules:

- Specify the Pulldown of the sync point frame before digitizing.
- Alternatively, select the “Use pulldown flag while digitizing without an IN point” option in the Digitize Settings window.
- The mark IN must be an A frame, and you cannot digitize with a mark OUT only.



When you capture footage from an NTSC film-to-tape transfer with pulldown for a film project, the playback flickers in the full-screen monitor during digitizing because the system is dropping occasional frames due to the pullin process. The footage will play back smoothly in Film Composer, however, once the pullin conversion is complete.

Digitizing from a Mark IN to a Mark OUT

Digitizing from a mark IN to a mark OUT lets you specify exactly where to begin and end digitizing. You can specify only a mark IN or mark OUT, and the system enters the other mark on the fly. Use this method in the following circumstances:

- If logs exist in written or printout form but not in the proper format for quick import into the system
- If the IN and OUT marks are rough and need to be double-checked for accuracy
- If you are familiar enough with the source material to estimate the timecode for the mark IN, the mark OUT, or both, quickly and accurately.

Setting Both Marks

To digitize by specifying a mark IN and a mark OUT:



Mark IN



Mark OUT

1. Set either an IN mark or an OUT mark for the clip you want to digitize, using either of the following methods:
 - Use the deck controls in the Digitize tool (or on the MUI or Steenbeck controller). Cue your source tape to where you want to start or end the clip, and click the Mark IN or Mark OUT button.
 - If the material starts at a known IN or ends at a known OUT, you can type the timecode in the display area next to the mark. Press Return to enter the mark.

If you need to double-check the accuracy of the IN or OUT mark, click the Go To button. The system cues the tape and pauses the deck at the mark. You can play the tape and reset the mark, if necessary.



2. To finish logging the clip, use either of the following methods:
 - Set the corresponding IN or OUT mark.

- Type a timecode for the clip's duration in the display area next to the Duration mark (below the OUT mark).

The system automatically calculates the appropriate timecode for the corresponding mark IN, mark OUT, or duration.

3. Click the Digitize button in the Digitize tool, or press the B key on the keyboard.

The Digitize tool automatically rewinds the tape to the preroll point before the IN point of the clip, and the tape begins to play. The Digitize button becomes bright red, and the Message bar displays the message that Film Composer is digitizing.

4. While the system is digitizing, you can type a clip name. To enter comments about the clip, press the Tab key after typing a clip name. The information that you type does not appear on the screen until you have completed digitizing. (After you log clips, you can modify information to correct input errors or to add information.)

When the tape reaches the clip's OUT point, digitizing stops, and the system creates a new clip in the bin.

Setting Only One Mark

To set only one mark and enter the other mark on the fly:

- Set an IN point, and click the Digitize button to begin digitizing. Then, click the Digitize button again to stop digitizing on the fly and set a mark OUT.

This method is useful if you don't need a precise mark OUT. You save time because you don't have to shuttle to locate the mark OUT before digitizing.

- Set a mark OUT only, then move to the position on the tape where you want to start digitizing. Click the Digitize button to begin digitizing on the fly. When the tape reaches the clip's OUT point, digitizing stops.

This method is useful if you don't need a precise mark IN, but do need to stop at a precise out point, for example, just before a timecode break.

Digitizing On the Fly

If you are digitizing from a source that cannot be controlled by the system, see [“Digitizing from a Non-Avid-Controlled Deck” on page 96](#) for additional steps.

Use this digitizing method in any of the following circumstances:

- If you are eager to begin editing immediately and no adequate logs exist for importing into the system or setting marks
- If you are digitizing from a source deck that cannot be controlled by the Digitize tool or a VLX/VLAN unit
- If your source tape does not have timecode
- If you are digitizing from a digital source such as a CD or DAT player
- If you are digitizing from a live source, such as a studio feed, or an in-house router

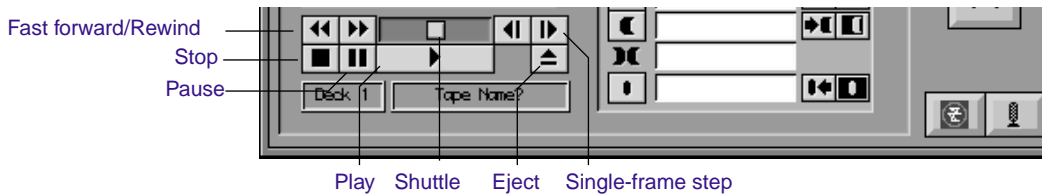


There is a slight delay of several frames after you manually select a spot both to start and to stop digitizing. Therefore use this method when you don't need precise beginning and end points in your clip.

To digitize on the fly:

1. Make sure you have selected the proper Digitize settings and set up the capture tools, as described in [Chapter 2](#).
2. Click the Digitize/Log Mode button on the left side of the Digitize tool until the Dig icon appears.
3. Use the deck controls in the bottom left corner of the Digitize tool to locate the position on the tape where you want to start digitizing.





4. To begin digitizing, play the deck and when it gets up to speed, click the red Digitize button.



Make sure you have cleared any previous marks so that the deck does not begin cuing to the previous location.

Digitizing begins within a few frames, and the timecode for the clip's IN point appears. The horizontal LED above the Digitize button flashes on and off. The title bar displays a message that Film Composer is digitizing.

5. While the system is digitizing, you can type a clip name. The Annotate window appears with the new clip name typed into the Name field.
6. Press the Tab key after typing a clip name to enter comments about the clip. You cannot edit the text during digitizing, but you can backspace to retype the comments.
7. Click the Pause button at any time to pause play. You can also abort the digitize procedure by clicking the Trash button. The clip will be discarded.
8. To stop digitizing and enter the OUT point of the clip, click the Digitize button, or press the Escape key on the keyboard.

The system creates a new clip in the bin. It also enters basic log information for each clip, consisting of the mark IN, the mark OUT, the duration, and any other information typed in during the digitize procedure.

9. If you did not enter a clip name while digitizing, type it now while the clip name is highlighted in the bin. If you return to the Digi-

If you want comments to appear in EDLs or cut lists, add them during editing using the Add Comments command. For more information, see [“Adding Comments to Sequence Clips” on page 249.](#)

tize tool and begin another clip, the default clip name remains in the bin until you change it.

In some circumstances the digitized material may exceed the logical file size of the Composer application. For example, the maximum size of a media file cannot exceed the size of a 2 gigabyte partition. A 2 gigabyte file at a high resolution, such as AVR 71, consists of approximately 10 to 18 minutes of footage. In such a case, consider digitizing the shot in shorter overlapping pieces, breaking it at points that are likely to be cut out during editing.

Autodigitizing

Autodigitizing can save you time by allowing you to bypass both the logging process and the time it takes to cue each shot. However, this process requires the most storage space, and more time is spent while the system is actually digitizing entire reels.

When you autodigitize, you mount and cue your tape to a starting point and launch the digitizing process through the Digitize tool. If you follow the tips and techniques described in this section, you can allow the system to complete the digitizing process unattended.

The following tips apply to autodigitizing entire reels:

- Select the “Digitize across timecode breaks” option in the Digitize Settings dialog box prior to digitizing. For more information, see the *Avid Media Composer Products Reference*.
- Select the “Log errors to the console and continue digitizing” option in the Digitize Settings dialog box. For more information, see the *Avid Media Composer Products Reference*.
- Under Deck Settings, turn off the Fast Cue option and set the pre-roll to approximately four seconds. For more information, see the *Avid Media Composer Products Reference*.

- You should have accurate notes on *the number and content* of takes on each reel in order to identify the content of each clip when necessary.

To autdigitize:

1. Create one bin for each reel. This keeps bins to a manageable size and automatically names all clips from each reel after the name of their respective bins.
2. Name each bin after the source reel number: by default all clips are named after the reel and numbered incrementally beginning with the suffix “.01.”
3. Enter capture mode and open the bin for the first reel.
4. Load the source tape and cue past any false starts.
5. Play the tape, and wait four seconds before clicking the Digitize button.

When you have long continuous shots (for example, footage from a live event) the digitized material for a single clip may exceed the logical file size of the Composer application. For example, the maximum size of a media file cannot exceed the size of a 2 gigabyte partition. In such cases, consider digitizing the shot in shorter overlapping pieces, broken at points that are likely to be cut out during editing.



The Film Composer system can digitize across timecode breaks and control track breaks, but it cannot digitize across breaks in the recording (that is, if the recorded footage breaks up into noise between shots). If such breaks in recording exist on your tape, consider using the methods described in [“Digitizing On the Fly” on page 93](#).

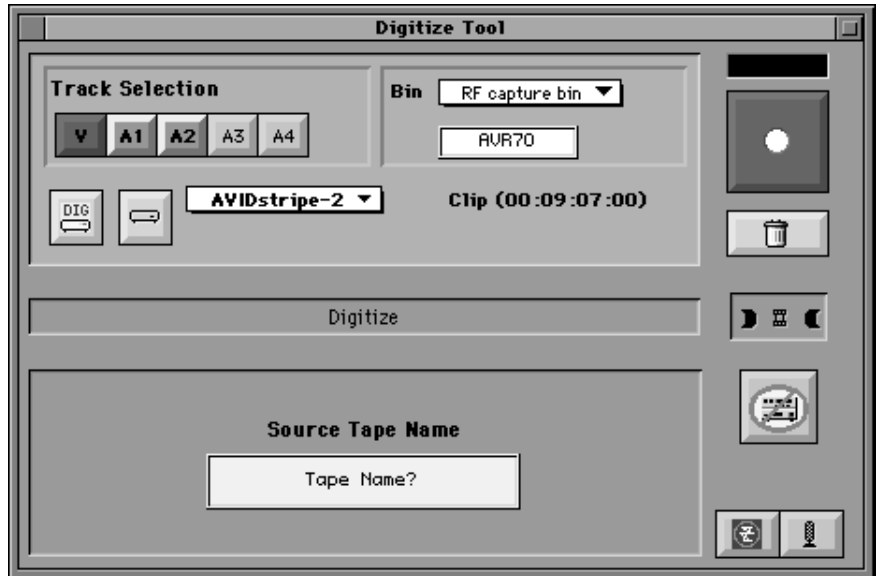
Digitizing from a Non-Avid-Controlled Deck

If you have a deck that cannot be controlled directly by the system, you can digitize with manual deck control as follows:

1. Enter Capture mode and set up the tools.
2. Click the Deck Offline button in the Digitize tool to disable the deck controls and leave only the Source Tape Name display.



Notice that the TC button also disappears. The footage will be digitized with timecode-of-day generated by the system.



3. Click the Source Tape Name display to open the Tape Name dialog box and identify the source tape.
4. Play the tape manually and click the Digitize button to stop and start the digitizing of each clip.

Digitizing with Timecode-of-Day

When digitizing with an Avid-controlled deck, you can digitize your footage with timecode-of-day rather than source timecode.

To digitize with timecode of day:

1. Enter Capture mode and set up the tools.
2. When selecting tracks, deselect the TC button.
3. Digitize by using any of the techniques described in [“Digitizing On the Fly” on page 93](#).

Batch Digitizing

You can also use the batch digitize process to redigitize existing clips. The redigitizing process is described in [“Redigitizing Your Material” on page 102](#).

Once you have imported a log or manually logged a group of clips into a bin, you can automate the digitize process using Film Composer’s batch digitizing capabilities. In order to batch digitize, source tapes must have timecode.

When you capture footage from an NTSC film-to-tape transfer with pulldown for a film project, the playback flickers in the full-screen monitor during digitizing because the system is dropping occasional frames due to the *pullin* process. The footage will play back smoothly in Film Composer, however, once the pullin conversion is complete.

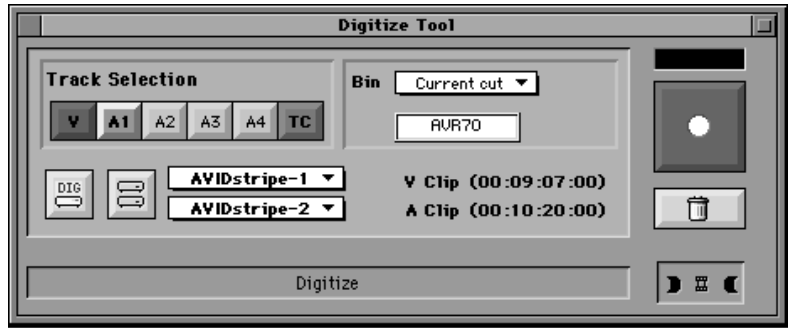
Preparing to Batch Digitize

Preparing for batch digitizing involves optional procedures for resizing the Digitize tool, and establishing settings that allow you to batch digitize with a minimum of supervision.

Resizing the Digitize Tool

Because your clips are already logged in the bin, you can simplify the interface during batch digitizing by hiding the deck controller and logging window in the Digitize tool.

To resize the Digitize tool during batch digitizing, click the Zoom button in the upper right of the tool.



Preparing Settings for Unattended Batch Digitizing

Unattended batch digitizing allows you to digitize a large number of clips with a minimum of supervision by selecting Digitize settings that avoid a pause in the digitize process.

For more information on all Digitize settings, see the *Avid Media Composer Products Reference*.

To prepare for unattended batch digitizing, select the following options in Digitize settings:

- Log errors to the console and continue digitizing
- Switch to the emptiest drive if current drive is full
- Digitize across timecode breaks



You cannot batch digitize clips that contain timecode breaks between the logged IN and OUT marks. Also, you cannot digitize across breaks in the recording (that is, if the recorded footage breaks up into noise between shots). If such breaks in recording exist on your tape, consider using the methods described in [“Digitizing On the Fly” on page 93](#).

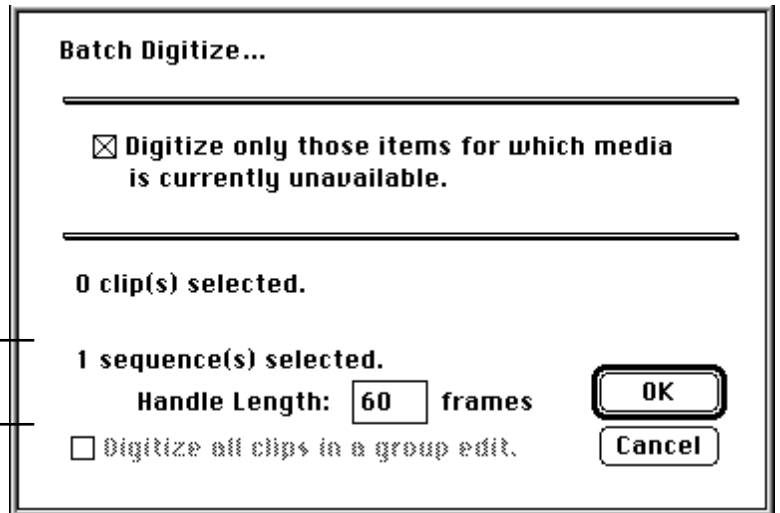
Starting the Batch Digitize Process

To batch digitize clips:

1. Make sure you have selected the proper Digitize settings and set up the capture tools, as described in [Chapter 2](#).

2. Open the bin that stores the logged clips.
3. Select the clips to batch digitize:
 - Choose Select All from the Edit menu, or press ⌘-A to select all the clips.
 - Shift-click to select specific clips.
4. Choose Batch Digitize from the Clip menu. A dialog box appears.

Handle length options appear only when a sequence is selected



If the logged clips that you want to batch digitize are not highlighted in the active bin, Batch Digitize is dimmed in the Clip menu.

5. Select options in the dialog box:
 - If the bin contains some clips that are already digitized and you do not want to redigitize those clips, click the check box next to the phrase “Digitize only those items for which media is currently unavailable.” If this option isn’t selected and some of the selected clips have media files, the system deletes the media files and redigitizes new media files.

For more information on handle lengths when redigitizing, see [“Redigitizing Sequences” on page 103](#).

- If your selections include a sequence for batch digitizing, the dialog box prompts you for handle length information, because the system will create new master clips based on the length of edited clips in the sequence.



If you are batch digitizing the original source master clips used in the sequence, the sequence will automatically be updated and therefore you may want to deselect the sequence during this procedure.

6. Click OK.

If you haven't loaded a tape, the system prompts you to insert the first tape.



7. Insert the tape into the tape deck and click Mounted.

A confirmation dialog box opens.

8. Click OK to confirm the tape and deck entries and begin the digitizing process. The system digitizes each clip from the tape, in start timecode order.
9. If the system needs another source tape, the system prompts you for the tape. At this point you have several options:
 - Insert the new tape and click Mounted to continue the digitizing process.
 - Click Skip this clip to skip just the first clip from the tape and continue digitizing the remaining clips.

- Click Skip this tape to skip all the clips from the mounted tape. The system then prompts you for the next tape.
- Click Abort to end the batch-digitizing process. You can also stop digitizing at any time by clicking the Trash button in the Digitize tool.



To skip specific clips in the process of batch digitizing a particular tape, you must abort each clip manually by clicking the Trash button, then click next clip in the Abort window to continue.

10. When the system has finished batch digitizing, a dialog box notifies you that the process is complete.

Redigitizing Your Material

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

There are several situations in which you may want to redigitize:

- You can quickly redigitize selected clips if you make an error while digitizing the first time (for example if you forget to check audio levels or set the correct AVR).
- You can redigitize clips if you accidentally delete media files.
- You can redigitize a sequence after you transfer it to another system.
- You can redigitize low-AVR clips at a higher AVR setting after they have been edited into a sequence.



Redigitizing requires your original source footage. Do not delete the media files if the source footage is no longer available, unless you will not need the material again.

Redigitizing Master Clips and Subclips

The procedure for redigitizing master clips and subclips is identical to the process for batch digitizing logged clips. See [“Batch Digitizing” on page 98](#).

Although the procedure is the same, the result is slightly different, as follows:

- Master clips are linked to entire media files and serve as sources for subclips and sequences. Therefore, when you redigitize a master clip, changes in compression settings and levels affects all subclips and sequences created from the master clip.
- Subclips are smaller sections of master clips. When you redigitize a subclip, the system creates a new, smaller master clip that is linked to new media files and reflects the shortened length of material. Therefore, redigitizing subclips streamlines the digitizing process.

Also, redigitizing breaks the link from the subclip to the original master clip. But if you edit the subclip into a sequence, the sequence will reflect any changes in the newly digitized subclip.

Redigitizing Sequences

Redigitizing a sequence creates new master clips and associated media files based on the length of each shot edited into the sequence. It breaks any links to the original source clips, and only the sequence and its new master clips are linked to the newly digitized media files. Redigitizing a sequence can involve any of the procedures described in the following sections.

Saving Two Versions of a Sequence When Redigitizing

If you want to save the original version of your sequence before redigitizing, you can create a duplicate. For example, use this method if you create a sequence at a low AVR to save storage space and want to

redigitize the sequence at a higher AVR while retaining the first version. This is recommended if you intend to use the Decompose feature.

To make a duplicate of the sequence:

1. Select the sequence in the bin and choose Duplicate from the Edit menu.
2. Create a new bin by choosing New Bin from the File menu and move the duplicate sequence into the bin. This step is optional, but saves you the confusion of mingling new sequences and master clips with existing ones, especially when using Decompose.

Using Decompose When Redigitizing

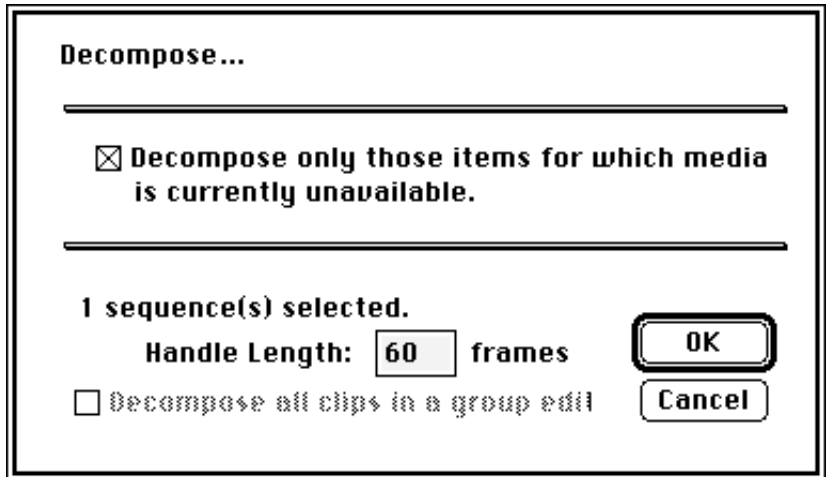
Decompose creates new master clips in the bin for each shot in the sequence prior to digitizing. Using Decompose gives you greater control during the redigitizing process. Because you create new master clips before you digitize, you can use this procedure to sort clips in the bin, modify them, and then redigitize selected clips in the sequence.

For film projects, clips created with Decompose retain all the information from the original master clips, including Pullin column information, key numbers, ink numbers, or any other information formerly entered in the bin.

Use Decompose as follows:

1. Activate the bin that stores the sequence.
2. Choose Decompose from the Clip menu.

The Decompose dialog box appears.



3. If you want to preserve clips that already have existing media files, select the option “Decompose only those items for which media is currently unavailable.” Deselect this option if you plan to decompose and redigitize the entire sequence.
4. Click the Handle Length box and type the number of additional frames you want to digitize at the heads and tails of the new master clips. This provides enough overlap for trimming and adding transition effects.



If you attempt to trim or add effects with no handles, you will get an error message notifying you that there is “insufficient media.”

5. Click OK. The new master clips appear in the bin. You can now sort and select these clips like all other objects in the bin.
6. Proceed with the redigitizing procedures described in the following section.

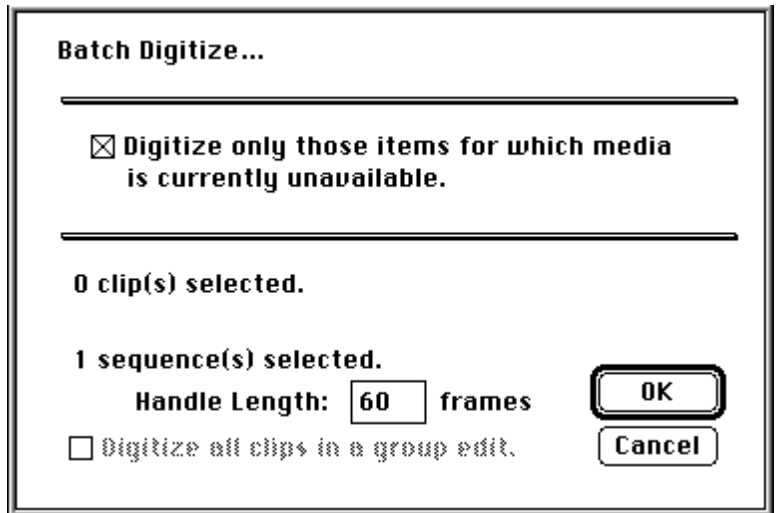
Redigitizing the Sequence

When you redigitize the sequence without using Decompose, the digitizing process creates media files for each shot in the sequence during the digitizing process. Skipping the Decompose procedure saves only

a small amount of time, and you cannot make changes after the media files are created without repeating the entire procedure. Therefore, review [“Using Decompose When Redigitizing” on page 104](#) before proceeding.

Use the following procedure to redigitize a sequence:

1. Choose Go To Capture Mode from the Bin menu.
2. Open or activate the bin that stores the sequence or decomposed clips.
3. Select one or more desired sequences, or the desired decomposed clips:
 - Choose Select All from the Edit menu to select all the clips in the bin.
 - Shift-select specific clips.
4. Choose Batch Digitize from the Clip menu. The Batch Digitize dialog box appears.



5. If you want to preserve clips that already have existing media, select the option "Digitize only those items for which media is cur-

rently unavailable.” Deselect this option if you plan to redigitize the entire sequence.

6. Click the Handle Length box and type the number of additional frames you want to digitize at the heads and tails of the new master clips. This provides enough overlap to allow for trimming and transition effects.



If you attempt to trim or add effects with no handles, you will get an error message notifying you that there is “insufficient media.”

7. Click OK. The system prompts you to insert the first tape.
8. Insert the tape into the tape deck if you have not already done so.
9. Click Mounted to indicate to the system that the correct tape is loaded and ready for digitizing.

A confirmation dialog box opens.

10. Click OK to confirm the tape and deck entries. The system digitizes each clip from the tape, in start timecode order. If another source tape is needed, the system prompts for the tape.
11. You can stop the Batch Digitize process at any time by clicking the Trash icon in the Digitize tool.

When batch digitizing is finished, an alert box notifies you that the process is complete. The new master clips appear in the bin, and associated media files exist on the targeted drive or drives.



CHAPTER 4

Importing Files

The Film Composer system allows you to import shot logs, complete sequences, or selected graphics, animation, and audio files in compatible formats. The various options and procedures are described in the following sections:

- [Supported File Types \(Import and Export\)](#)
- [Preparing Files for Import](#)
- [Importing Files](#)

Supported File Types (Import and Export)

This section describes file types you can use to exchange of graphics, animation, audio, clips, and sequences, with a brief description of various contexts in which you might use them. Some file types are available for import only. Film Composer supports the following file types:

- Shot logs (ASCII and ALE)
- PICT
- Photo CD
- Chyron iNFiT!™
- Alias PIX

- PICS
- QuickTime®
- AIFF
- Sound Designer II™
- Open Media Framework® (OMF®) Interchange

Shot Log File Types

The following file types apply to shot logs:

- **ASCII text files:** You can import logs created using word processors or text editors, provided the logged information conforms to the Avid log specifications described in the *Avid Media Composer Products Reference*.
- **ALE text files:** You can import ASCII text files with the .ALE extension, converted from a list of compatible formats using the Avid Log Exchange application.

For more information on log files and Avid Log Exchange, see [“Converting Logs with Avid Log Exchange” on page 25](#).

Graphics File Types

The following file types apply to still graphics and images:

- **PICT (import and export):** You can import individual graphics and still images in the form of PICT files generated by many common paint or image-processing applications. Your PICT file import can include an alpha channel. You can also export individual frames, titles, or graphics objects created in the Film Composer system as PICT files for treatment in other applications before reimporting. (Exporting does not support the alpha channel.) For more information on exporting, see [“Exporting PICT Files” on page 480](#).

- **Photo CD (import only):** You can import photo-CD-quality images for use in your sequences with the proper CD player and QuickTime driver installed on your system.
- **Chyron iNFiNiT! (import only):** You can import titles pages created in the Chyron iNFiNiT! graphics/character-generator. This is useful in a broadcast or postproduction facility where the character generator is in use.

Animation File Types

The following file types apply to animation:

- **PICT sequence (import and export):** You can import a PICT sequence generated from various 3D graphics, multimedia authoring, and animation applications. When you import a PICT sequence, the system incorporates all files in the sequence into a single clip in the bin. Your PICT file import can include an alpha channel. When you export a clip or sequence as a PICT sequence, the system breaks the series of frames into a sequence of individual PICT files. (Exporting does not support the alpha channel.) For more information on exporting, see [“Exporting PICT Files” on page 480](#).
- **Alias PIX (import only):** You can directly import files created in the native format of Alias PIX, a 3D-animation application. The files are converted to standard clips in the bin. When using an alpha channel for matte-key effects, you must import the alpha channel as an extra file and nest or stack the two clips to achieve the effect.
- **PICS animation (import only):** You can import PICS animation files and edit with them much like a PICT sequence described above. After import, you can edit and play back imported PICS animations in real time like any other clip. Note that PICS animation import does not support the alpha channel.
- **QuickTime (import and export):** You can easily exchange clips and sequences between the Film Composer system and Quick-

Time effects applications such as Adobe® After Effects™ and Avid Elastic Reality® for the addition of special effects over multiple frames of video. QuickTime import supports alpha channel for use in matte-key effects, but export does not support the alpha channel. For more information on exporting QuickTime files, see [“Exporting QuickTime Files” on page 486](#).

- **OMF Interchange (import and export):** many animation applications support the OMF Interchange® file format, so you can easily and quickly exchange sequences of animation frames. See [“Exporting OMF Files” on page 495](#).

Audio File Types

The following file types apply to audio file exchange:

- **Audio Interchange File Format (AIFF) (import only):** You can import audio tracks that have been saved as a standard AIFF file. This is especially useful when exchanging audio tracks for your sequence between the Film Composer system and compatible digital audio workstations for audio sweetening.
- **Sound Designer II (import only):** You can directly import audio files created in the native format of Sound Designer II, a digital audio editing and sweetening application. Film Composer audio files are SD II files, so there is no need to export. They can be opened by any application that can open SD II files.
- **OMF Interchange:** You can quickly and easily exchange audio between various compatible platforms and applications using the Open Media Framework (OMF) Interchange format. Two applications are Avid AudioVision® and Digidesign Pro Tools®. For more information, see [“Exporting OMF Files” on page 495](#).

Clips and Sequences

The following file types apply to clips and sequences:

- **QuickTime:** You can easily exchange whole clips and sequences between the Film Composer system and QuickTime-compatible applications for playback within documents or multimedia programs, or for treatment in a third-party application before reimporting to the Film Composer system.

You can convert your material directly into the QuickTime file format, or you can save time and maintain high resolution in your export using the Avid Media Composer codec, which accelerates the conversion process. For more information, see [“Exporting QuickTime Files” on page 486](#).

- **OMF Interchange:** You can quickly and easily exchange media and sequences between various platforms and compatible applications using the OMF Interchange format. OMF Interchange provides a single, open file format for:
 - Editing information for sequences
 - All types of digital media data: audio, video, animation, graphics, character generator
 - Source information for film, video, and audio clips

For more information, see [“Exporting OMF Files” on page 495](#).

Preparing Files for Import

The following sections describe specifications that your graphics, animation files, QuickTime, and OMF files must meet prior to import.

Graphics File Specifications

Use these specifications when creating a graphics file for import into the Film Composer system.

Graphics File Import Specification	Explanation
Compatible File Formats	PICT, Photo CD, and Chyron iNFiT!
Image Size	<p>Choices for the full-screen image size include:</p> <ul style="list-style-type: none"> - 640 x 480 pixels for NTSC images (square pixels) - 640 x 576 pixels for PAL images (square pixels) - 720 x 486 pixels for NTSC images (non-square pixels) - 720 x 576 pixels for PAL images (non-square pixels) <p>Film Composer Release 5.6 and earlier displays 640 x 480 and 640 x 576 images. Film Composer 6.0 and later displays 720 x 486 and 720 x 576 images.</p>
Overlay/Keyed Graphic	<p>Use the alpha channel to set the transparency level of each region in the picture. To store the transparency information, save the graphic as a PICT file with an alpha channel (that is, set the resolution to 32 bits per pixel).</p> <p>When you key the graphic, the background video shows through the white part of the alpha channel, foreground through the black. Gray areas determine transparency levels between the two.</p>
Opaque Graphic	<p>To create an opaque image to edit into a video sequence, do not use an alpha channel (that is, set the resolution to 24 bits or fewer per pixel).</p> <p><i>Note: If you want to use the imported graphic as an overlay instead of an opaque graphic, you can key the image over video using the chroma, luma, or matte key effects within the system or pick a transparent key color when you import the graphic. However, images with their own alpha channel have the best results.</i></p>
Smooth Edges	<p>To eliminate jagged edges in the image, use the graphics application's anti-alias or high-quality option. If you will be keying the image over video, you also need to create an alpha channel by setting the resolution to 32 bits per pixel.</p>
Photo CD Files	<p>If you are importing Photo CD files, you must install QuickTime software and a compatible QuickTime Photo CD driver.</p> <p>If the photo has a portrait orientation, the image will be automatically rotated upon import. To avoid this, use a paint or image processing program to crop or resize the image before importing.</p>

Animation File Specifications

Use these specifications when creating an animation file for import into the Film Composer system.

Animation File Import Specifications	Explanation
Compatible File Formats	PICS Animation, sequenced PICT, and sequenced Alias PIX.
Alias PIX File	If you use Alias to create a series of PIX files, you have the option of generating a matte file to key the animation over video. If you use this option, remember to import the matte images as well as the PIX animation images. In the Film Composer system, edit the video onto track V1, the animation onto track V2, and the matte key onto track V3.
Sequenced PICT Files	You can create a sequential series of single-image PICT files, then import them as an animation. Name each file <i>Namen</i> , with <i>Name</i> identifying the animation and <i>n</i> indicating the file order (for example, Image1, Image2, Image3). The numbering can start at any number or use any numbering format, for example Image010, Image012, or Imagef28, Imagef29.
Overlay/Keyed Animation	<p>To create an animation PICT sequence to key over video, use the alpha channel to set the transparency level of each region in each picture in the sequence.</p> <p>When you overlay the animation onto a video track, the background video shows through the white part of the alpha channel. The foreground video shows through black. Gray areas form a blend between the two.</p>
Frame Rate	Media Composer assumes a 30 fps frame rate (25 fps for PAL). Film Composer assumes a 24 fps rate. Therefore, set the appropriate frame rate for the project (30 fps for NTSC, 25 fps for PAL, 24 fps for film) when you export from the third-party application.

QuickTime File Specifications

Use these specifications when using QuickTime files with the Film Composer system.

QuickTime File Import Specifications	Explanation
QuickTime files	For QuickTime import and export, you must install QuickTime software, Version 1.5 or later. Avid recommends Version 2.0 or later.
Resolution	The Avid Video Resolution (AVR) of the import is determined when you export from the third-party QuickTime application.
Media Composer QuickTime files	The Media Composer QuickTime codec lets you import QuickTime files at a rate of three to four times real time. To use the codec in a third-party QuickTime application, you must first install the codec in the System Folder's Extensions folder. See "Using the Media Composer QuickTime Codec from QuickTime Applications" on page 494.
Image Size	To take advantage of the codec speed, you must export the files from the QuickTime application at one of the following frame sizes: <ul style="list-style-type: none">- 640 x 480 pixels for NTSC images (square pixels)- 640 x 576 pixels for PAL images (square pixels)- 720 x 486 pixels for NTSC images (non-square pixels)- 720 x 576 pixels for PAL images (non-square pixels) Film Composer Release 5.6 and earlier displays 640 x 480 and 640 x 576 images. Film Composer 6.0 and later displays 720 x 486 and 720 x 576 images.
File extension	After you import a QuickTime file, the file maintains the .MooV extension, which is visible in a bin.
QuickTime alpha	To save a QuickTime movie with alpha channel in a third-party QuickTime application, use a codec that supports a color depth of "millions +." Film Composer does not support matte key or alpha channel for QuickTime export; it does import alpha channel when there is one.

OMF File Specifications

In general, check the documentation for the application you are importing from for specific information on preparing OMF files.

Use these specifications when creating an OMF file for import into the Film Composer system.

OMF File Import Specifications	Explanation
AVR (Avid Video Resolution)	For fastest import of AVR media, set the resolution in the Import dialog box to the AVR that is in the OMF file, so that the Film Composer system does not try to convert the media. Simple OMF tools that report the AVR of an OMF file are available on the OMF Web site (http://www.avid.com/omf). To optimize your import speed and quality, export from the source application at the AVR that your Film Composer project is expecting.
Edit rate	You must import sequences and clips to projects that have the same edit rate (30 fps for NTSC, 25 fps for PAL, 24 fps for film). If the edit rates do not match, you will get an error message.
OMFI version	Film Composer Release 6.5 supports import of both OMF 1.0 (composition and media) and OMF 2.0 (composition) files. Film Composer now supports the following OMF 2.0 effects: - video effects: dissolves, wipes, freeze-frame, film pulldown, slow motion, fade to black - audio effects: pan and volume, audio dissolves Film Composer automatically recognizes if a file is formatted as OMF 1.0 or 2.0 and imports it appropriately. Additional effects will be supported in future releases. See the <i>Avid Film Composer Release Notes</i> for current details.
Film pulldown	To import audio media into Film Composer, you must have the pulldown switch set to 1.0.
Audio sample rate	Audio media is imported at the sample rate that is set on the Film Composer system.

OMF File Import Specifications	Explanation
MCXpress™ for Windows NT files	If you are importing OMF compositions from MCXpress for Windows NT, you may get an error if the sequence includes video or audio effects. If so, create a cuts-only version of the sequence in MCXpress and export it again. You cannot import video media from MCXpress for Windows NT; if you import a composition you must redigitize the media.
Avid Media Fusion™	OMF compositions and audio import correctly from Avid Media Fusion but OMF 2.0 video media (RGBA or CDCI) currently does not.
File transfer	If you are transferring an OMF file over a network, make sure to transfer it as a binary file.
Reimporting Media Composer media files	If you import OMF files that contain media that you exported from the same Media Composer system, you need to delete the original media. Otherwise the new media will not overwrite the original media. To locate the original media for a sequence, see “Selecting Media Relatives for an Object” on page 145 .

Importing Files

For information on importing Shot Logs, see [“Importing Shot Log Files” on page 29](#).

When you import, the imported graphics, animation, audio, Quick-Time, and OMF files are converted into objects in a bin. You can manipulate and edit these objects like any other clip or sequence. Any corresponding media files are stored on a target drive that you specify.

Before You Begin

Before you begin the import, check the specifications in the previous section for the file type you are importing. In addition, decide on the following:

- AVR resolution for the imported media
- Render settings

These settings are described in the following sections.

Mixed Resolutions

For more information on resolutions, see the *Avid Media Composer Products Reference*.

Beginning with Release 6.0 of the Film Composer system, you can work with mixed resolutions in the same sequence. This feature allows you to import your graphics at the highest resolution you will be using.

For example, assume that you want to do your initial work at a low resolution such as AVR 12 and then redigitize your media at AVR 77 for the final version. In this case you should import the graphics at AVR 77. Then when you redigitize your material, you will not have to reimport the graphics.

If you plan to redigitize your media at a higher AVR, the lower AVR must be from the same family (single-field or two-field). For example, if you plan to finish at AVR 77, you could start the project at AVR 12.

Limiting the Size of Imported Files

You can limit the size of an imported file to fit a playable range by changing the project's Render settings. The system always defaults to 100 percent of the frame size limit for each new project. Avid recommends that you check these settings before importing, especially when importing complex graphics and animation, because the settings apply during the import process. For more information, see the *Avid Media Composer and Film Composer Effects Guide*.

Importing the Files

You can access files for import from any folder or drive source mounted on the desktop, such as a 3.5-inch diskette, fixed drives, removable magnetic (RMAG) drives, or from a network server.

You can import more than one file, but all files must use the same file format.

Import one or more files as follows:

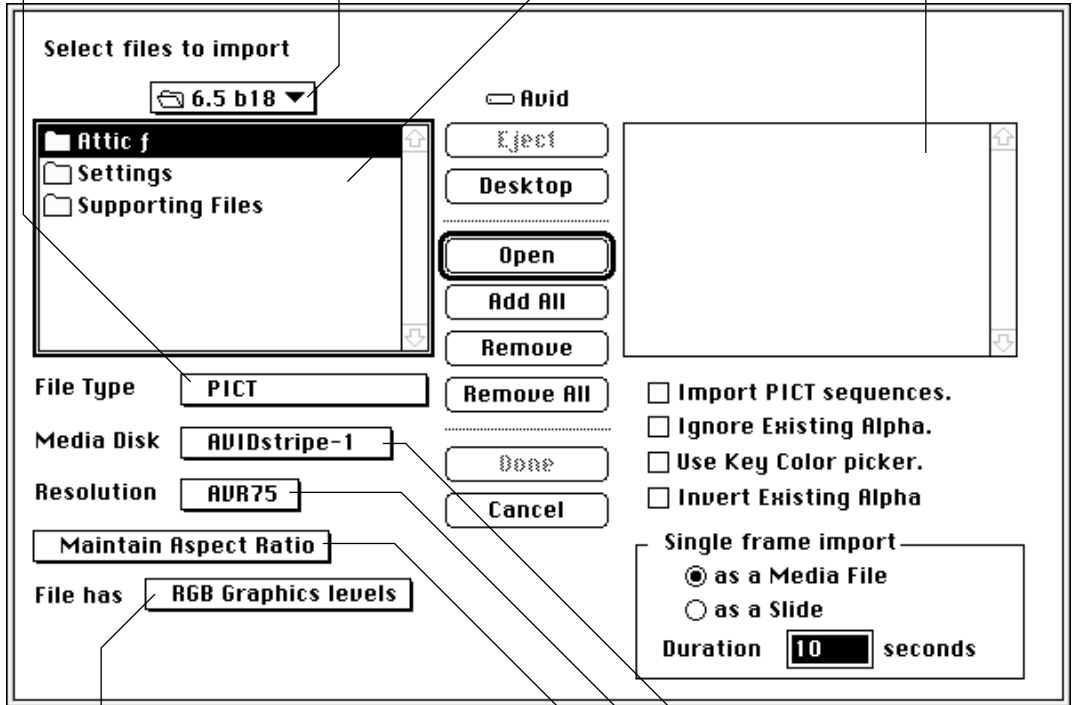
1. Open the bin in which you want to store the imported file. Click anywhere in the bin to select it.
2. Choose Import from the File menu, or hold down the Option key and choose Import.



If you do not see the file you want to import in the folder you selected, hold down the Option key and choose Import. This action displays all files in the specified folder and may be necessary when you import files created on platforms other than Macintosh. Otherwise the files may not appear in the Import dialog box.

The Import dialog box appears.

File Type pop-up menu Directory pop-up menu Source File selection box Import File selection box



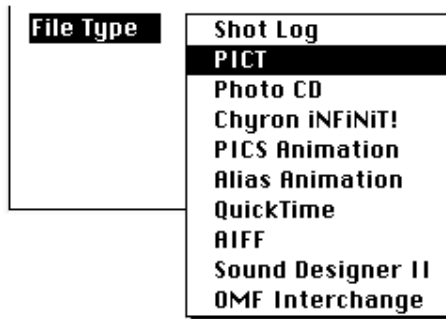
RGB/CCIR pop-up menu

Media Disk pop-up menu

Resolution pop-up menu

Aspect Ratio pop-up menu

3. Choose an import file type from the File Type pop-up menu.



4. The options in the dialog box change, depending on the file type that you selected.
 - If you choose PICT, Photo CD, PICS, or QuickTime, complete the options as described in [“Import File Options” on page 122](#).
 - If you choose OMF Interchange, you see a checkbox labeled Show All Files. Select this checkbox to display all files in a chosen folder, regardless of file type.
5. Choose a destination disk for the imported file from the Media Disk pop-up menu.
6. For graphics and video files, choose a resolution for the imported media from the Resolution pop-up menu.

For optimum speed when importing an OMF file, set the resolution to match the resolution of the OMF file you are importing.

If you are using mixed resolutions, choose the highest AVR that you will be using for the final version of the sequence. See [“Mixed Resolutions” on page 118](#).

7. Use the Directory pop-up menu to locate the folder containing the source files.
8. In the Source File selection box, click the file or files you want to import.

You can import multiple files in the same process, but they must be the same file type.

- Click the Add button or double-click the filename to add the file to the Import File selection box on the right. Alternatively, click the Add All button to select all the files in the Source File selection box for import. If you make a mistake, use the Remove or Remove All buttons.



The Source File selection box only shows the first file in a sequenced series of PICT files when you select the Import PICT Sequence checkbox. If you are importing a sequenced series of PICT files, you only need to add the first file in the series to the Import File selection box.

- Click Done.

The imported images, clips, or sequences are available in the bin you selected.



If you import an OMF file with a stereo sound track, Film Composer creates a new master clip that contains the right channel of the sound track. The original master clip contains the left channel. Both clips appear in the bin you selected.

Import File Options

PICT, Photo CD, PICS, and QuickTime file types have their own options, as shown in the following table.

	Aspect Ratio	RGB/CCIR	Import PICT Sequence	Ignore/Invert Alpha	Use Key Color Picker	Single Frame Import
PICT	x	x	x	x	x	x
Photo CD	x					x
PICS	x					
QuickTime	x			x		

The following list describes these options, as they appear on the Import dialog box. Some options are described further in the following sections.

- **Aspect ratio:** Choose either Maintain Aspect Ratio or Force to Fit Screen. See [“Choosing an Aspect Ratio” on page 123](#).
- **RGB/CCIR:** Choose RGB Graphics Levels for most graphics. Select CCIR Video Levels for graphics created at CCIR-601 levels, including Avid color bars (available on the Avid drive in Media Composer:Supported Files:Test Patterns).
- **Import PICT Sequences:** Select this option to import a sequenced series of PICT files.
- **Ignore Existing Alpha:** Select this option if you will be using the file as an opaque graphic. The alpha channel information stored with the PICT file will not be imported.
- **Invert Existing Alpha:** Select this option to reverse the black and white elements of the alpha channel if they differ from the matte-key requirements of the system: a white background, a black foreground, and a gray transparency blend between the two.
- **Use Key Color Picker:** Select this option if you want to choose a key color for each file while it is being imported. Note that if you use this option when you import a large batch of files, importing takes more time. See [“Selecting a Key Color” on page 125](#).
- **Single frame import:** Choose whether to import the PICT file as a single frame slide or as a media file of a specific duration. See [“Selecting Single Frame Import Options” on page 126](#).

Choosing an Aspect Ratio

When importing a single still image, you can choose either Maintain Aspect Ratio or Force to Fit Screen from the Aspect Ratio pop-up menu.

- Choose **Maintain Aspect Ratio** if you want Film Composer to use the existing aspect ratio for the imported frames.



Do not use this option if you are importing images in the 720 x 486 non-square pixel dimensions used by Film Composer.

If the height or width of the images in square-pixel terms does not match the 3:4 aspect ratio used by Film Composer, the system fits the longest dimension to the screen size, and fills the missing pixels in the shorter dimension with black.

Image before import

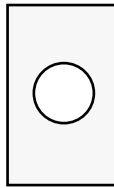
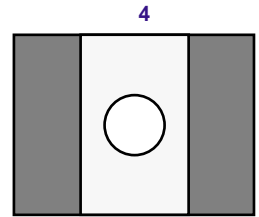


Image after import



- Choose **Force to Fit Screen** if you want Film Composer to convert the existing pixel dimensions so that the entire image fills the screen.



Choose this option if you are importing images with the 720 x 486 non-square pixel dimensions used by Film Composer.

If the aspect ratio of the frames does not match the 3:4 aspect ratio used by Film Composer, the imported frames might be distorted.

Image before import

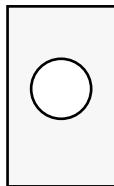
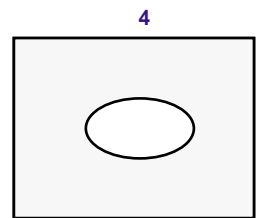


Image after import

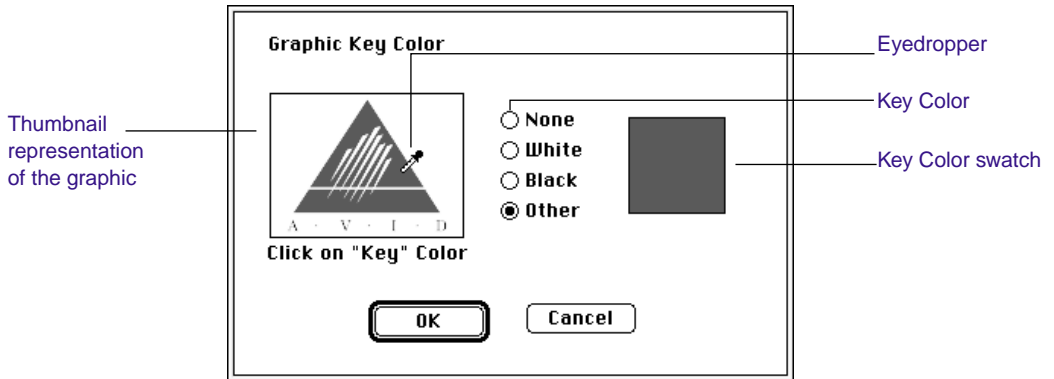


Selecting a Key Color

If you select Use Key Color Picker, the Graphic Key Color dialog box appears so you can select a transparent key color for the graphic. The system uses the key color to create an alpha channel for the graphic through which the video is visible.



This feature is primarily for use in offline contexts: for online quality, apply the chroma key in Effects mode.



1. Use one of the Key Color options.

- To keep the image opaque, click None.

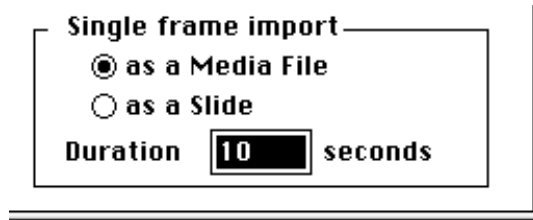
If you do not select a key color, you can still key the image over video using the Film Composer's Key effects after editing the graphic into a sequence.

- To use white or black as the key color, click the Key Color name.
- To select a key color from the graphic, drag the cursor to the thumbnail image. The cursor becomes an eyedropper. Click the color you want.
- To use the standard Macintosh Color Wheel, click the Key Color swatch, then select a key color from the dialog box that appears.

2. Click OK to close the Graphic Key Color dialog box.

Selecting Single Frame Import Options

When importing a single still image, you can select one of two options, each with different advantages:



- Importing as a media file creates digital media for the PICT similar to the media created when you digitize footage. You can also designate the duration of the media. This method ensures that you can play the clip in real time, even at a high resolution such as AVR 75 or 77. The import process will take close to real time. For example, a PICT import of 25 seconds takes about 25 seconds to import and creates a media file that takes up 25 seconds of disk space.
- Importing as a slide takes less time and requires less storage, but is more limited in terms of real-time playback capabilities, particularly at high AVRs. This is because the system handles a slide by loading the frame into memory and transferring it through the compression technology of the system in real time, rather than playing back from disk.



CHAPTER 5

Organizing with Bins

Film Composer provides powerful database tools for organizing and managing your digitized material. You can view bins in three different display modes. You can rename, sort, sift, duplicate, and delete clips and sequences. You can also print out 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 Modes](#)
- [Basic Bin Procedures](#)
- [Using Text Mode](#)
- [Using Frame Mode](#)
- [Using Script Mode](#)
- [Printing Bins](#)
- [Gathering Format Elements](#)
- [Storyboard Worksheet](#)

Before You Begin

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

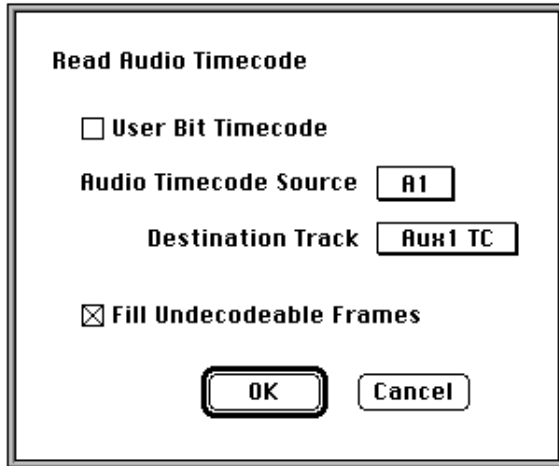
- If you digitized clips using LTC (longitudinal timecode) recorded on an audio track, and would like to instruct the system to address this timecode during editing, see the following section “Using Audio Timecode.”
- If you would like to center the pan between left and right speakers for some or all of the clips in a bin, see [“Using the Center Pan Command” on page 131.](#)
- 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 132.](#)
- If you digitized some of your video and audio clips separately, and need to synchronize them for editing, see [“Autosyncing Clips” on page 362.](#)
- 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 365.](#)
- If you need to group or multigroup material, see [“Grouping and Multigrouping” on page 389.](#)

Using Audio Timecode

Film Composer 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, then use the Read Audio Timecode command. This instructs the system to address this track for timecode information to be displayed in the bins and used in editing.

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

The Read Audio Timecode dialog box appears.



2. To read timecode stored in the User Bits of the LTC, click the check box next to 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 Media Composer unless you use the Avid Media Reader. For more information about the Avid Media Reader, contact your Avid sales representative.

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. Aux 1 is the default selection.
5. Choose Fill Undecodable Frames to instruct the system to fill in any timecode breaks with continuing timecode. This is the default.

For example, in a three-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.

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

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

Adjusting Pan Defaults

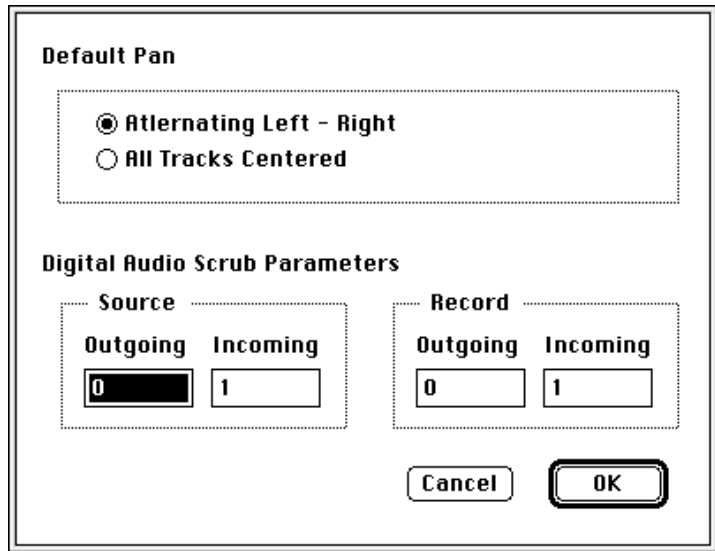
For information on using the Audio Mix tool to adjust pan for individual clips in a sequence, see [“Using the Audio Mix Tool” on page 327](#).

The way your footage was recorded in the field, and digitized in Media Composer, 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 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.

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.

As opposed to adjusting pan on individual clips 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, with all shots panned to center.

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.

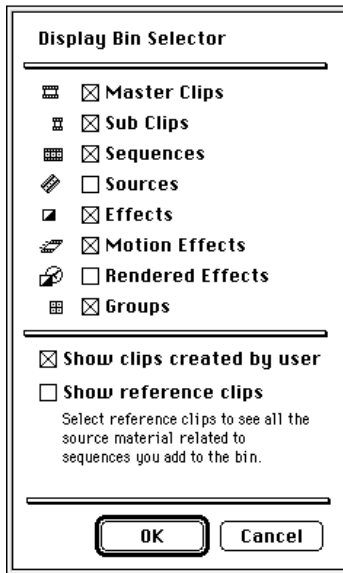
Setting the Bin Display

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.

To set the bin display:

1. Choose Set Bin Display from the Bin menu.

The Display Bin Selector dialog box appears.



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

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, using procedures described in the *Avid Film Composer Getting Started Guide*.
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 139](#).
 - Duplicate the clips and then move the duplicates into the appropriate scene bin, using procedures described in [“Duplicating Clips and Sequences” on page 138](#).
3. Proceed to sort, sift, and organize the clips within each scene bin, according to the editor’s preferences.

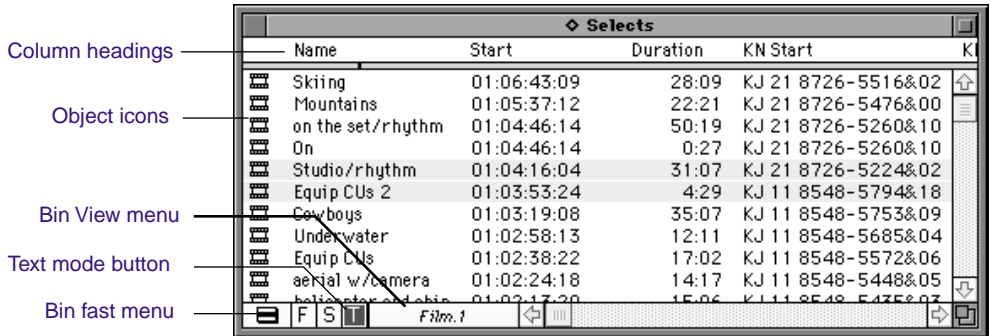
It is best to copy or duplicate clips as you reorganize them in bins, so that all the original source clips will remain in the appropriate dailies bin if you ever need to redigitize according to source tape.

About Bin Display Modes

There are three display modes for viewing and working with clips in a bin: Text mode, Frame mode, and Script mode, as follows.

- In *Text mode*, clips are displayed in a database text format using columns and rows, with icons representing the various objects.

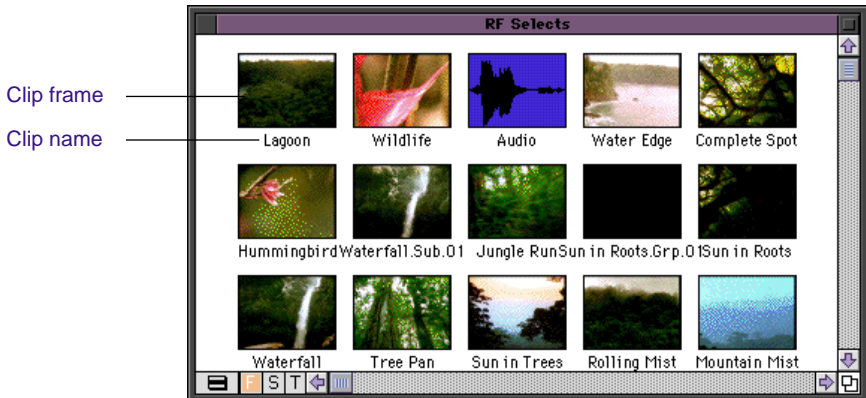
You can save various arrangements of columns, text, and objects as customized *views*.



For information on specific Text mode features, see [“Using Text Mode” on page 147](#).

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

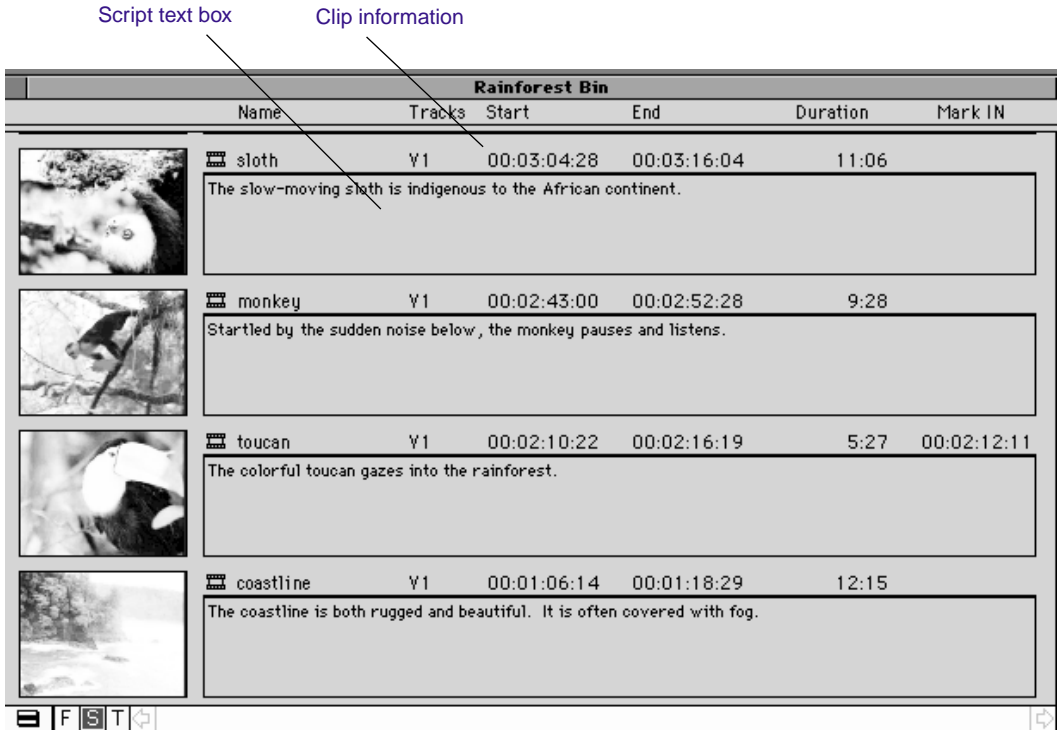
- In *Frame mode*, each clip is represented by a single picture frame, with the name of the clip. You can play back the footage in each frame, and change the size of frames. You can also rearrange the frames in any order within the bin.



For information on specific Frame mode features, see [“Using Frame Mode” on page 162](#).

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

- In *Script mode*, the system combines the features of Text mode with Frame mode, and adds additional space for typing notes or script. The frames are displayed vertically on the left side of your screen with a text box to the right of each clip. Clip data is displayed above the text box. You cannot change the size of the frames displayed in Script mode.



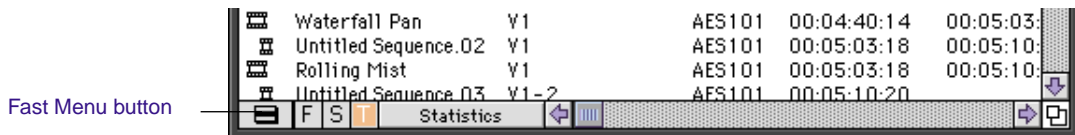
For information on specific Script mode features, see [“Using Script Mode” on page 165](#).

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

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 display modes.



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

Basic Bin Procedures

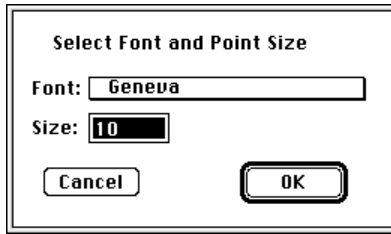
There are some basic procedures that you can use in any of the three Bin Display modes for manipulating clips in the bin. These include selecting, deleting, duplicating, moving, copying, and sifting clips and sequences.

Setting the Bin Font

You can change the bin font by following these steps:

1. Choose Set Font from the Edit menu.

The Select Font and Point Size dialog box appears.



2. Click the Font pop-up menu and choose from the list of available fonts.



Any font loaded in the Fonts folder in the Macintosh System Folder appears in the list.

3. Enter another point size for the font in the Size entry field.
4. Click OK. The new font appears in all bin display modes.

Selecting Clips and Sequences

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

- Click the clip icon (Text mode), or click the picture area of the clip (Frame mode).
- Select multiple clips by Shift-clicking additional items, or by clicking and dragging a lasso around several clips.

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 Shift-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 extension `.Copyn`, where *n* is the number of duplicates created from the original clip or sequence.

Moving Clips and Sequences

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

To move clips from one bin into another:

1. Create or open another bin. Give the bin a name that represents its purpose or contents.
2. Position and/or resize the original bin and the new one so that you can see both of them at the same time.
3. Select the clip that you want to move, or Shift-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 132](#).

Copying Clips and Sequences

When you copy clips and/or sequences, you are essentially cloning the same clip or sequence in another bin. In other words, any change you make to the copy will affect the original as well. The system does not add the `.Copy` 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 from one bin into another bin:

1. Position the bins so that you can see both of them at the same time. You may need to resize the bins to do this.
2. In the original bin, click the clip that you want to copy, or Shift-select multiple clips.
3. Press the Option key and drag the clips to the destination bin and release.

The clips appear in the new bin, displayed in the destination bin's current display mode (Script, Frame, or Text), and the originals remain in the first 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.

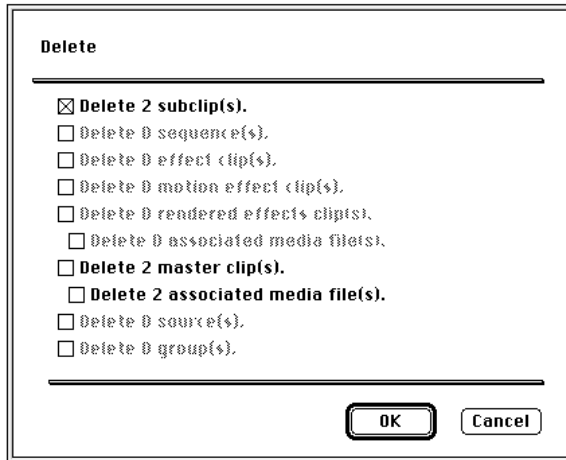
When you copy clips from one bin to another, the custom columns that you created in the first bin are also copied to the second bin. The custom columns appear in the order in which you created them.

Deleting Clips and Sequences

Delete clips from a bin as follows:

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

A dialog box appears, showing information about the selected items.



In this example, two subclips and two master clips (along with their media files) are highlighted for deletion.

3. Click the check boxes to select the items highlighted for deletion. Do not select those items you do not want to delete.
4. You also have the option of deleting the associated media files for master clips and effect clips. You can select both 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.

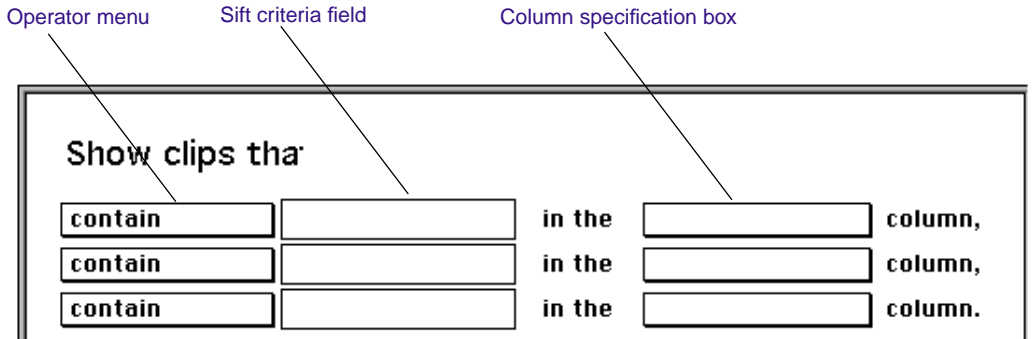
Sifting Clips and Sequences

When you sift clips, the bin displays only those clips 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 dialog box provides you with six different levels of criteria.

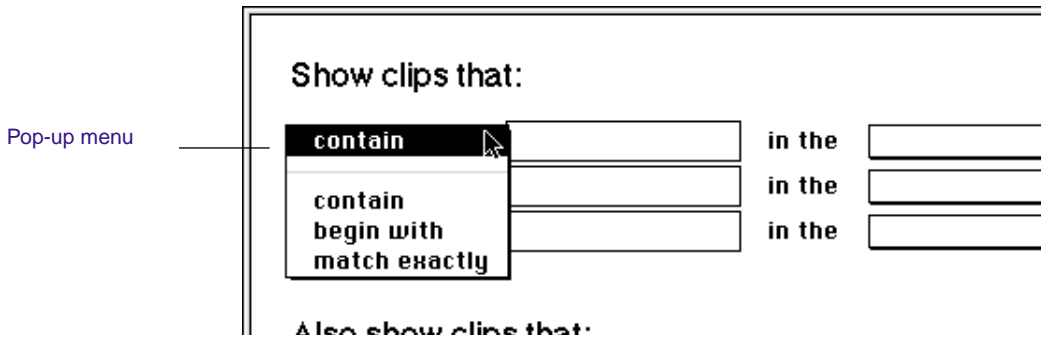
To sift clips and sequences:

1. Choose Custom Sift from the Bin menu.

The custom sift dialog box opens.



2. Move the cursor to the box containing the word "contain." This is called the Operator menu box. Click and hold to display a pop-up menu.



3. Select one of the sifting options.
4. Click the first Sift criteria field and enter the text that you want to use as a sift criterion.
5. Click the column pop-up menu and select a column heading to which you want to apply the criterion.

6. Enter additional sift criteria, and make additional column selections, as necessary.

Only the clips that meet your criteria remain in the bin, with the word “partial” 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 “partial” after the bin name appears or disappears to indicate the current state of the bin you are viewing.

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, their associated media files are locked at the Finder level as well.

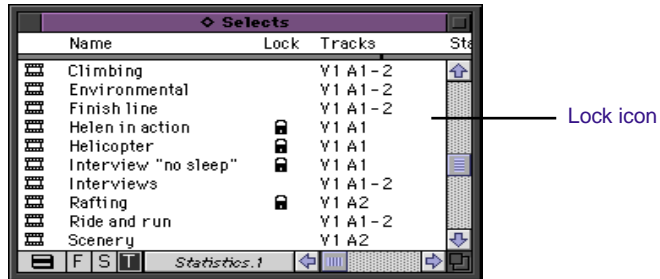
To lock selected items:

1. Click a clip, subclip, or sequence to select it. Shift-select additional clips if necessary.
2. Choose Lock Bin Selection from the bottom of the Clip menu.



For more information on displaying columns, see [“About Bin Views” on page 148](#).

A lock icon appears for each locked clip in the Lock column of the default Statistics Bin view.



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 such as [Cheyenne](#) 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 those clips, subclips, or sequences that are missing some or all of their media files.

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

The bin highlights all items that are missing media files.

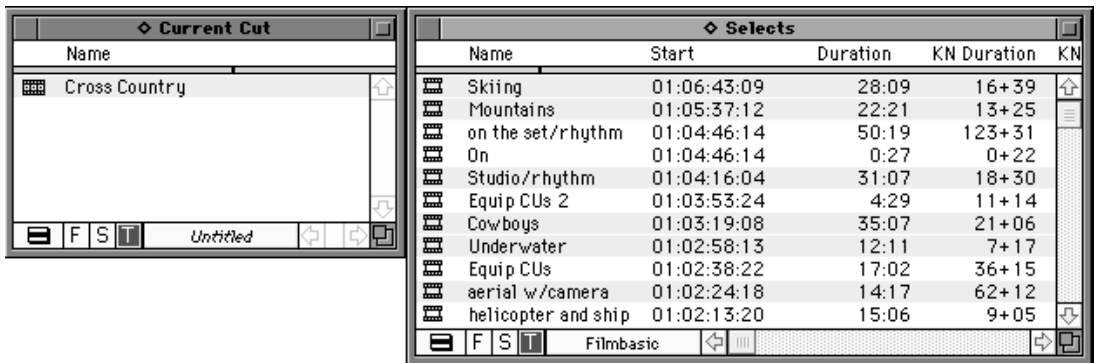
Selecting Media Relatives for an Object

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.

Identify media relatives as follows:

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

Identify sources for a clip or sequence as follows:

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.

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 have edited into a sequence in the bin are not highlighted. This command is effectively the reverse of the Select Media Relatives command.

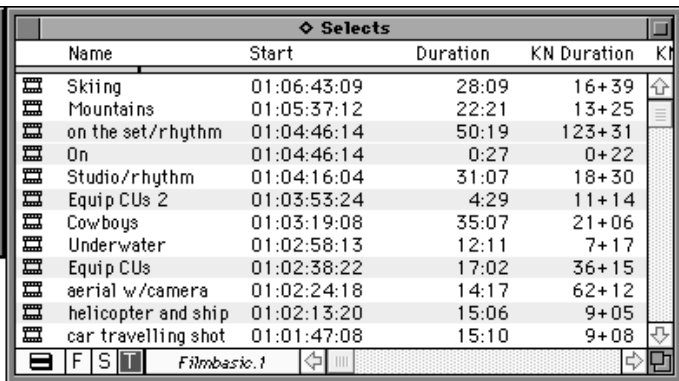
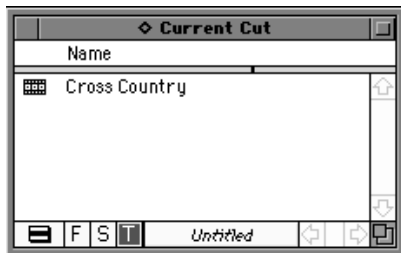
Identify unreferenced clips as follows:

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.

An alert box warns you that unreferenced clips will be highlighted in open bins only (items in closed bins will not be shown).

4. Click OK.

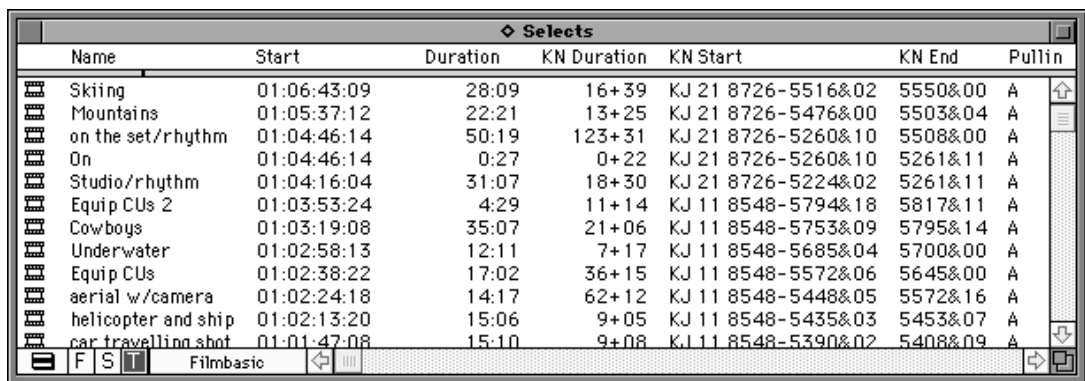
All unreferenced clips are highlighted in the open bins.



Using Text Mode

Text mode 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 mode, click the Text Mode button (labeled T) in the lower left corner of the bin.



About Bin Views

For complete information on all Film and Statistical column headings, see the *Avid Media Composer Products Reference*.

To the right of the Display Mode buttons, you will find a pop-up menu of titles for different Bin views. This option is available only in Text mode. Bins have three default views that are automatically loaded:

- **Statistics** view uses the standard statistical column headings derived from information established during capture, such as Start and End timecodes, Duration, Resolution, and so on.
- **Film** view has film-related column headings, including key number, ink number, pull in, and so on. If you are working on a non-film-related project, and select the Film bin view, a dialog box informs you that only the nonfilm-related columns will be displayed.
- **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

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

For more information on working with settings, see the *Avid Film Composer Getting Started Guide*.

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.

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 desired position and release the mouse button.

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

Tidying Up Bin Columns

When you tidy up 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.

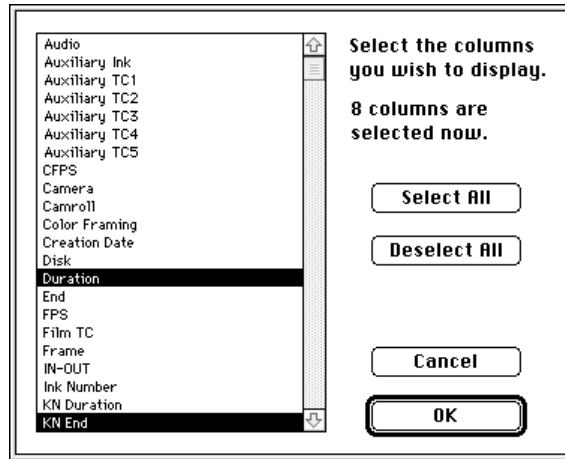
To tidy up bin columns, choose Tidy Up Columns from the Bin menu, or press ⌘-T.

Showing and Hiding Columns

You can select individual or multiple headings to display or hide in the bin. To choose column headings using the Headings dialog box:

1. With a bin in Text mode, choose Headings from the Bin menu. You can also double-click a Bin View setting in the Settings list of the Project window.

A dialog box appears.



You can also display a frame for each clip along with statistical information in Text display mode by displaying the Frame column. For information, see [“Adding Customized Columns to a Bin” on page 152](#).

2. Select the headings you want to add to the bin:
 - Click the name of a heading to select it.
 - 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.
3. Click OK. Only the headings highlighted in the headings dialog box appear in the bin or bin view.

Deleting a Column

Deleting a statistical column is the same as hiding the column; in other words, you can restore the column at any time using the headings dialog box as described in [“Showing and Hiding Columns” on page 149](#). When you delete a Custom column, however, you must re-create the column.

To delete a column:

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

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

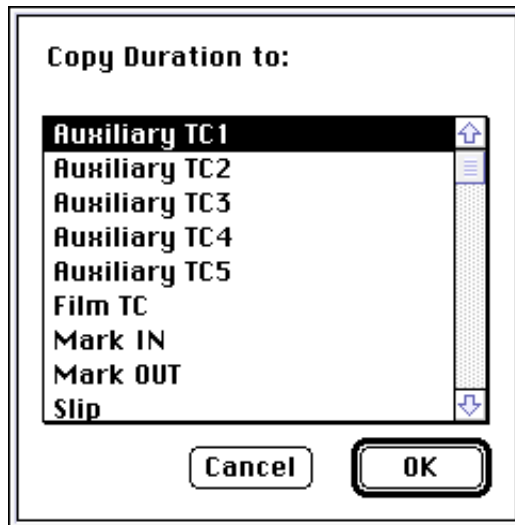
Duplicating a Column

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

Duplicate a timecode column as follows:

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

A dialog box appears.



In the example, the user has selected the Duration column to duplicate; thus "Copy Duration to:" appears at the top of the dialog box.

Select a column name from the list. The column must be of the same type of data for the copy to occur. For example, you can copy start timecodes to the Aux TC column, but you cannot copy timecodes to the Pullin column.

The column of information appears in the column you designated.

Adding Customized Columns to a Bin

In addition to the standard statistical or film 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 (closeup, wide shot, master shot, extreme closeup, and so on) is used in a clip.

Use the following procedure to add a new 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 Return. Column headings must contain fewer than 30 characters, including spaces.
This puts the cursor in the data box, beside the first clip in the bin.
4. Use the Tidy Up Columns command after you have entered the new column heading.
5. Type the information and press Return to move to the next line.

Changing a Custom Column Heading

You can only change the heading name of custom columns. You cannot change any of the standard statistical or film column headings.

To change the name of a custom column:

1. Hold down the Option key and click the heading to highlight it.

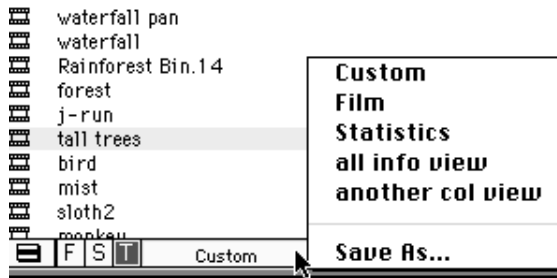
2. Type the new text for the heading and press Return.

Saving a Custom View

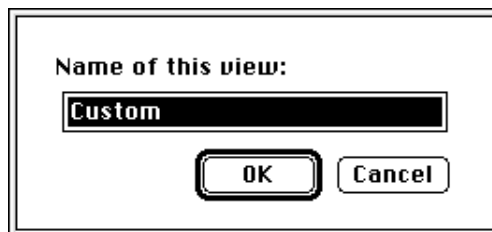
Any time you add, hide, or delete a column, the bin view name changes to an italicized name to indicate that it no longer matches the original view. If you try to select a new bin view setting while the current setting is untitled or italicized, a dialog box appears and queries if you want to discard the current setting.

To save a bin view:

1. Add or hide columns according to preference. The bin view name becomes italicized.
2. Choose Save As from the Bin View pop-up menu.



The view name dialog box appears.



3. Name the custom view:

- To keep the default view name, click OK or press Return.
- To create a new name for the custom view, type the name and click OK or press Return.

Managing Clip Information

For additional bin shortcuts, see the “Shortcuts” section of the *Avid Media Composer and Film Composer Quick Reference*.

There are several ways to manage clip information in Text mode 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 cursor 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 cursor to the 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.
- **Return:** Enters any new information typed into the cell, and moves the cursor down to the cell in the next row. You can continue to press the Return key to scroll down the column until the last cell in the column is highlighted. The next time you press the Return key, the first cell in the column is highlighted.
- **Shift-Return:** Moves the cursor up to the cell in the previous row. You can continue to press the Shift-Return keys until the cell in the top row is highlighted. The next time you press the Shift-Return keys, the cell in the last row is highlighted.

Modifying Clip Information

You can change or modify the information for your master clips, subclips, tapes, and other objects stored in the bin. This is 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 Clip Info” on page 233](#).

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 clips only.

Modifying Data Directly

When you modify information 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 prior to digitizing. After the footage is digitized, however, you can directly modify only selected headings, with restrictions as shown in [Table 5-1](#).

Table 5-1 Direct Modification Headings

Heading	Restrictions
(Clip) Name	No restrictions.
Start (timecode)	Altering the start timecode also alters the end timecode in order to maintain the duration of digitized material. This may also cause discrepancies with any auxiliary timecode information that you enter manually.
Mark IN	Altering the mark IN also alters the IN to OUT duration. This replaces any previous mark.
Mark OUT	Altering the mark OUT will also alter the IN to OUT duration. This replaces any previous mark.
Color Framing	Must be according to tape specifications. See “Tracking Color Frame Shifts” on page 290 .
Auxiliary timecodes, 1–5	No restrictions.
KN (key number) Start	Only for film projects; altering the starting key number will also alter the ending key number to maintain the duration. This may also cause discrepancies with any auxiliary timecode information that you entered manually.
KN (Key Number) End	Only for film projects. Altering the KN end also alters the KN Start to maintain the duration. This may also cause discrepancies with any auxiliary timecode information that you entered manually.
Pullin	Pullin data imported from a telecine-generated list can only be altered using the Modify command. See “Using the Modify Command” on page 157
Pullout	Pullout data imported from a telecine-generated list can only be altered using the Modify command. See “Using the Modify Command” on page 157



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

To modify the clip data directly:

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

Rain Forest Dailies *1				
	Name	Video	Start	End
	ROLLING MIST	AVRS 24bit	00:08:12:25	00:08:20:00
	AUDIO		00:50:32:15	00:51:23:17
	SUN IN TREES	AVRS 24bit	00:09:23:18	00:09:36:10
	STREAMING SUN	AVRS 24bit	00:08:33:07	00:08:45:07

3. Click the cell again to enter text.

If the cursor does not change to an I-Beam, you may be attempting to modify a column that cannot be directly modified.

4. Type the new information and press Return.

Using the Modify Command

The Modify command gives you specialized control over information in specific headings. 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 master clips at once.

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 5-2](#).

For a complete description of the Modify dialog box options, see [“Using the Modify Command” on page 45](#).

Table 5-2 Modify Command Options

Option	Restrictions
Set Timecode Drop/Non-drop	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 film projects
Set Pullin	Only for film projects
Set Tracks	Only for film projects
Set Source	Should match the original source tape name
Pullin	Only for adjusting Pullin information from an imported telecine list for a film project
Pullout	Only for adjusting Pullout information from an imported telecine list for a film project

To modify selected data:

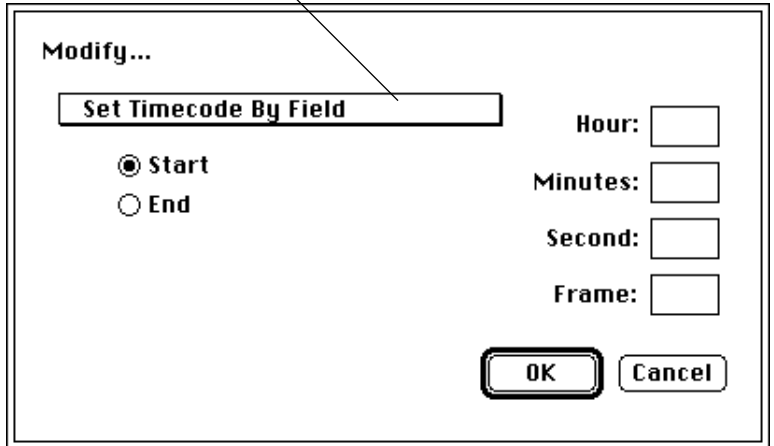
1. Open the bin.
2. Click the small film clip icon to the left of the clip, sequence, or other object you want to modify. Shift-click each additional object you want to modify.

Select objects in the bin: master clips, subclips, sequences, tapes, audiotapes, film reels, effects, group clips, or rendered effects.

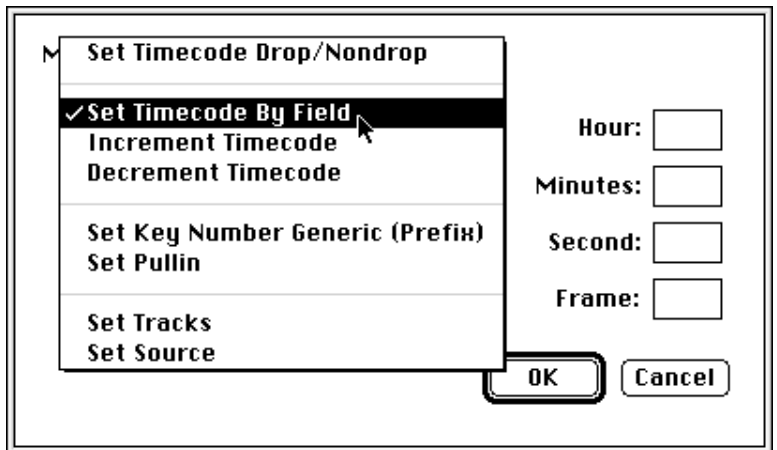
3. Choose **Modify** from the **Clip** menu.

The Modify dialog box appears.

Click here to display pop-up menu



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



5. After choosing the type of modification, select an option or enter information into the entry fields (timecode values, for example) when they appear.

6. Click OK. The modification takes effect.

Copying Information Between Columns

The following steps describe how to copy information in one column to another. To demonstrate these steps, you will copy 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, or press ⌘-D.

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 the Same Column

To copy information from another cell in the same column:

1. Hold down the Option key while you click in the destination cell to reveal a pop-up menu of all items entered in that column.
2. Select the desired text from the menu. The text appears in the cell.

You can also use the following two shortcuts to move information between cells in a column:

- Press Option-Tab to load the text from the cell below into the current cell, then select the cell to the right of the current cell.
- Press Option-Shift-Tab to load the text from the cell below into the current cell, then select the cell to the left of the current cell.

Sorting Clips

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



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

Sorting Clips in Ascending Order

To sort clips in ascending order:

1. In Text mode, 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, or press ⌘-E.

The objects in the bin are sorted.



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

If you want 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. Click the heading of the column that you want to use as the criterion.

The column is highlighted.

2. Hold down the Option key while you choose Sort Reversed from the Bin menu, or while you press ⌘-E.

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 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 mode becomes the primary criterion for the sorting operation.

Using Frame Mode

In Frame mode, 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.

To enter Frame mode, click the Frame mode button (labeled F) in the lower left portion of your screen.



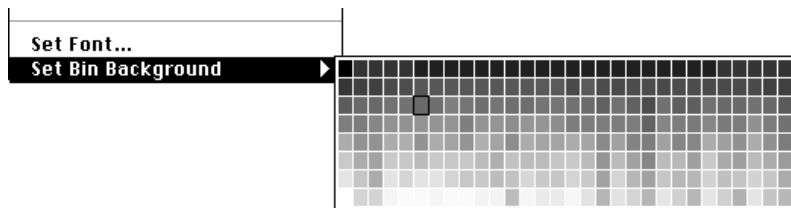
Each frame appears on your screen with its assigned name directly below it, as shown.

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 mode appear in Script mode as well.

To change the bin background color:

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

Rearranging Frames

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

To rearrange frames:

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

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

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

Changing the Frame Identifying the Clip

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 [“Multi-Camera Editing Techniques” on page 398](#).

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

To change the frame identifying the clip:

1. Select the clip that you want to change.

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, hold the K key and press the J key (Reverse Play).

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

When you find the frame you want to use, Media Composer saves your choice as part of the bin configuration.

Tidying Up Frames in a Bin


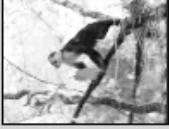


To realign or tidy up the frames in a bin after you have changed their display, use one of the following procedures:

- 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 mode, choose Fill Sorted from the Bin menu.

Using Script Mode

Script mode combines the features of Text mode with Frame mode, 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. Clip data matching the column headings in Text mode appears above each text box.

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

Rainforest Bin						
	Name	Tracks	Start	End	Duration	Mark IN
	sloth	Y1	00:03:04:28	00:03:16:04	11:06	
The slow-moving sloth is indigenous to the African continent.						
	monkey	Y1	00:02:43:00	00:02:52:28	9:28	
Startled by the sudden noise below , the monkey pauses and listens.						
	toucan	Y1	00:02:10:22	00:02:16:19	5:27	00:02:12:11
The colorful toucan gazes into the rainforest.						
	coastline	Y1	00:01:06:14	00:01:18:29	12:15	
The coastline is both rugged and beautiful. It is often covered with fog.						

Adding Text in Script Mode

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 mode.

You can use basic wordprocessing 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 text box, you can use the Page Up or Page Down keys on the keyboard to scroll through the text.

Rearranging Clips in Script Mode

You can rearrange the order of clips in Script mode 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 mode, then return to Script mode to display selected clips in the desired sort order.

Displaying Clip Information in Script Mode

Script mode allows you to display the clip information that appears in Text mode. To display selected clip information:

1. Enter Text mode by clicking the Text Mode button (labeled T in the lower left corner of the bin).
2. Hide nonessential information, leaving only selected columns of information displayed, by clicking the Heading for each nonessential column of clip information, and choosing Hide Column from the Bin menu.
3. Click the Script Mode button to re-enter Script mode. The selected clip information appears above the text box for each clip.

Printing Bins

Media Composer allows you to print entire bins or individual frames in hardcopy form.

To print entire bins in Text, Script, or Frame mode:

1. Install the correct printer driver in the System Folder on the Avid disk.

Directions for installing the printer driver are included in the manual for your printer and in the Macintosh system documentation.

2. Select the printer using the Chooser.

Directions for selecting the printer are included in the Macintosh system documentation.

3. Click the T (Text mode), S (Script mode), or F (Frame mode) button in the lower left corner of the bin to select the view you want to print.



To print a Frame in Script or Frame mode, you must use a printer capable of rendering graphics or PICT files.

4. Choose Page Setup from the File menu. A Page Setup dialog box appears, reflecting specific options for the type of printer you have.
5. Select the appropriate options from the Page Setup dialog box, then click OK.
6. Choose Print Bin from the File menu. The print dialog box appears, reflecting specific options for the type of printer you have.

LaserWriter "Minnie" 7.0

Copies: 1 **Pages:** All From: **To:**

Cover Page: No First Page Last Page

Paper Source: Paper Cassette Manual Feed

Print: Black & White Color/Grayscale

Destination: Printer PostScript® File

Print **Cancel**

7. Set the print options in the print dialog box, then click Print.

The system prints the frame currently displayed in the active monitor.

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, or press ⌘-P.
4. Make any needed adjustments to the print setup and click Print.

The system prints the frame currently displayed in the active monitor.

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
- 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 in Film Composer, 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.
- **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 Film Composer.
- **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 Film Composer.

Importing a PICT File of Bars

The following procedure describes the method for importing a PICT file. This method is available to all users because your Film Composer system includes a set of test pattern PICT files. You can choose the type of test pattern you want to use and import it into the system at any time.

When you are ready to output a digital cut, you can generate tone to go along with bars using the Calibration tone features of the Audio tool. For more information, see [“Preparing for Audio Output” on page 458](#).

To import bars using a Film Composer test pattern:

1. Open an existing bin, or create a new one for the test pattern.
2. Choose Import from the File menu to open the Import dialog box.
3. Using the directory pop-up menu on the left side of the Import dialog box, locate the SMPTE bars PICT file in Test Patterns folder. The Test Patterns folder is located in the Supporting Files folder inside the Film Composer folder on the Avid (internal) drive.
4. Import the file using options described in [“Importing Files” on page 117](#).
5. Digitize a section of tone from a videotape into the same bin. Make sure you digitize for at least one minute.



Consider digitizing tone at both 44 kHz and 48 kHz for use in various projects. 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 (one minute is a common standard).
7. Select the new subclip and 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 cuing and syncing material. You can use digital leader in Film Composer to mark the beginning and ending of tracks, and to help you maintain sync, as described in [“Managing Sync with Multiple Tracks” on page 371](#). You can create your own leader for video or film, as described in this section. Whatever your choice for specification, be

sure to make all your leader clips the same length, with common sync points.

Creating Picture 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. See the *Avid Media Composer and Film Composer Effects Guide* for information on using the Title tool.

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. Subclip an appropriate length of the clip, 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.
 - d. (Option) To make the sync point visible within the Timeline, step one frame back and place an Add Edit before the sync frame, then step two frames forward and place an Add Edit after the sync frame.

For information on placing Add Edits, see [“Adding an Edit \(Match Framing\)” on page 284.](#)

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.

Creating Sound Track Leader

To create tail leader for audio tracks:

1. Load a clip that includes a section of digitized tone into the Source monitor.
2. Subclip an appropriate section of the clip, 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 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 back 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 284](#).

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.

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 mode or Frame mode to display your storyboard in the bin with or without a text 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 mode.
- Use the keyboard to jog 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.
- Tidy up the rearranged frames along invisible grid lines when using Frame mode.
- Change the font and background color for the storyboard, if desired.
- 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.



CHAPTER 6

Managing Media Files

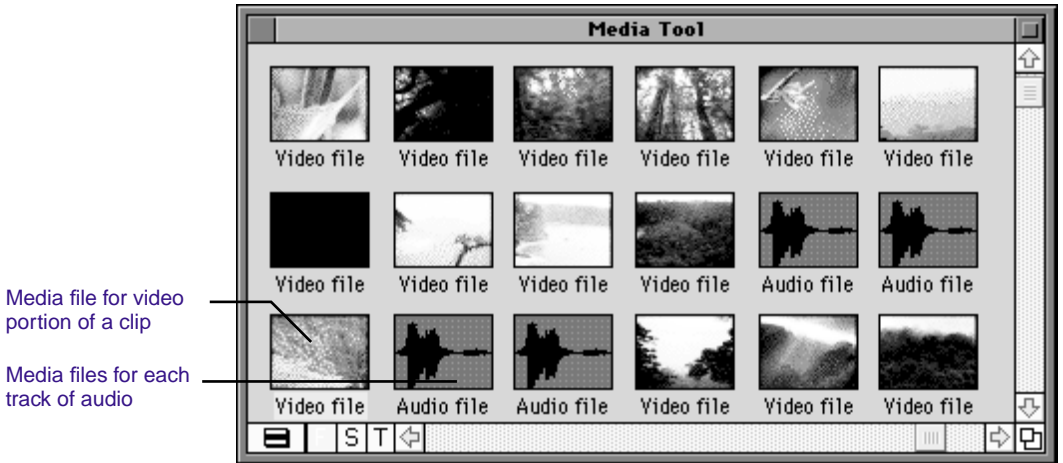
When you digitize footage, the system creates digital media files for the video and audio tracks on the media drives attached to your system. In addition to the bin tools that allow you to organize the clips that reference these media files, Film Composer provides useful tools and features for directly managing media files for storage and playback efficiency, backup, and transfer between systems. These procedures are described in the following sections:

- [Using the Media Tool](#)
- [Freeing Storage Space](#)
- [Consolidating Media](#)
- [Backing Up Media Files](#)
- [Relinking Media Files](#)
- [Unlinking Media Files](#)

Using the Media Tool

The Media tool is your window onto 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. Unlike bins, however, the Media tool gives you access to separate video and audio portions of each clip.



Basic Media Tool Features

The Media tool provides many of the same controls for viewing and managing information that you use with bins, including the following:

- Three display modes in the Media tool function like those in bins: Text mode, Script mode and Frame mode.
- The Media Tool Fast menu gives you quick access to all the same commands available in the Bin Fast menu.
- You can highlight, move, copy, duplicate, delete, and sift clips. You can also select media relatives, sources, and unreferenced clips, as described in [“Basic Bin Procedures” on page 137](#).
- You can use Text mode headings and display options for columns of clip and media file data. You can also use procedures such as customizing the display of columns, moving within columns, and sorting information, as described in [“Using Text Mode” on page 147](#).

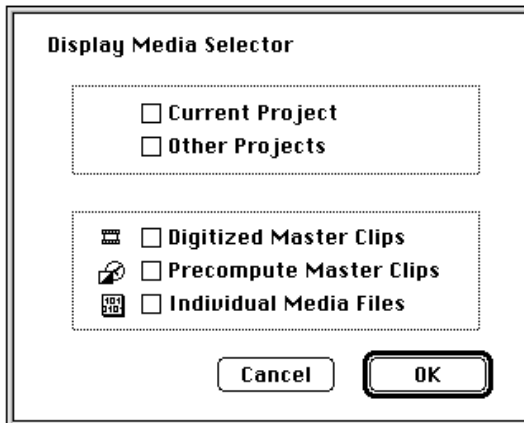
- You can use the same Frame mode display options described in [“Using Frame Mode” on page 162](#).
- You can use the same Script mode display options described in [“Using Script Mode” on page 165](#).
- You can print Media tool data using the same procedures for printing bins, described in [“Printing Bins” on page 167](#).

In addition to the procedures just described, the Media tool has a number of unique functions, described in this section. These include the following:

- Unlike bins, the Media tool displays all the tracks digitized for each clip as separate media files. Therefore, when you view, delete, and manipulate files, you have the added option of specifying individual video and audio tracks.
- The Media tool does not display sequences and subclips. Only master clips, precompute (rendered effect) master clips, and associated media files are displayed.
- The following Bin and Clip menu commands do not apply to the Media tool: Modify, Select Offline Items, and Relink. You must perform these functions from the bin.
- The Media tool database and display options are not saved as they are with bins. Instead they are re-created each time you open the tool. Likewise, when you close the Media tool, any customization of columns or other views elements is deleted.

Opening the Media Tool

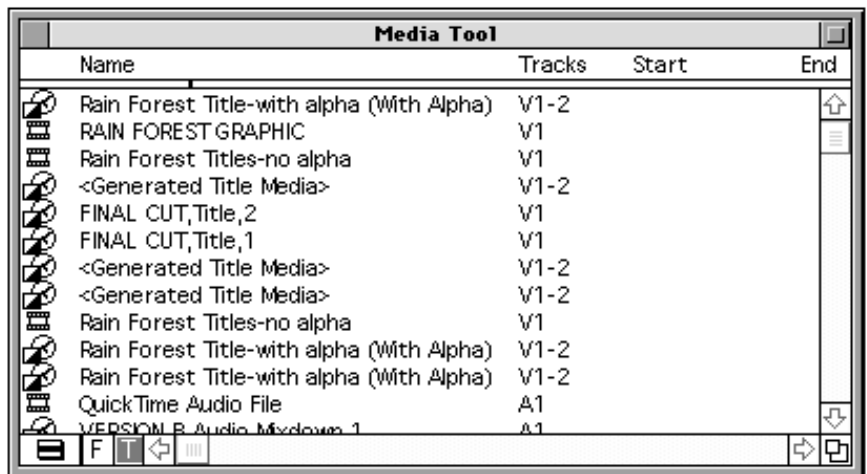
1. Choose Media Tool from the Tools menu. The Display Media Selector dialog box appears.



2. Select the desired display options:

- You can display files for just the current project, or all other projects.
- You can display digitized master clips, precompute (rendered effect) master clips, individual media files, or all three.

3. Click OK. The Media Tool window appears.



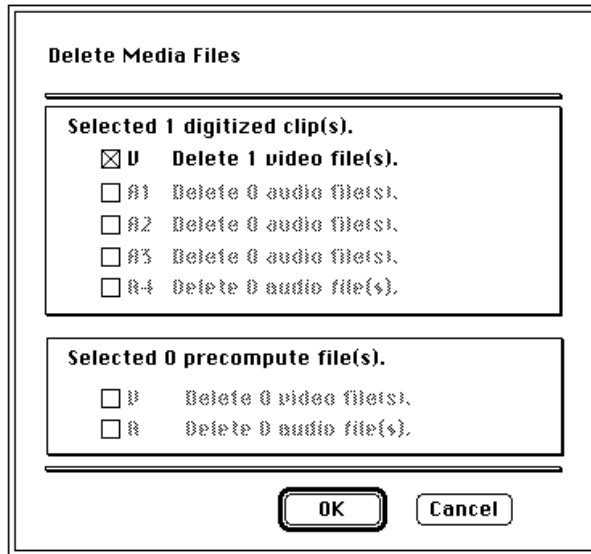
Deleting Tracks with the Media Tool

You can use the Media tool to delete selected media files without harming the related master clips, subclips, and sequences. 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 184](#).

Delete selected media files as follows:

1. Open the Media tool. In the Display Media Selector dialog box, be sure to select the types of files 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.



4. Select the media objects that you want to delete:
 - **Audio media file (A1, A2, A3, A4).** The master clip linked to that file will be silent. Subclips and sequences created from the master clip are affected in the same way.
 - **Video media file (V1).** The master clip linked to that file will be 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 becomes black with the message “Media Offline” displayed.
 - **Audio Mixdown File (A).** The section of the sequence with the mixdown becomes 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 the *Avid Film Composer Getting Started Guide*.

Unlike the bin files stored in project folders on the Avid drive, media files require considerable storage space. In order to maximize your use of storage during larger projects, you can abridge and/or convert media files. You can perform these procedures on clips selected in either the Media tool or in bins.

In addition, you can delete unreferenced media files for a finished sequence. This procedure is performed on clips selected in bins only.

Abriding Media Files

The Abridge command deletes all of a master clip's video data except for a single representative frame. The audio tracks are unchanged. Use this option when you want to free up the maximum amount of media drive space without completely deleting the associated media files of a master clip.



The Abridge command applies to video only. You cannot abridge audio media files. You cannot abridge sequences or subclips because they have no media of their own.

Use the following procedure to abridge the video media files for selected clips:

1. Select a master clip in the bin.
2. Click the picture area of the video media file or master clip that you want to abridge.
3. Use the keyboard to move to the frame you want to save to represent the video media data: hold the K key (Pause) and press the L key (Play) or J key (Play Reverse) to shuttle slowly through the clip. Release the keys when you cue to the right frame.
4. Choose Abridge from the Clip menu. The abridge dialog box appears.



5. Click Abridge.

Converting Media Files

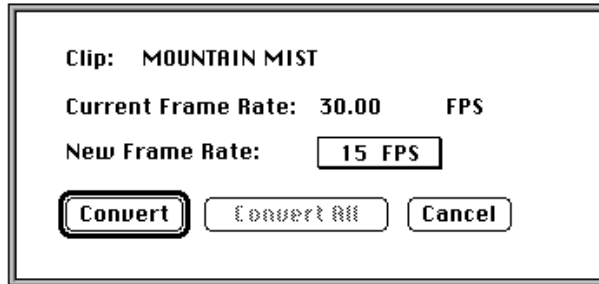
When you convert a clip, the system reduces the number of digitized frames for each second of video, thus reducing the amount of storage space required. The video media file for a converted master clip has a changed CFPS (capture frames per second) rate. When you play back the converted media, motion appears jerky with fewer frames per second. The video duration of the clip remains the same.

Keep the following restrictions in mind when converting your media files:

- You can convert only master clips. You cannot convert subclips or sequences.
- You can convert only video media files that were captured at the full frame rate (that is, 30 fps NTSC, or 25 fps PAL).
- EDL creation is not affected because the system retains the correct timecode information.
- If you want to return to the full frame rate after you have converted media files, you must redigitize the material.
- The Convert command affects video media files only. Audio files associated with the clip are unchanged.

To convert media files:

1. Click the bin to activate it, and select one or more master clips whose media files you want to convert.
2. Choose Convert from the Clip menu. The convert dialog box appears.



3. Choose a new selection from the New Frame Rate pop-up menu.
4. Click Convert. The file is converted to the selected frame rate.

Deleting Unreferenced Clips

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.

To delete all unreferenced clips and media files:

1. Choose Select Sources from the Bin menu. All source clips for the sequence are highlighted in the bin.
2. Click the bin containing the highlighted clips to activate it.
3. Choose Reverse Selection from the Bin menu. All the clips in the bin that are not source clips for the sequence are now highlighted.
4. Press the Delete key, and click the check boxes in the Delete dialog box to delete the clips and/or the media files.

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 disk 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

For illustrations of the different types of consolidation, see the *Avid Media Composer and Film Composer Quick Reference*.

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 extension *.old* that remains linked to the old files. If you choose to maintain the link between the original master clip and the old media files, the system creates a new master clip with the extension *.new* that is linked to the new files. The new clips are also numbered incrementally beginning with *.01*. Consolidating master clips does not save storage space because the system copies the same amount of media for each clip.
- **Subclips:** When you consolidate a subclip or group of subclips, the system copies only the portion of the media files represented in the subclip, and creates a copy of both the master clips and the subclips. The suffix *.new* is attached, along with incremental numbering beginning with *.01*.
- **Sequences:** When you consolidate a sequence, the system copies only the portions of media files edited into the sequence, and creates new master clips for each shot in the sequence. The suffix *.new* is attached to the master clips, along with incremental

numbering beginning with .01. The sequence is not renamed, but is automatically relinked to the new media files.



Because a consolidated sequence is linked to the new files by default, consider duplicating the sequence each time you consolidate if you need to maintain links to the original files.

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.

Consolidate

Delete original media files when done.

Skip media files already on the target disk

Relink selected clips to target disk before skipping

Target Disk:

0 Clip(s) selected

1 sequence(s) selected.

Handle Length: **frames**

Consolidate all clips in a group edit.

4. Select one of the following:

- “Delete original media files when done” to delete original media files automatically.
- “Skip media files already on the target disk” if some related media files are already located on the target disk.
- “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 disk from the pop-up menu.

Make sure that you choose a target disk with enough storage space for all the consolidated media files.

6. Enter a handle length for the new clips in the entry field, or leave it at 60 frames to accept the default.

For more information on group clips, see [“Grouping and Multi-grouping” on page 389](#).

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. This option is dimmed if there are no group clips in your selection.
8. Click OK. If you 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.
10. Click OK.

Another way to back up media files is to copy them directly onto another hard drive in the Finder. 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 in the Finder while Film Composer 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.

Backing Up Media Files

The MediaFiles folders on your external media drives contain the individual media files created when you digitize source material. Unlike the smaller Composer Project and Avid User folders, these folders are too large to back up onto diskettes.

The following are the options for backing up media files:

- You can use the Consolidate feature, described in the previous section, to make copies of selected media files on a target hard drive connected to the system.
- You can back up smaller projects digitized at low AVRs (AVR 1s–3s, for example) to optical drive cartridges.
- You can archive larger media files and folders to a dedicated mass-storage system, such as AVIDdrive DLT (digital linear tape).
- You can consolidate or make copies of media files for transfer to another system. For more information, see [“Transferring Projects and Media Files Between Systems” on page 521.](#)

For information on archiving procedures, see your AVIDdrive DLT documentation. For information on purchasing AVIDdrive DLT, contact your Avid sales representative.

Relinking Media Files

Sometimes after you consolidate or move material between systems, the clips and/or sequences lose their link to the original media files. When a clip becomes unlinked, it displays the message “Media Offline.” If appropriate media exists online, you can use the Relink command to reestablish the link.



Media Offline message indicates a clip with no link to media files

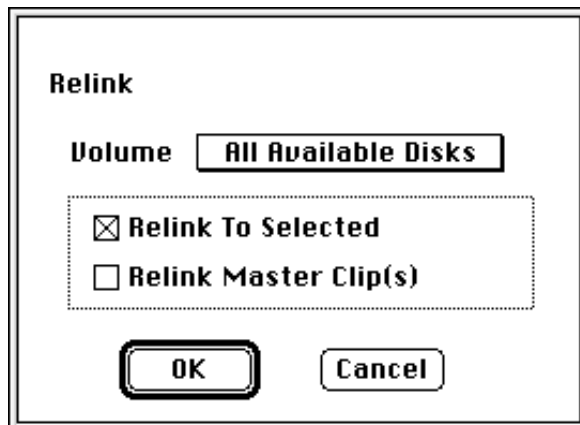
When you select subclips, or sequences and choose the Relink command, the system searches for master clips that contain the same material included in the selection.

You can also choose to relink master clips to appropriate media files. The system compares information such as source tape name, timecode information, and channels digitized. If the search is successful, the system establishes new links to the available media files. You can instruct the system to search specific drives, or all available drives.

To relink clips, subclips, or sequences:

1. Select the unlinked object or objects.
2. Choose Relink from the Clip menu.

The Relink dialog box appears.



3. Choose an option from the Volume pop-up menu:
 - Choose All Available Disks to search across all drives that are online.
 - Choose a specific drive volume if you know the location of the media, or want to relink to media on a specific drive.
4. Select the option Relink to Selected to direct a relinking of related subclips and/or sequences to the highlighted clip in the bin.
5. Select the option Relink Master Clips to relink master clips to associated media files.
6. Click OK. The system searches the selected drives and relinks if possible.

The system disregards capture rate and audio resolution when matching media files.



If you want to be sure to maintain the original capture settings for a subclip or sequence, use the Batch Digitize command; do not use the Relink command.

Relinking to Selected Clips

You can also use the Option key to modify the Relink command for connecting subclips or sequences to selected master clips and subclips.

To relink to selected master clips and subclips:

1. Place the subclips and/or sequences that you want to relink into the bin containing the clips.
2. Select the clips targeted for relinking.
3. Press the Option key and choose Relink from the Clip menu.
4. The subclips and/or sequences are linked to the selected clips and/or 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 find that you 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 only perform this procedure 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 suffix *.new* attached), and unlink them.
2. Choose Relink from the Clip menu, and target the volume containing the original media files in the Relink dialog box.

The clips are relinked to the original media.

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 Unlink and Relink commands to reconnect the files at either site.

For example, if you have a project that requires sharing work repeatedly 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 moving large media drives back and forth. The project folder can be exchanged on 3.5-inch disk, or instantly across a network. Because the media files maintain slightly different parameters at each site, you must relink the material each time.

To relink a moved project:

1. Select the sequences and unlink.
2. Select existing clips in the bin.
3. Choose Option-Relink from the Clip menu.

The sequences are relinked to the local media.

Unlinking Media Files

You can use the Control 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 master clips to unlink.
2. Press Control-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 only perform this procedure using the source master clips.

If you have similar material from different sources, you can unlink a set of clips, duplicate them, and redigitize using the new source material.

For more information on working with multicamera material, see [Chapter 13](#).

For example, if you are working with multicamera material, you can digitize one reel, unlink the clips, duplicate them several times, and rename their source tapes to batch digitize the remaining reels.



CHAPTER 7

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. In Media Composer and Film Composer, 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. These methods are described in the following sections:

- [Line Script Basics](#)
- [Script Window Basics](#)
- [Manipulating Script Text](#)
- [Searching Through Script](#)
- [Linking Clips to the Script](#)
- [Manipulating Slates](#)
- [Manipulating Takes](#)
- [Using Script Marks](#)
- [Finding Clips and Script](#)
- [Editing with the Script Window](#)

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:

88. INT. COUNTRY HOUSE KITCHEN - THAT EVENING:

Elaine bustles nervously in the kitchen, her movements unusually brittle and officious, even for her. Amanda sits at the table and observes Elaine with great intensity, but only when Elaine is not looking.

Laurel comes from the bedroom with sleep-tossed hair. She yawns as she sits down at the table.

Elaine puts a plate of grey, speckled hot dish in front of Amanda. Laurel eyes it with pleasure.

LAUREL
Mm, cream of mushroom.

Elaine lowers a similar plate of hot dish in front of Laurel, but somehow releases her grip a second too soon. The plate hits the edge of the table with a jarring crash.

LAUREL
Are you alright, Elaine?

ELAINE
I'm fine.

The three eat in silence. Elaine puts down her fork, contemplates Laurel, shrugs, then picks up her fork again and resumes eating.

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 long line drawn through the middle of the scene 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.

Lining in the Digital Realm

Script integration in Media Composer and Film Composer 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:

The screenshot shows a digital script editor window titled "Scene 88.txt Script1". The interface includes a tool bar at the top with icons for a stop, play, list, scene/page, and zoom. Below the tool bar, the script text is displayed with various markers and slates. On the left, labels with lines pointing to the interface elements include: "Tool bar", "Slates", "Color indicator", "Takes", "Off-screen indicator", and "Script mark".

The script text is as follows:

88 88. 88A/1 TRY HOUSE KITCHEN - THAT EVENING: /

Elaine hustles nervously in the kitchen, her movements brittle and efficient, even for her. Amanda sits at the table and watches Elaine with great intensity, but only when she is not looking.

Laurel comes in from the bedroom with her hair tossed. She yawns as she sits down to the table.

Elaine puts a plate of grey, speckled hot dish in front of Amanda. Laurel eyes it with pleasure.

LAUREL
Mm, cream-of-mushroom.

Elaine lowers a similar plate of hot dish in front of Laurel, but somehow releases her grip a second too soon. The plate hits the edge of the table with a jarring crash.

The interface also shows several video slates (88A/1, 88B/1, 88B/2, 88C/1) and markers (1, 2, 3) indicating the timing of the script relative to the video footage.

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 nodes and lines extending from the bottom of each slate indicate the number of takes for that scene. Click on a node 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 using methods described in [Chapter 2](#) and [Chapter 3](#).
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.

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 audio/visual 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 out storyboard bins that include your script.

The following is an example of an audio/visual 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.

Eco Challenge Script

● ▶ 📄 Sc Pg I 🔍

Narration

FADE UP: WIDE SHOT, START OF RACE
SOT: People screaming at the start of the race.

CUT TO:
MONTAGE OF CANOERS, RAFTERS, ETC. (SOUND UNDER)

VOICE-OVER:
▶ 250 ATHLETES FROM AROUND THE WORLD ARE IN SOUTHERN UTAH THIS WEEK TO COMPETE IN THE ECO CHALLENGE ADVENTURE RACE.

DISSOLVE TO: TEAM INTERVIEW SHOTS (SOUND UNDER)

VOICE-OVER:
▶ 50 TEAMS ARE PARTICIPATING IN THE 370 MILE SEVEN DAY RACE. IT IS BILLED AS THE TOUGHEST ENDURANCE COMPETITION IN THE WORLD.

OVERLAP CUT TO: MOUNTAIN CLIMBER
MOUNTAIN CLIMBER SOT:
You got to love this. Why can't you get paid to do this stuff?

PAGE WIPE TO: MONTAGE OF ATHLETES

VOICE-OVER:
▶ IN TEAMS OF FIVE, ATHLETES SET OUT ON HORSEBACK, CANOE, BICYCLE AND FOOT.

Starting

Rafting

Music for

Interview

Climbing

Canoeing.S

Music for

Ride and

Scene: Page: ⏪ ⏩

Script Window Basics

This section describes basic procedures for creating and manipulating script windows, including importing script text; navigating through the script; opening, closing and saving windows; and adjusting margins.



Before you begin creating script windows, make sure you have established the proper defaults in Script Settings for font, margin, and display of frames and takes, as described in the Avid Media Composer Products Reference. These parameters can also be changed manually, as described throughout this chapter.

Importing a Script

The first step in script integration is importing a script in the correct format.

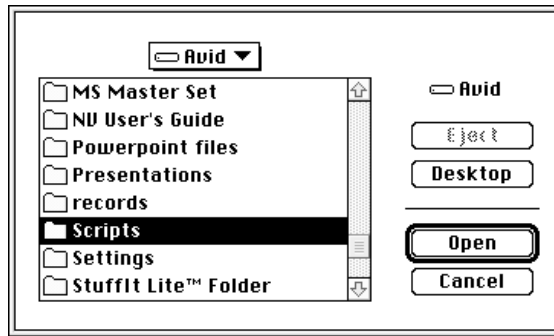


Script integration requires the imported script to be in ASCII text format. However, to maintain the original formatting, export the script from your word processor by using the “text with layout” option. If you export the script as “text” only, the formatting will be lost.

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 diskette, and copy it to your internal hard drive.
 - Place the file in a network location that you can access from your system.
2. From within the Media Composer application, choose New Script from the File menu.

A directory dialog box opens.



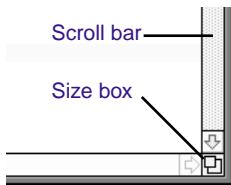
3. Locate the file and double-click it, or select the file and click Open.
The system creates a new bin named after the project by default.
The script, with its original layout, appears in the bin.
4. Change the name of the script bin by clicking on the title in the Project window and typing a new name.

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 small diamond icon appears in the title bar to indicate that the changes have not yet been saved.
- You perform a save 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.
- 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 use the Open and Close commands in the File menu to open additional script windows and add them to the project window, or to close script windows.

Navigating in the Script Window



After importing a script, you can navigate to any point in the text 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 a 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.



You can also use several search features, as described in [“Searching Through Script” on page 206](#).

Adjusting the Script Margins



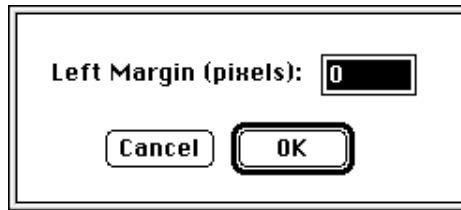
You can resize a script window at any time to show more script or to enlarge the right margin by dragging the size box in the lower right corner.

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 margin dialog box opens.



2. Type a new margin size, in pixels, into the entry 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 in the course of a project.

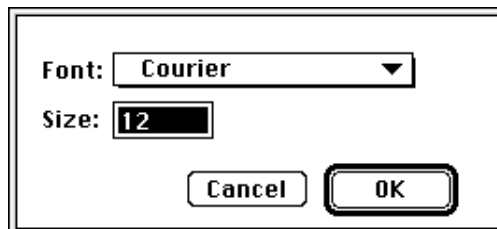
Changing the Font of the Script

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 dialog box opens.



2. Choose a new font from the pop-up menu. The menu includes all fonts currently installed in the Fonts folder of the Macintosh System Folder.
3. Type a new font size into the entry box and click OK.

The script window reflects the new settings.



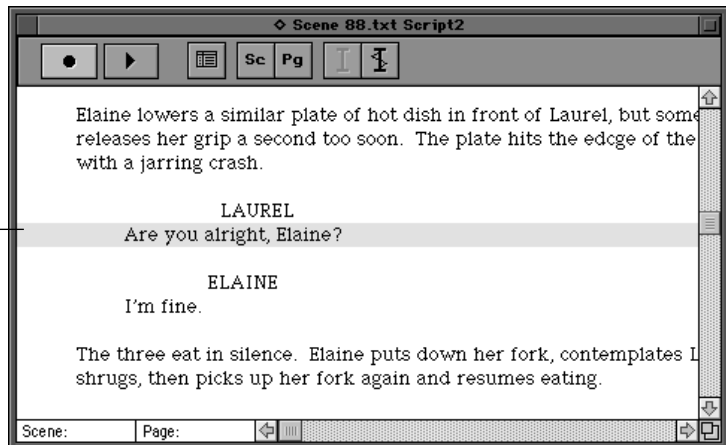
As you enlarge font size, the available sizes for the slate frames also increase. This can be useful for presentation or screening purposes, when you need to display extra-large text and slate frames for a large audience or across a room. For information on enlarging slate frames, see [“Resizing a Slate” on page 212](#).

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.

To select a single line of script, click anywhere in the line to highlight it.

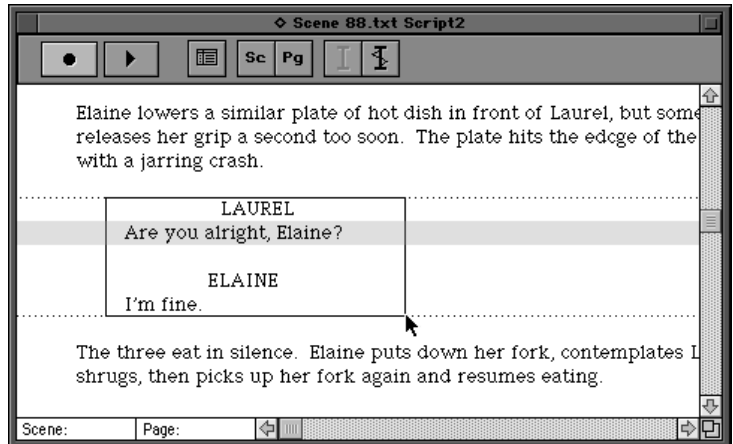
Selected lines are highlighted.



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 appears to outline 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.

- Click the first line of the selection, then press the Shift key and 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.

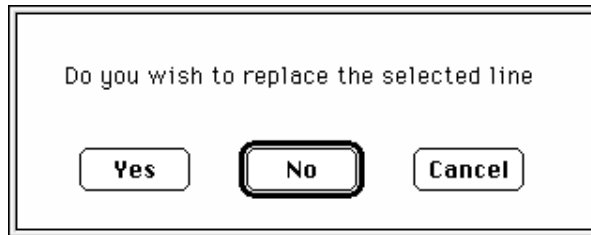


You cannot undo cut, copy, or paste procedures in the script window.

To cut or copy and paste lines of script:

1. Select the lines.
2. Press ⌘-C to copy, or ⌘-X to cut, depending on your needs.
3. Select the line below the location where you want to insert the text.
4. Press ⌘-V to paste the text.

If only one line is selected at the insertion point, an alert message 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.



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 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. Press ⌘-X to cut the text from the script.

Unlike a normal deletion, the text remains in the Macintosh 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 225](#).

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.

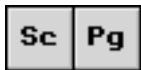
Using Page and Scene Numbers

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.

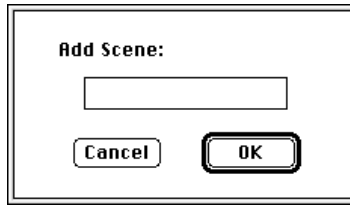
Adding a Page or Scene Number

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 tool bar, or choose Add Scene or Add Page from the Script menu.

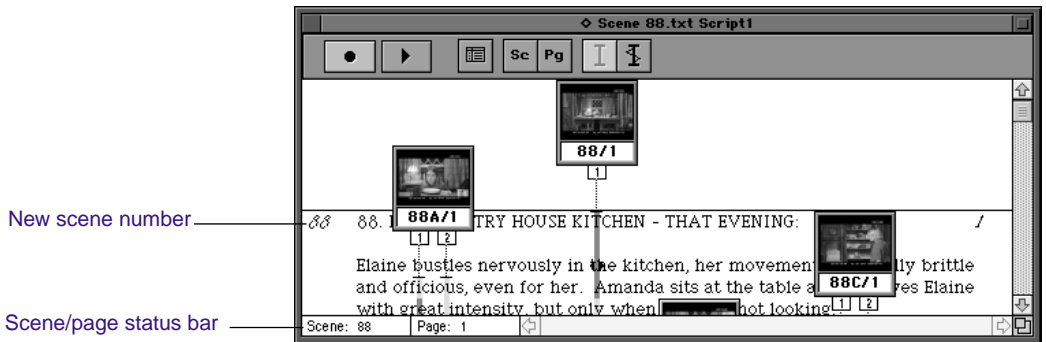


The Add Scene or Add Page dialog box opens.



3. Type the number for the scene or page, and click OK.

In the case of a scene, the number appears in the left margin next to the first line of the selected region.

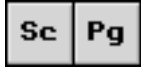


Scene and page numbers both appear in the status bar at the bottom of the script window, and reflect your current position within the script. Each scene or page number will continue throughout the script until you mark another line as the beginning of a new scene or page.

Changing a Page or Scene Number

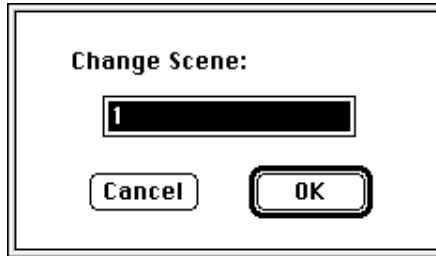
You use the process of changing a scene or page number both to correct any errors that occur when adding numbers, and to reposition scene and page numbering to match script changes during postproduction.

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 tool bar, or choose Add Scene or Add Page from the Script menu.

The Change Scene or Change Page dialog box opens.



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 Page or Scene Numbers

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 Delete 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 and Scene Number

Once you have added scene and page numbers, you can search for them quickly during editing.

To search for a page or scene number:

1. Choose Goto Page or Goto 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.

A dialog box opens.

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 opens.

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.

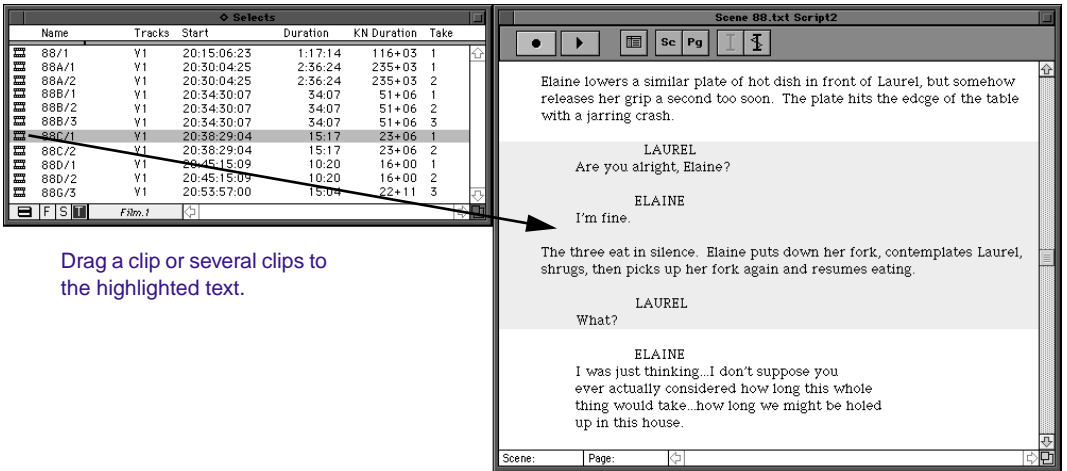
The first occurrence of the text is highlighted in the script window.

5. Choose Find Again from the Edit menu to search for the next occurrence of the text.

Linking Clips to the Script

To link clips to the script:

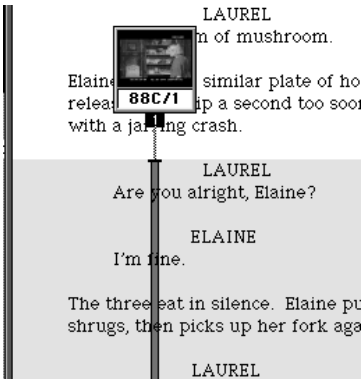
1. Open the script bin.
2. Open the source bin for the clips that you want to link to the script.
3. (Option) Sort the source clips to make the job easier:
 - You can sort the Scene/Take column for an alphanumeric list of clips that matches their relative order in the script.
 - If you are not working 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 mode according to their order in the script.
4. Select and highlight 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.

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.

Manipulating Slates

Once you create a slate by dragging a clip into the script window, there are a number of ways you can manipulate its appearance and position, as described in this section.

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 215](#).

Resizing a Slate

You can resize a slate the same way you resize frames in the bin in Frame mode:

- To enlarge a slate, select it and press ⌘-L or choose Enlarge Frame from the Edit menu.
- To reduce a slate, click on it and press ⌘-K, or choose Reduce Frame from the Edit menu.

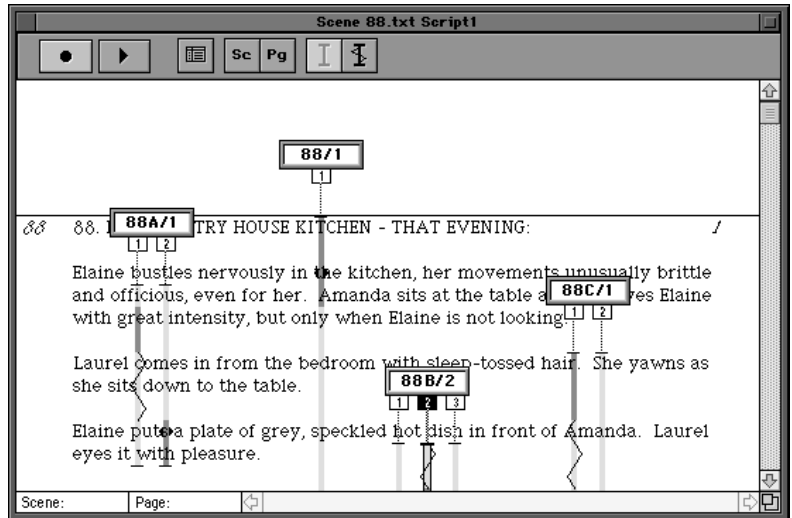


You can enlarge the font size of the script to increase the size of the slate frames. This can be useful for presentation or screening purposes, when you need a large display for an audience. For information on resizing the font, see [“Changing the Font of the Script” on page 202](#).

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 in order to simplify the interface or speed up scrolling and movement in a complex script window.

To hide the slate frames, choose Show Frames in the Script menu. The script window shows only the clip names for the takes.

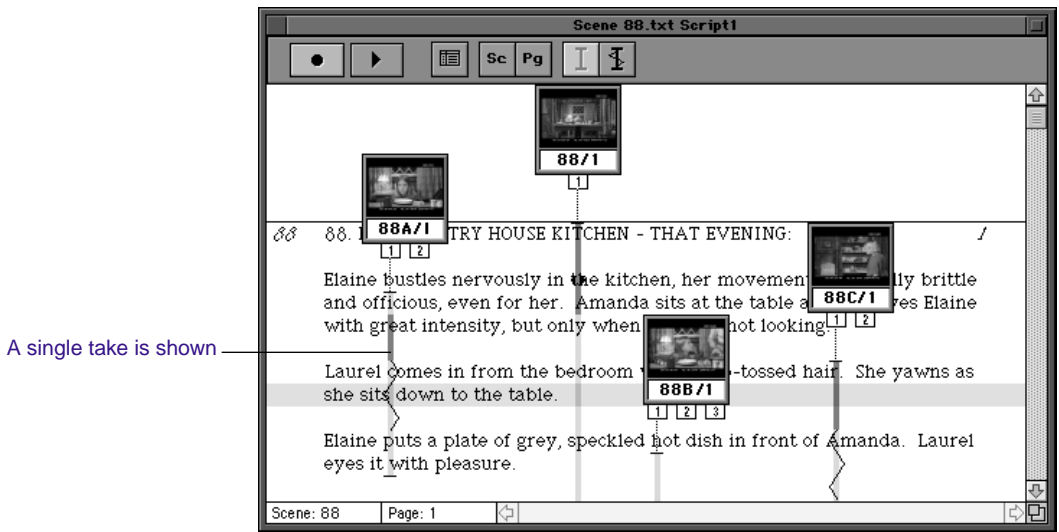


To restore the frames, choose Show Frames again.

Showing One Take Per Slate

You can display only one representative take per slate to minimize clutter on the screen.

To show one take per slate, choose Show All Takes in 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 Command key, then drag the slate to the new location.



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 219](#).

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.

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 Delete key.

The Delete dialog box opens, 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.

Selecting Takes

There are several ways to select takes:

- Click any take 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 219](#), and [“Using Color Indicators” on page 220](#).

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 altogether to simplify the script interface for the editor.

To delete one or more takes:

1. Click the takes to select them.
2. Press the Delete key.

The Delete dialog box appears.

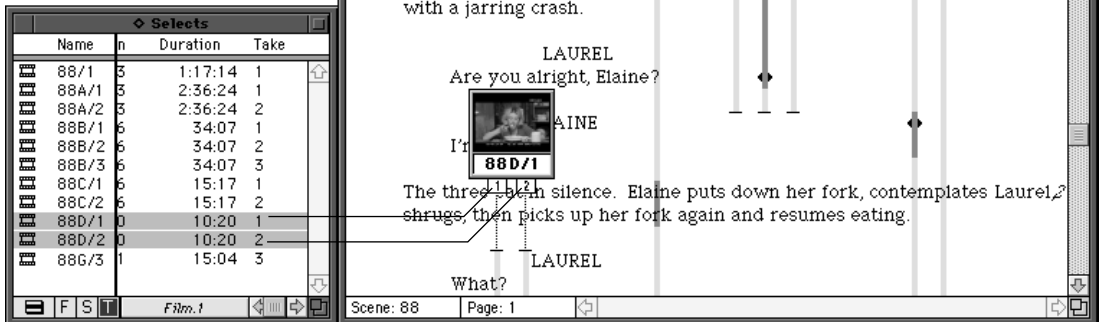
3. Click the Delete Takes check box, then click OK.

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.

2. Press the appropriate Step keys on the keyboard to advance the footage displayed in the slate forward or back to the desired frame.

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 to load it into the Source monitor.
- Select multiple takes, and double-click any take in the selection to load all the takes into the Source monitor.

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.

- Click a take once to select it 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.

To change the length of a take line:

1. Press the Command 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 Command 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 Off-Screen button in the script window tool bar.

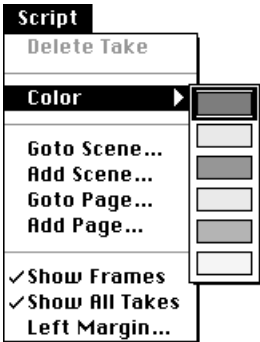


The indicators appear, superimposed on the selected takes. You can toggle the indicators on or off by clicking the button repeatedly.

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 Off-Screen button.

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 Color button in the script window tool bar.



The color appears only in the highlighted script region of the selected takes. You can toggle 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 color indicators.

The first take in the selected region determines the color indicator status displayed in the Color button.

2. Select only those takes that display the indicators.
3. Click the 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 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 in one take at a time, or you can automate the process of screening and marking selected takes in a playback loop.

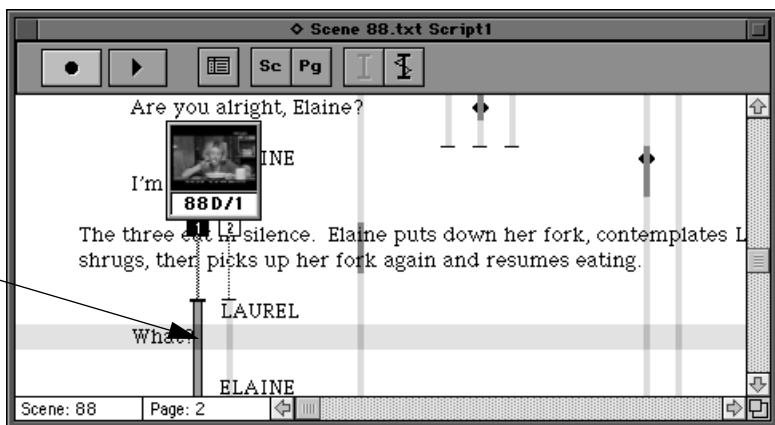
Placing Script Marks Manually

To place script marks manually:



1. Map the Script Mark button from the Master 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.

Double-click at the intersection of the take and the line in the script that you want to sync to the source clip.



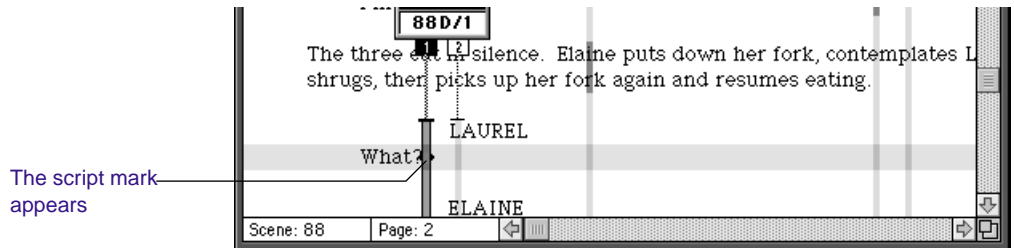
The take is selected in the slate, the chosen line of the dialog is highlighted, and the clip loads into the Source monitor.

3. Click or press Play. The take plays in the monitor.

Alternatively, you can jog or shuttle through the footage, place the position indicator on the exact frame, or scrub the audio 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 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 additional script marks.

Automated 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:

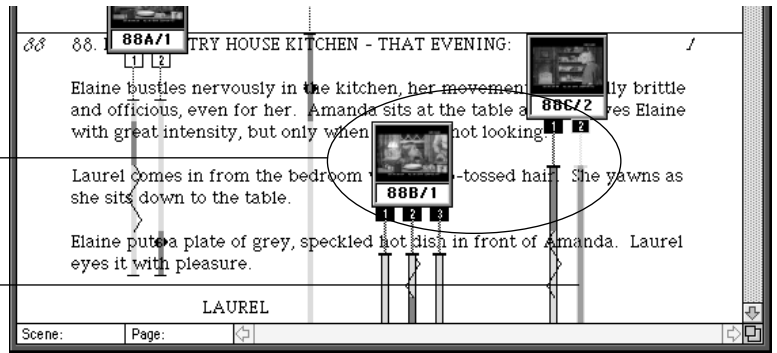
1. Select one or more takes.
2. Click the Record Marks button in the script window tool bar.



The first selected take turns green in the script window, the system automatically loads the clip into the Source monitor, and the clip begins to play.

Several takes are selected for automated playback.

Current playback is highlighted in green.



3. As you hear a line of dialog (or see a particular shot) that you want to mark, click on 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 as follows:

- You can click on a line that already contains a mark to replace the previous mark and update the sync point in the clip.
- You can click on 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.
- You can use variable-speed play controls (J-K-L keys on the keyboard) to shuttle, jog, or pause during playback.
- You can press the Tab or Shift-Tab keys on the keyboard to begin playback of the next or the previous take.
- You can scroll through the script window without affecting playback.

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.

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 on the script mark at the line of dialog that you want to cue.

The take is loaded into the Source monitor and 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 Command key.

Notice the movement indicator that appears when you point the cursor at a mark in the script.

2. Click the mark and drag it to the new position.

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.

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 Delete 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.

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

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 tool bar.



The system searches through bins linked to the project, opens the bin containing the linked clips, and highlights them in the bin.

The system opens the bin and highlights clips that match your search.

	Name	Tracks	Start	KN Duration	Duration	Take	
	88/1	Y1	20:15:06:23	116+03	1:17:14	1	
	88A/1	Y1	20:30:04:25	235+03	2:36:24	1	
	88A/2	Y1	20:30:04:25	235+03	2:36:24	2	
	88B/1	Y1	20:34:30:07	51+06	34:07	1	
	88B/2	Y1	20:34:30:07	51+06	34:07	2	
	88B/3	Y1	20:34:30:07	51+06	34:07	3	
	88C/1	Y1	20:38:29:04	23+06	15:17	1	
	88C/2	Y1	20:38:29:04	23+06	15:17	2	
	88D/1	Y1	20:45:15:09	16+00	10:20	1	
	88D/2	Y1	20:45:15:09	16+00	10:20	2	
	88G/3	Y1	20:53:57:00	22+11	15:04	3	

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 Composer settings. 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 243](#).

Script Editing Workflow

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 click the Splice or Overwrite button to make the first edit.
4. 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.
5. Double-click the next preferred take to load it.
6. Play the clip until you reach the appropriate OUT point, and perform the edit on the fly.
7. Repeat steps 4 through 6 until you have walked through the entire scene or segment.
8. 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 Control key to instantly splice clips linked to ranges of script directly from the script window into the sequence. In order 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 Control key. Notice that the Splice-insert arrow appears when you point to a take.
3. Double-click on the preferred take within the range of dialog that has been marked.

The marked section of the clip is spliced into the sequence.

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

In the course of postproduction, 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.

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 [“Using Video Mixdown” on page 478](#).

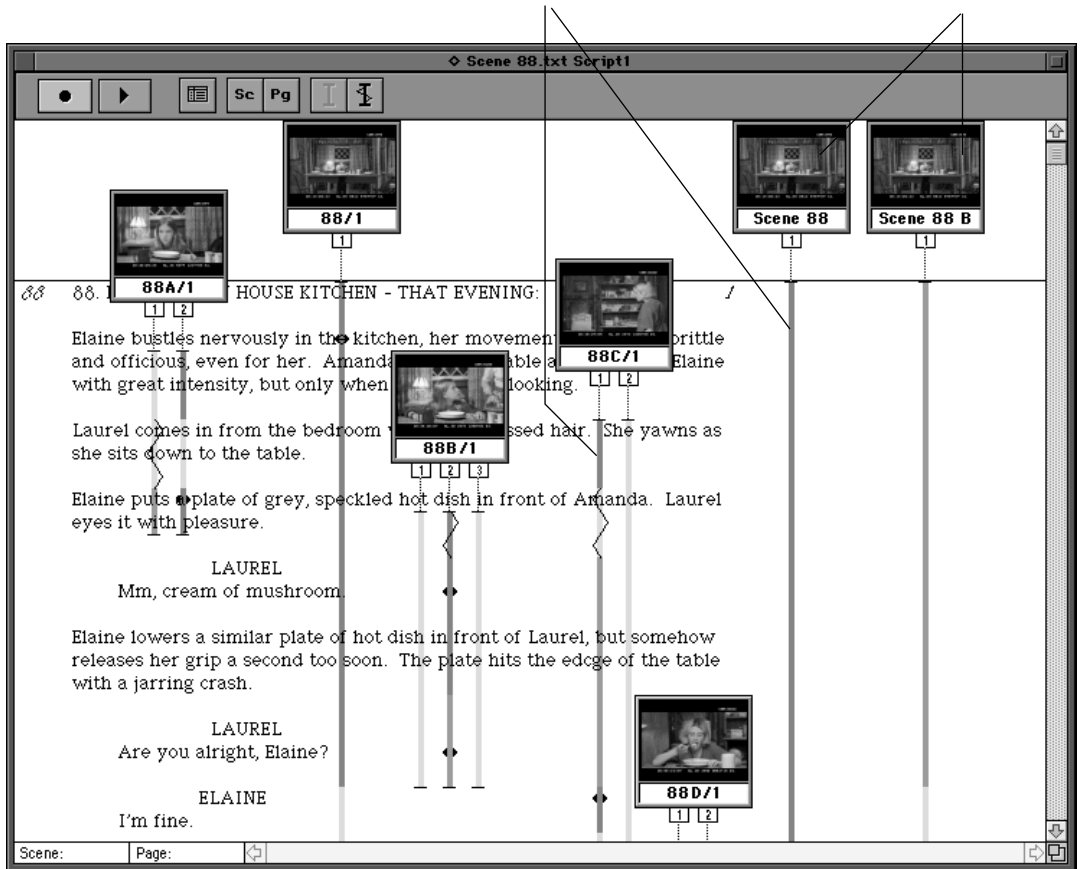
- Match back and cue source material to compare alternative takes.
- Quickly find and open bins for retrieval of additional material not included in the script window.
- Enlarge the script font and slate frames for better viewing by your audience.

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.





CHAPTER 8

First Edits in Source/Record Mode

After you have viewed and marked your clips or created subclips, you are ready to create a sequence. This chapter introduces you to procedures you use in Source/Record mode to build a basic sequence, as described in the following sections:

- [Setting Up a New Sequence](#)
- [Making the First 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](#)
- [How to Proceed](#)

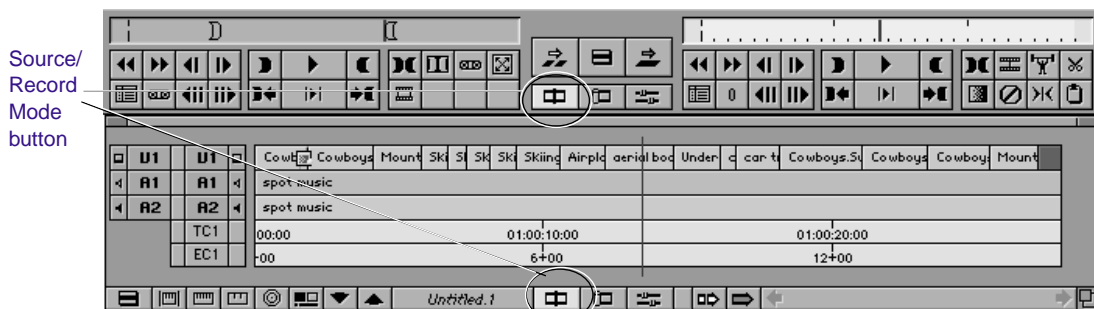


Illustrations of the Film Composer window show two button rows, two information rows, and Center Duration. For information about changing the default display, see the Avid Film Composer Getting Started Guide.

Entering Source/Record Mode

Source/Record mode is the default editing mode, and is composed of the screens and controls shown in the Source/Record window within the main Composer window on the Edit monitor.

To enter Source/Record mode from within another mode, click the Source/Record Mode button displayed in both the Source/Record window and in the Timeline toolbar.



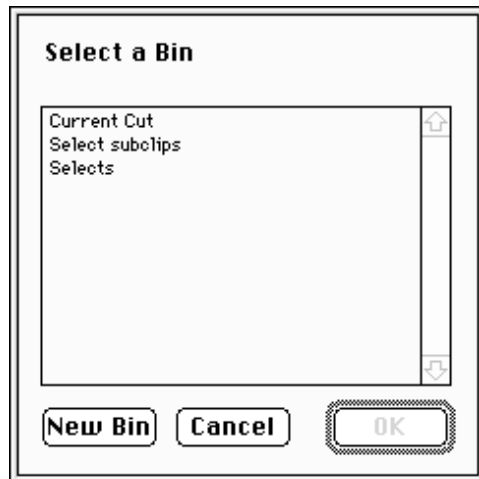
Setting Up a New Sequence

There are two ways to establish a new sequence:

- If you have specific parameters in mind for the project that you would like 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.
- If you would like to begin editing right away and build the sequence as you go without setting parameters ahead of time, skip to [“Making the First Edit” on page 237](#).

To set up a sequence with the New Sequence command:

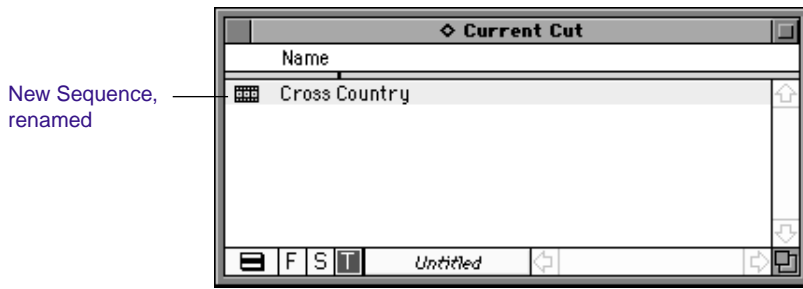
1. Choose New Sequence from the Clip menu. One of the following occurs:
 - If just one bin is open, or several bins are open and you have clicked a specific bin to activate it, the new sequence appears in the bin. It also appears in the Record monitor and in the Timeline, with the generic title “Untitled Sequence n.” Each new sequence is numbered incrementally until you rename it.
 - If several bins are open but none is activated, the Select a Bin 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.

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.



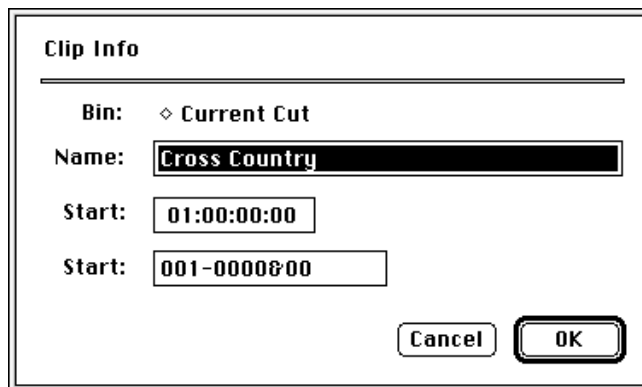
If you click anywhere in the interface after creating the new sequence, you deactivate the name field. Click the sequence name again to rename the sequence.

Changing the Sequence Clip Info

You can also change the default starting timecodes for all new sequences using General Settings. For more information, see the *Avid Media Composer Products Reference*.

The following optional procedure allows you to rename the new sequence and set a customized start timecode using the Clip Info command.

1. With your sequence loaded and the Record monitor active (click it to make it active), choose Get Clip Info from the File menu to open the Clip Info dialog box.



2. Drag a cursor across the sequence name in the Name field, then type a new name.
3. Drag a cursor across the start timecode then type a new timecode.
4. Click OK. Enter the starting footage key number information in the same way.

Setting Up Tracks for the New Sequence

When you create a new sequence using the New Sequence command, and no material is loaded into the Source monitor, the Timeline displays only the TC (master timecode) and EC (edgecode) tracks.

You can add any number of audio or picture tracks to the sequence before making the first edit, as follows:

- Choose New Picture Track from the Clip menu to add a picture track.
- Choose New Audio Track from the Clip menu to add an audio 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.



User Preferences for Creating Tracks

For information on opening and changing settings, see the *Avid Film Composer Getting Started Guide*.

Film Composer provides two options in the Composer 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 load new source material into the Source monitor, the system automatically creates any new tracks in the sequence that match existing 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 load 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 disabled until you click them. 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 before making the first edit. 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 at any time during editing to another part of the sequence.

To add filler:

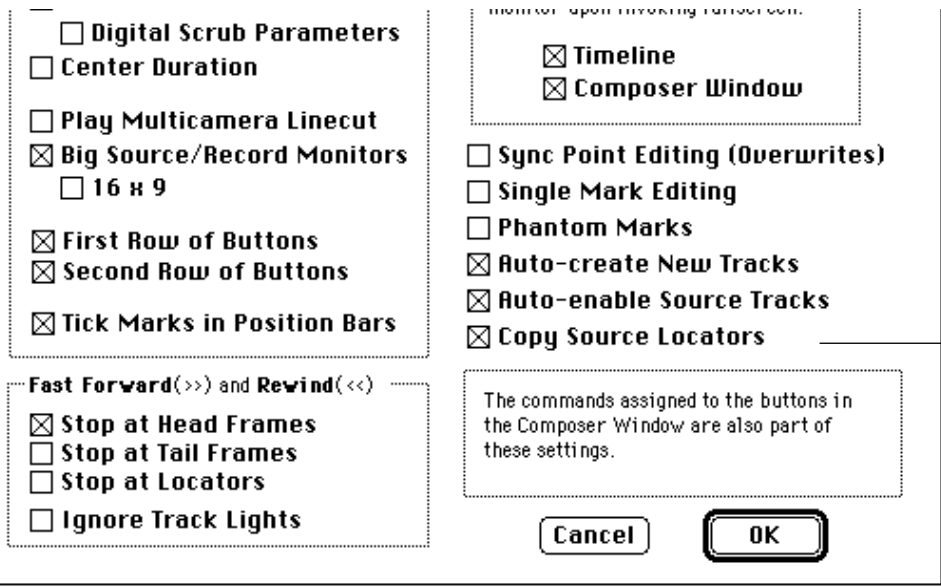
1. Choose Load Filler from the Source Monitor menu. The system loads a two-minute clip of filler into the Source monitor.
2. Mark the desired length of filler, as needed.
3. Click the Splice or Overwrite button to edit the black into the sequence.

Copying Locators from Source Clips

You can choose to 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 Settings dialog box.



Copy
Source
Locators
option

2. Click the Copy Source Locators checkbox.

Making the First Edit

Whether you establish a new sequence in advance, or do not prepare a sequence and wish 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 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 may have unwanted wild sound picked up from a second microphone, or it might have no sound at all.

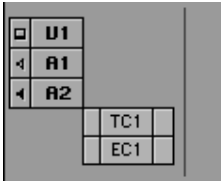
Or, as another example, if you are first laying down a music track, you would select track A1 or A2 depending upon where the music was digitized, and deselect V1.

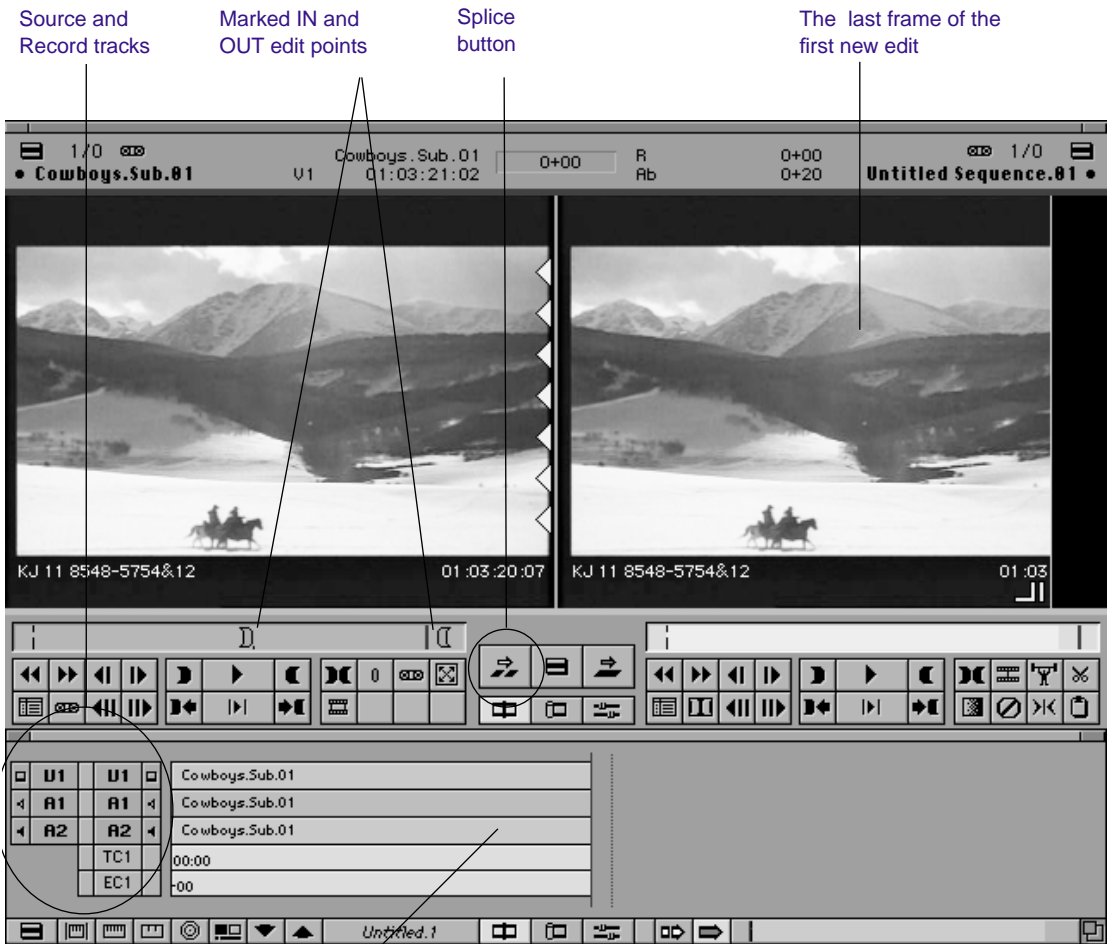


3. Click the Splice button to add the edit to the sequence in the Record monitor.

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.

Source Tracks





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 264](#).

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 using the Shift or Option keys. You can load clips that have been sorted in a bin in text

display mode. Or, you can create a storyboard in Frame or Script display mode and then load these clips directly.

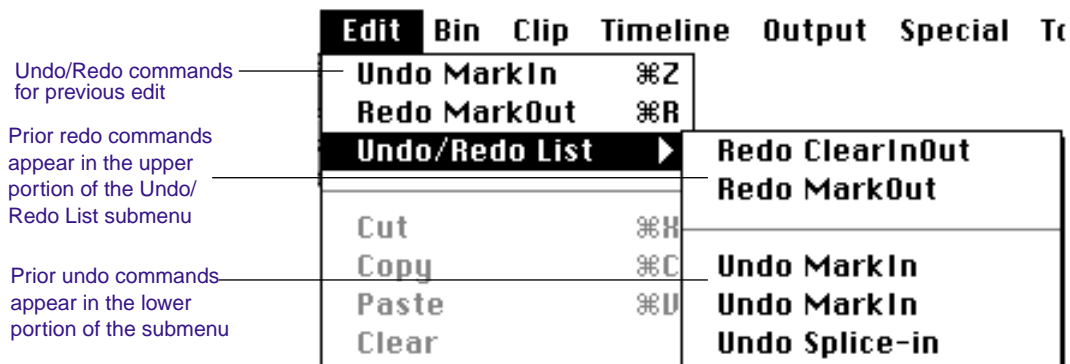
Use the following procedure to create a rough cut from a bin:

1. To create a more accurate rough cut, screen and mark clips in the bin in advance, as described in the *Avid Film Composer Getting Started Guide*.
2. In the bin, sort the clips in the order in which you want them to appear in the sequence:
 - In Text mode, 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 mode, rearrange frames and prepare a storyboard as described in [“Storyboard Worksheet” on page 174](#).
3. Select the Source and Record tracks for the edit.
4. Shift-select or lasso the clips. Choose Select All from the Edit menu if there are no other clips in the bin.
5. Hold the Option key and drag the highlighted clips to the Record monitor to splice the clips into place. Alternatively, hold the Shift key 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 an IN point marked in the sequence.

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.



- To undo only the previous edit or function, select Undo from the Edit menu.
- To redo only the previous edit or function, select Redo from the Edit menu.
- To undo or redo everything back to a particular command, choose the desired command from the Undo/Redo list in the Edit menu. All of the previous commands, back to and including the command chosen from the submenu, are undone or redone as appropriate.

Editing Additional Shots into the Sequence

You can use two or sometimes one mark to complete an edit using Phantom Marks. For more information, see [“Using Phantom Marks” on page 244](#).

The three primary edit functions for adding material to your sequence are the *splice*, *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 upon the type of edit you perform, as described in this section.

Performing a Splice Edit



A splice 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 edit:

1. Load a clip into the Source monitor.
1. Mark an IN and OUT point.
2. 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.



If you don't mark an IN, the system splices the new shot into the sequence at the current location of the position indicator.



3. Click the Splice 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 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, 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 to select the material in the sequence you want to overwrite. Or you can mark an OUT and move the position indicator in the Timeline or position bar to the IN point.
3. Click the Overwrite button (red) to complete the edit.



Performing a Replace Edit



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.

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 wish 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.



3. Click the Replace button (blue).

The system calculates IN and OUT points for the source material 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 a split edit, and the position indicator falls within the overlap, you may end up replacing the wrong material, unless you select the entire segment you want to replace. See [“Selecting and Deselecting Segments” on page 255](#).

For more information on sync point editing, see [“Using Sync Point Editing \(SPE\)” on page 375](#).

Like replace editing, Sync Point Editing allows you to overwrite material in the sequence based on alignment of the 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, while replace edits always fill the IN to OUT of the clip in the sequence.

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, overwrite, or replace edit without adding an OUT mark.
- You can mark an OUT point, then locate the desired frame for the IN mark, and perform the edit without marking the IN point.
- You can mark the IN or OUT, play, jog, or shuttle through the clip forward or backward, then press the Splice, Overwrite, or Replace button to perform the edit on the fly without adding the second mark.

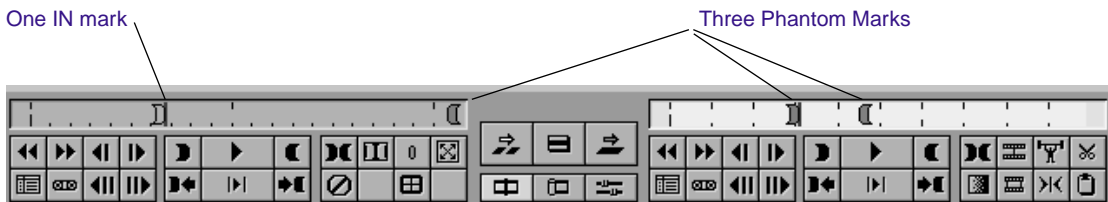
To enable single mark editing, open the Composer settings dialog box from the Project window and select the Single Mark Editing option.

Using Phantom Marks

The Phantom Marks feature provides visual guidance when editing according to the three-mark rules described in [“Editing Additional Shots into the Sequence” on page 241](#). When you enable Phantom Marks, the system displays gray IN or OUT mark icons in the position bars below both the Source monitor and the Record monitor. These Phantom Marks may indicate one, two, or sometimes three edit points calculated by the system to complete an edit. The following are a few sample scenarios.

Setting One Mark

In this example, you set only the IN mark on the Source side. By default, the system uses the location of the position indicator as the IN mark 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 an OUT mark is required — to shorten the source clip, for example — then the system recalculates and displays new Phantom Marks.

Additional OUT mark

New Phantom Marks



The Phantom Marks option 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.

Lifting, Extracting, and Copying Material

Extract/Splice 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 254](#).

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 an IN and OUT 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.

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 an IN and OUT 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.

Copying Material

For more information on using the Clipboard, see [“Using the Clipboard” on page 247](#).

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 into the sequence elsewhere or into another sequence.

To copy material to the Clipboard:

1. Mark an IN and OUT 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.



3. Click the Copy to Clipboard button.

The system copies the selected material to the clipboard, and leaves the sequence untouched.

Using the Clipboard



Film Composer system's 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. The following are three examples:

- You can copy a portion of a sequence for pasting into another sequence.
- You can isolate and copy a portion of an audio track for looping music or repeating a sound effect.
- You can 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 Source Monitor menu. The contents appear as a clip in the Source monitor, and the name "Clipboard Contents.*n*" appears above the monitor and in the Monitor menu. The *n* is an incremental numbering of clips placed in the clipboard during the session.
- Press the Option 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 Monitor 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 Monitor 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've performed one or more edits since removing the material. In contrast, if you restore the material 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 Source Monitor menu to place the contents into the Source monitor and the Monitor menu list of clips.
 - You can also 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.



Optionally, view the sequence segment as a source Timeline by clicking the Toggle Source/Record 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.

Adding Comments to Sequence Clips

You can add comments to sequence clips to display in the Timeline or include in lists that you create, such as an EDL or a cut list. Comments can include such things as instructions for color correction, or for adjusting an effect.

To add comments to the sequence:

1. Choose Add Comments from the Monitor menu. A box appears.

2. Type your comments into the text box and press return.



You can display the comments in the Timeline using the Clip Info option in the Timeline Fast menu.

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 Full-Screen monitor.



If you need to prepare a screening of the current cut away from the system, see [Chapter 15](#) for information on preparing a videotape version of the sequence, or [Chapter 14](#) for information on preparing a conformed cut or preview reel from workprint.

To review your work thus far:

If you have several tracks of audio, you may need to mix them down and adjust levels before playback. For more information, see [Chapter 11](#).

1. Make sure that the picture track monitor icon is located on the uppermost picture track in order to display all picture tracks and effects during playback.
2. Make sure the audio track monitor icon on the uppermost audio track is enabled to ensure proper playback of all 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, jog, or shuttle through footage. View the sequence in the Record monitor or in the Full-Screen 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 Control 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. If you want to play back the entire sequence, place the IN mark at the beginning and the OUT mark at the end.
2. Press the Control key and the Play IN to OUT key or button.



The playback loop begins and continues until you press the STOP key or click anywhere with the mouse.



You can also press the Control key and the Play to OUT button. The location of the position indicator acts as the IN point for a continuous loop.

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 RAM 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 the *Avid Film Composer Getting Started Guide*. If this number is large (more than 50,000 objects on a system with 32 MB of RAM, for example), 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 by dragging them to the Trash icon. You can remount the drives at any time by choosing Mount All from the File menu.
- Restart the computer every few hours to refresh the system memory. Frequent opening and closing of files, tools, and applications can diminish the functional capacity of RAM.
- Split the sequence into two or more segments, if possible.
- If you cannot split the sequence, limit the length of playback by opening the Console, and typing the command PlayLength plus a number representing a playback limit in minutes.
- For example, typing PlayLength 5 limits the playback time to five minutes, after which the system stops. Press Play again to play back the next five minutes.

How to Proceed

If you have finished a rough cut and are ready to fine-tune the sequence, you can return to Source/Record mode, or you can proceed with the following:

- To learn about the Timeline and Segment mode editing techniques, see [Chapter 9](#).
- To make frame-accurate adjustments to your edits using Trim mode, see [Chapter 10](#).
- To edit with audio or mix audio tracks in preparation for playback or output, see [Chapter 11](#).
- To edit with synced tracks, see [Chapter 12](#).
- To edit with multicamera material, see [Chapter 13](#).
- To add effects to your sequence, see the *Avid Media Composer and Film Composer Effects Guide*.



CHAPTER 9

Using the Timeline

Film Composer 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 which you can customize in various ways.

In addition, the Timeline has its own set of editing tools which you can use to create and revise edits and transitions across multiple tracks. These features are described in the following sections:

- [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 Settings. For more information, see the Avid Film Composer Getting Started Guide.

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, indicated by a yellow arrow, and Lift/Overwrite, indicated by a red arrow.

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

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 319](#).
- 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 255](#).
- Move, mark, or delete the segments in either Extract/Splice mode or Lift/Overwrite mode, as described in [“Performing Segment Mode Edits” on page 257](#).

- Use Segment mode, if desired, to edit directly from a bin as described in [“Bin Editing into the Timeline” on page 264](#).

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 using the mouse.

Once you enter Segment mode using one 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 one of the selected segments to drag the entire group to a new position.
- You can select black filler as a segment.

Selecting with the Segment Mode Pointer

When you enter Segment mode, the cursor becomes an enlarged pointer that is yellow to indicate Extract/Splice mode, and red to indicate Lift/Overwrite mode. Outside of the Timeline, the cursor

changes back to the standard arrow or I-beam, allowing you to perform other functions while in Segment mode.

To select segments with the pointer:

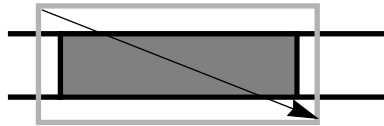
1. Click one of the Segment Mode buttons located in the Timeline toolbar next to the scroll bar. The arrow changes to an enlarged pointer.
2. Click a segment in any track to select it. Shift-click additional segments to select a group.

Lassoing One or More Segments

You can use the mouse to quickly lasso a single segment or a group of segments across one or more tracks.

To lasso segments, draw a lasso beginning in the area above the tracks in the Timeline. Drag left to right and down to select more than one transition.

To select, drag a lasso from left to right and down



Extract/Splice Segment mode is enabled by default when you draw a lasso. To switch to Lift/Overwrite mode, click the Overwrite button after drawing the lasso.

Observe the following guidelines when lassoing segments:

- Be sure to position the cursor 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, hold the Control key while you click and drag.

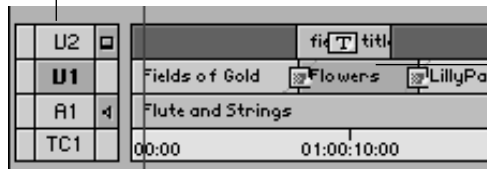
- Be sure to lasso at least two transitions, or all transitions included in multiple segments. If your lasso surrounds only one transition, you enter Trim mode.
- Be sure to drag from left to right. If you drag from right to left, you enter Trim mode with slip rollers selected.

Deselecting Segments

To deselect one or more selected segments, do one of the following:

- To deselect an entire track, click the track selector. For example, if you lasso segments on V1, V2, and A1, you can click the V2 and A1 track selectors to leave only the segment on the middle track, V1, selected, as shown.

Tracks V2, A1 deselected



Only the segment on V1 remains highlighted

- Use the Shift key and the Segment Mode pointer to deselect specific segments on any track, leaving the remaining tracks selected.

Performing Segment Mode Edits

Once you've selected one or more segments and 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 and/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 may want to drop the selected segment.
- A centered numeric offset counter appears directly below the frame monitors. The counter tracks the number of feet+frames you move while you drag the selected segment from its starting point.

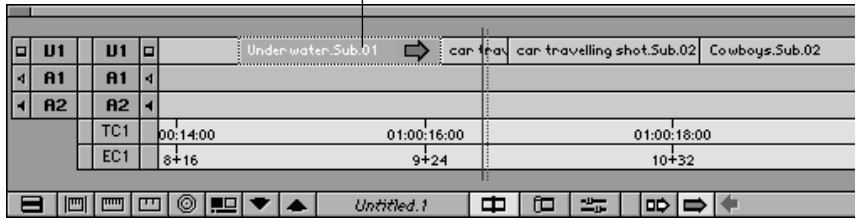
The two outer frames indicate ending and beginning frames of shots before and after the segment

The two inner frames represent the start and end frame of the segment



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.

Selected segment is dragged to new position



When you release the segment into its new position, the actual lift (Overwrite) or extract (Splice) 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.

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 using the Shift key to suppress the four-frame display.

To suppress the four-frame display:

1. Click either the Extract/Splice button (yellow) or Lift/Overwrite button (red) to enter Segment mode.
2. Press the Shift key, then click and drag the segments you wish to move.

As you begin to drag, notice that the monitors maintain their Source/Record configuration, rather than shifting to the four-frame display. This will remain the default display in Segment mode until you repeat the Shift key procedure.

Extracting/Splicing Segments



Use Extract/Splice 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 function, the Extract/Splice 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.

To perform an Extract/Splice:



1. Click the Extract/Splice button (yellow) in the Timeline toolbar.
2. Select the segments you want to move.
3. Click and drag the segment 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. 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 Segment Mode button again if you want to leave Segment mode, or continue to lift and overwrite segments.



To cancel a segment edit in progress, drag the edit to the four-frame monitor display and release the mouse. 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 creat-

ing new edits. As an additional function, it also “lifts” the segments from the previous position, leaving black or silence of the same duration.

To perform a Lift/Overwrite:



1. Click the Lift/Overwrite button (red) in the Timeline toolbar.
2. Select the segments you want to move.
3. Click and drag the segment 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.
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 Segment Mode button again if you want to leave Segment mode, or continue to lift and overwrite segments.



To cancel a segment move, drag the edit to the four-frame monitor display and release the mouse. 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:
 - Click Extract/Splice (yellow) to delete the segments and close the remaining gaps. The total duration of the sequence is shortened, and any synchronized tracks lose sync.

- Click Lift/Overwrite (red) to delete the segments but leave 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.
 3. Press the Delete key. The segments are deleted.

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 the desired 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.

NTAIN MIST	MOUNTAIN ZOOM	BIG WATERFALL	STREAMING SUN
01:00:29:00	D	01:00:33:25	C
	IN point		OUT point

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
- Full-screen editing
- 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 238](#).

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 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 the *Film Composer Getting Started Guide*. 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 (yellow arrow) acts as a splice edit, inserting the clip into the sequence, moving existing material down, and lengthening the total duration.
3. Drag a clip from the bin into the Timeline. You can only edit one clip at a time.

The cursor changes to the selected Segment mode icon, and the interface changes to the four-frame monitor display. In this case, the numeric offset frame counter displays zero since there is no offset. 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.

Cut, Copy, and Paste in the Timeline

You can use the traditional Macintosh shortcut keys for cutting, copying, and pasting segments selected in the Timeline.

To cut, or copy:

1. Select the segment using one of the Segment mode pointers.
2. Press \mathbb{H} -C to copy, or \mathbb{H} -X to cut.
3. Place the position indicator at the new IN point, and press \mathbb{H} -V to paste the segment in.

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.

To resize the Timeline window, click the Zoom button at the upper right corner of the window.

Zoom button

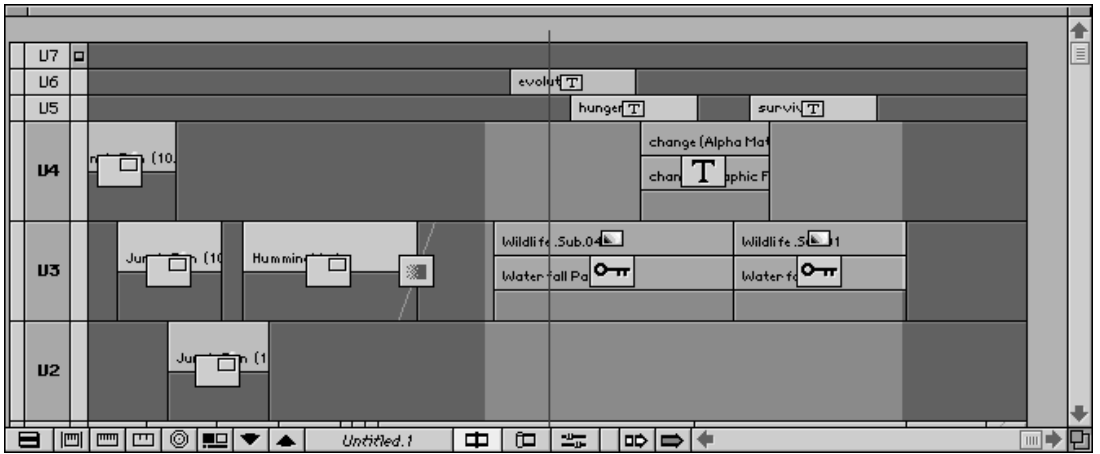
The screenshot displays a video editing software interface with a timeline. The timeline is divided into three main sections, each with its own track headers (U1, A1, A2) and a zoom level indicator (R2). The first section shows clips for 'Cowboys.Sub.01', 'Cowboys.Sub.03', 'Mountains.Sub.01', 'Skiing.Sub.01', and 'Skiing.Sub.02'. The second section shows 'Skiing.Sub.03', 'Skiing.Sub.04', 'Skiing.Sub.05', 'Airplane in water', and 'aerial boat.Sub.01'. The third section shows 'der water.Sub.01', 'car trav', 'car travelling shot.Sub.02', 'Cowboys.Sub.02', and 'Cowboys.Sub.03'. The timeline includes time markers for TC1 and EC1, and a zoom level of R2. The interface also features a toolbar at the bottom with various editing tools and a file name 'Untitled.1'.

Track	Clip	Start Time	End Time	Duration
U1	Cowboys.Sub.01	00:00	01:00:02:00	1+08
U1	Cowboys.Sub.03	01:00:04:00	01:00:06:00	2+16
U1	Mountains.Sub.01	01:00:08:00	01:00:10:00	2+16
U1	Skiing.Sub.01	01:00:12:00	01:00:14:00	2+16
U1	Skiing.Sub.02	01:00:16:00	01:00:18:00	2+16
A1	spot music			
A2	spot music			
U1	Skiing.Sub.03	01:00:08:00	01:00:10:00	2+16
U1	Skiing.Sub.04	01:00:10:00	01:00:12:00	2+16
U1	Skiing.Sub.05	01:00:12:00	01:00:14:00	2+16
U1	Airplane in water	01:00:16:00	01:00:18:00	2+16
U1	aerial boat.Sub.01	01:00:18:00	01:00:20:00	2+16
U1	der water.Sub.01	01:00:16:00	01:00:18:00	2+16
U1	car trav	01:00:18:00	01:00:20:00	2+16
U1	car travelling shot.Sub.02	01:00:20:00	01:00:22:00	2+16
U1	Cowboys.Sub.02	01:00:22:00	01:00:24:00	2+16
U1	Cowboys.Sub.03	01:00:24:00	01:00:26:00	2+16

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 up to four times, allowing you to examine a long sequence in greater horizontal detail.

□	U1	U1	□	Cowboys.Sub.01	Cowboys.Sub.03	Mountains.Sub.01	Skiing.Sub.01	Skiing.Sub.02
◀	A1	A1	◀	spot music				
◀	A2	A2	◀	spot music				
	TC1			00:00	01:00:02:00	01:00:04:00	01:00:06:00	
	EC1			00	1+08	2+16	3+24	
□	U1	U1	□	Skiing.Sub.03	Skiing.Sub.04	Skiing.Sub.05	Airplane in water	aerial boat.Sub.01
◀	A1	A1	◀					
◀	A2	A2	◀					
	TC1			01:00:08:00	01:00:10:00	01:00:12:00	01:00:14:00	
	EC1			4+32	6+00	7+08	8+16	
□	U1	U1	□	der water.Sub.01	car tra	car travelling shot.Sub.02	Cowboys.Sub.02	Cowboys.Sub.03
◀	A1	A1	◀					
◀	A2	A2	◀					
	TC1			01:00:16:00	01:00:18:00	01:00:20:00	01:00:22:00	
	EC1			9+24	10+32	12+00	13+00	
□	U1	U1	□		Cowboys.Sub.04	Mountains.Sub.01		
◀	A1	A1	◀					
◀	A2	A2	◀					
	TC1			2:00	01:00:24:00	01:00:26:00	01:00:28:00	
	EC1			8	14+16	15+24	16	

You can also enlarge the tracks to view complex audio or picture layers in greater vertical detail. To enlarge tracks, select them and press \mathbb{H} -L.



With the proper controls mapped to the keyboard and a Full-Screen monitor connected to your system, you can edit with a full-screen Timeline for long periods.

You can also continue to work in Source/Record mode by resizing the Timeline window so that the two windows overlap.

You can click on either window to activate it and bring it forward at any time. Or you can click on the title bar of the Timeline window and drag it to the Bin monitor to place each window in its own monitor.

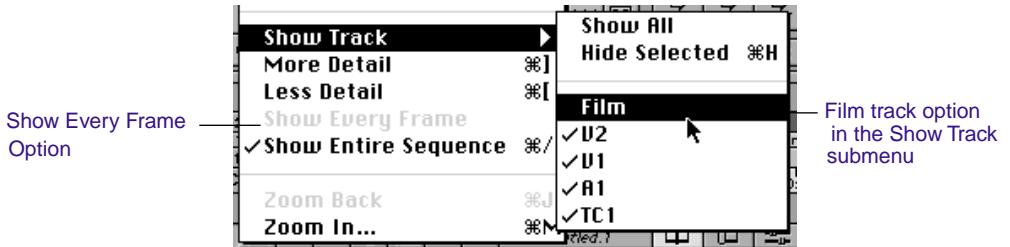
To restore a resized Timeline to its default position, choose Home from the Windows menu.

Editing with the Film Track

You can use the film track to examine each frame 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 Time-

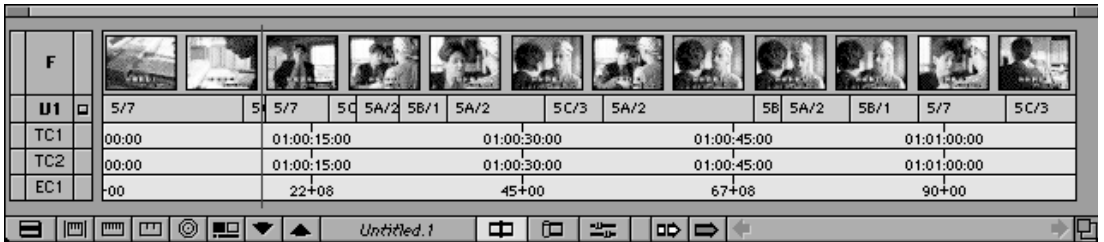
line allows you to compare individual frames side by side within a range of frames.

To display the film track, select 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, select Show Every Frame from the Timeline Fast menu.

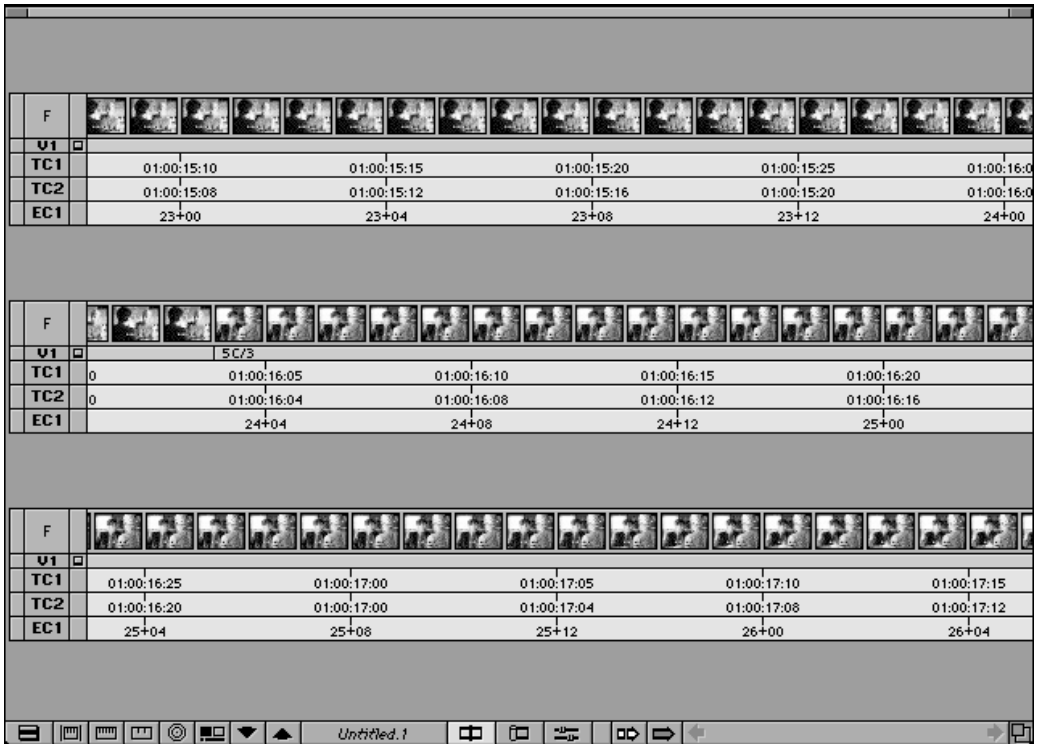
The position indicator splits to surround each frame. The solid blue bar indicates the head, and the shadow bar indicates the tail of each frame.



The film track displays frames for the topmost picture track only. You cannot display more than one film track at a time.

When you play a sequence with the Show Every Frame option selected, the Timeline does not scroll automatically to keep time with the playback in the monitors. You must scroll through a film track manually by clicking the left or right arrow in the Timeline scroll bar.

To quickly view more frames as you scroll, click the resize button in the upper 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.

Editing in Heads/Tails View

While in the early stages of editing a project, you can easily rearrange shots in the sequence visually using Heads View or Heads and Tails View. These display formats are useful for quickly rearranging simple straight-cut edits.

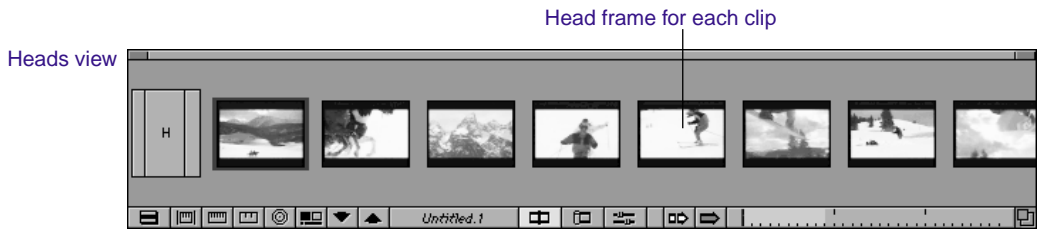


If you rearrange a split edit (in which the audio extends beyond the video, or the reverse) the system cuts all tracks to the same edit point. To rearrange split edits, edits on multiple picture tracks, or to move audio and videopicture separately, use Segment mode editing techniques described in [“Using Segment Mode” on page 254](#).

To edit in Heads view or Heads and Tails view:

1. 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.



2. Click the record track lights to select the tracks to be edited.
3. Hold down the Option 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.

Working with Multiple Tracks

As your project progresses, you may need to add and edit with additional audio or picture tracks. The Film Composer system allows you to edit up to 4 tracks of picture 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.



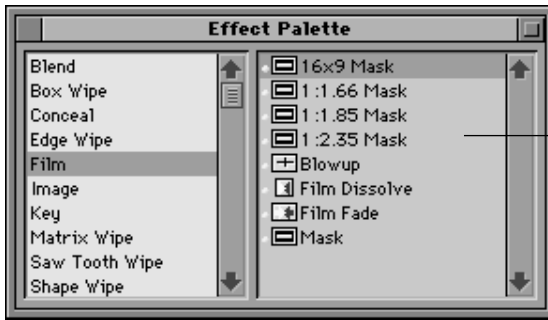
Multiple picture tracks do not immediately play back at the same time until you apply an appropriate effect that composites the layers. Multiple audio layers, however, do play back immediately if correctly monitored.

About Effects Editing

Your primary use for multiple tracks of picture is in the use of effects. Effects editing techniques in Film Composer fall roughly into the following categories:

- *Motion effects*, such as freeze-frame and slow- or fast-motion effects, involve applying frame-motion parameters to selected footage, usually on a single picture track.
- *Transition effects*, such as dissolves and wipes, involve transitioning from one edited clip to another on the same picture track.
- *Segment effects*, such as picture-in-picture, keys, or color effects, are applied to whole segments. These often require multiple layers of video.

In addition, Film Composer provides several effects based on parameters that match film industry standards. These effects are specifically designed to capture the “film look,” and include the superimposition effect in the Blend Effects menu, as well as any selection in the Film Effects menu.



Film effects

All effects in Film Composer are 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 in Media Composer 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 after making a copy of the sequence and prior to 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 unique procedure known as nesting. This 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.

Film Composer limits you to four nested layers, so that you can output cutlists that match existing standards for layering of effects in opticals.

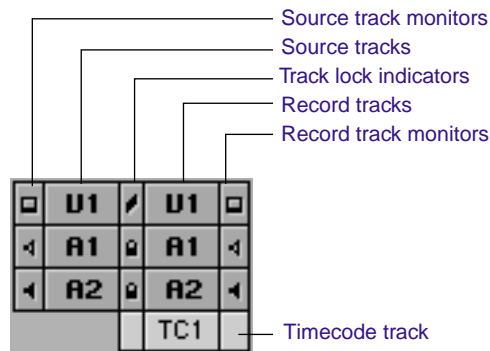


For more information on nesting techniques, see the [Avid Media Composer and Film Composer Effects Guide](#).

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, lock, patch, and move any picture or audio track.

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/or record side at any time. The configuration shown below is just one example. The Track Selector panel may look very different depending on the nature of the source material or the work underway in the sequence.



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 for track A1 only does not display an A2 track in the Track Selector panel.

The Record side of the panel displays only those tracks currently in use for the sequence. However, if you edit source material with a track selected that does not yet exist on the Record side (A3 or V2, in the previous example), by default the track appears on the Record side after the edit takes place.

Selecting Tracks

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

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

There are four methods for selecting tracks:

- Click any deactivated track to select it. Click any activated track to deselect it.
- 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 Tracks button to cycle among selection of the picture tracks, the audio tracks, and all tracks.



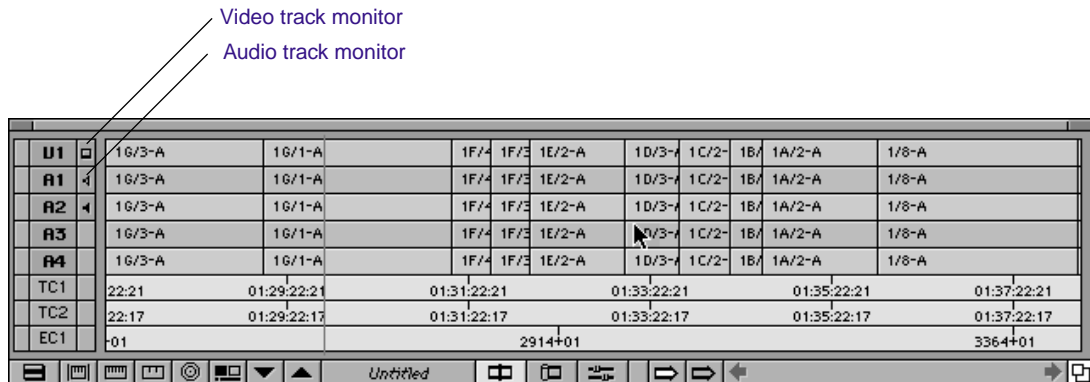
For example, you might select the source and record tracks for V1, A1, and A2 to edit picture and audio from the source clip into the sequence. Select only V1 source and record tracks to edit the picture without sound. Or, select only A1 and A2 to edit the sound without the picture.



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

Monitoring Tracks

You determine the monitoring of tracks by clicking the monitor column of either the source- or record-side tracks to activate or deactivate the monitor icons. Picture monitors and Audio monitors behave differently in some circumstances, as described in this section.



Monitoring Video

The picture track monitor determines whether you see picture during playback. You can turn it off at any time to monitor only audio during editing. When there are multiple picture tracks, all tracks below the monitored track are active during playback.

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

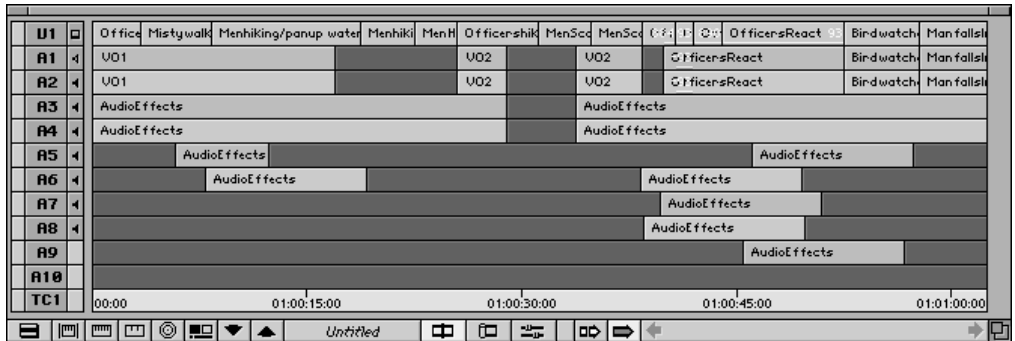


If you reposition the picture monitor, be sure to return it to the topmost track to view, render, or record all the tracks together. Unmonitored tracks are not included in playback.

Monitoring Audio

Film Composer allows you to monitor up to eight audio tracks at a time.

8 monitored tracks



The following characteristics apply to audio track monitoring:

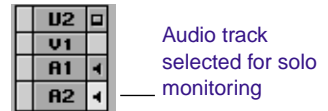
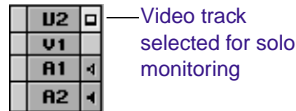
- The system pans odd-numbered tracks to the left speaker, and even-numbered tracks to the right by default.
- If your sequence includes more than eight audio tracks, you can select any eight tracks to monitor at any one time by clicking in the monitor column of the track panel to display speaker icons in the chosen tracks.
- 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 360](#).
- The presence of a speaker icon (either solid or hollow) indicates that the tracks are monitored for playback and output. However, only the track with the hollow icon is monitored for audio scrubbing.
- The topmost audio track displays the hollow scrub icon by default until you select another track for scrubbing. To activate audio scrub for a particular track, Option-click in the monitor column. For more information, see [“Using Audio Scrub” on page 319](#).

- When you select Direct Out in the Audio Mix tool, tracks 5 through 8 play back on channels 1 through 4. You can also customize the output of the tracks, as described in [“Using the Audio Mix Tool” on page 327](#).

Solo Track Monitoring

You can use the ⌘ key to quickly select an individual picture or audio track for monitoring during editing.

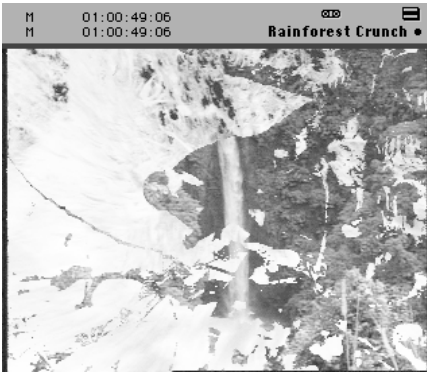
- To select a track for solo monitoring, press the ⌘ key and click in the monitor column for the chosen track. The monitor icon is highlighted in green to indicate solo monitoring.



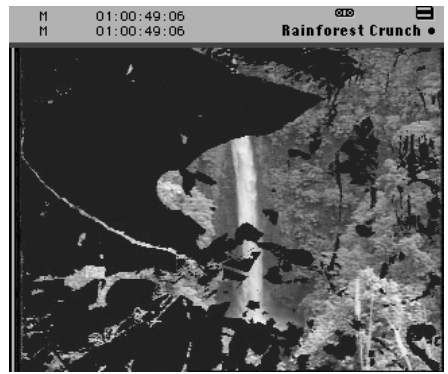
- To deselect solo monitoring, press the ⌘ key and click again in the monitor column. The monitor icons return to normal functionality.

Solo monitoring provides several advantages:

- You can overcome slowed playback and cuing when working with a complex sequence by isolating tracks for monitoring.
- You can quickly isolate an individual audio track without having to click several times in the monitor column to deselect all other tracks.
- You can monitor the upper layers of a composited effect apart from the lower layers.



The screen on the left shows a multi-track matte key effect with the upper track selected for normal monitoring.



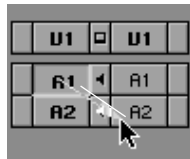
The screen on the right shows the same effect with the upper track selected for solo monitoring.

Patching Tracks

When working with multiple tracks, you occasionally encounter a circumstance where you must edit source audio or picture 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.

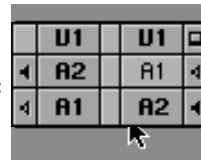
You can perform only one patch per edit, but there is no limit on the number of times you can patch from the same source track. Audio can only patch to audio, and picture to video.

- To perform a patch, drag from a source track (audio or video) to the targeted record track (a white arrow appears during the patch).



During Patch

An audio patch from a source track to a record track



After Patch

New source track order identifies the patch

- To undo a patch, click directly in the Record monitor, then select the Restore Default Patch command from the Special menu, or, you can 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 picture track to another, the picture track monitor icon moves to the track you patch to. Be sure to return the icon to the topmost track when necessary to play back and output all picture 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.
- You can sync-lock selected tracks, so that when you trim one track, the other track follows.

The middle row of the Track Selector panel displays a slash mark icon for sync-locked tracks, and a padlock icon for locked tracks. The procedure for applying the locks is different in each case.

□	U1	/	U1	□	— Slash icon indicates sync-locked tracks
◀	R1	🔒	R1	▶	— Padlock icon indicates locked tracks
◀	R2	🔒	R2	▶	
			TC1		

Locking Tracks

Locking tracks to prevent further editing is especially useful in circumstances like the following:

- For 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 other adjacent tracks.
- For audio editing, you can lock audio tracks that contain sync dialog that should be maintained while you edit on adjacent picture 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 and/or Record) by clicking to select each in turn.
2. Choose Lock Tracks from the Clip menu. The padlock 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.

Sync-Locking Tracks

For more information on using the sync-lock feature in Trim mode, see [“Using Sync Lock” on page 371](#).

Sync-locking affects Trim mode only. This feature is especially useful when you are working with multiple tracks and want to maintain sync between two or more tracks while trimming.

To sync-lock the tracks, click in the center column between track selectors to activate the slash mark icon for each synchronized track. When you need to resume editing on individual tracks, click again to remove the slash marks.

Adding a Track

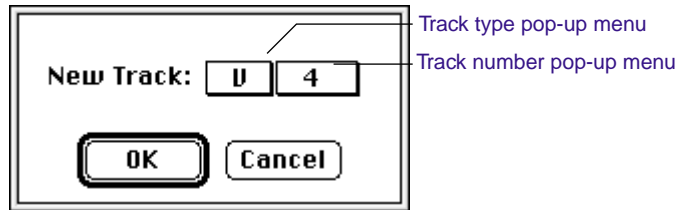
For information on displaying or hiding existing tracks, including timecode and edgecode tracks, see the *Film Composer Getting Started Guide*.

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 or New Picture 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. Hold down the Option key and choose New Audio Track or New Picture Track from the Clip menu. A dialog box appears.



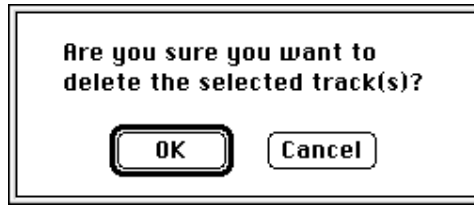
- b. If you want to switch from the type of new track you chose (for example, from a new picture to a new audio track), click the track type pop-up menu and select the other option.
- c. If you want to select a track number other than the default consecutive numbering offered by the dialog box, click the track number pop-up menu and choose another number. 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. Click the record-side track selector for the tracks, and press the Delete key. A dialog box appears.

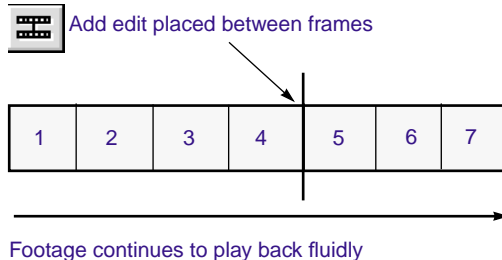


2. Click OK. The tracks are deleted.

When you delete a track, it is permanently removed. If you want to remove the track temporarily, hide the tracks as described in the *Avid Film Composer Getting Started Guide*.

Adding an Edit (Match Framing)

The Add Edit function places an artificial edit point between frames of a clip. In other words, 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 Film Composer, however,

add edits (or match frames) function differently. Use match frames primarily to divide and isolate portions of a clip or sequence in order to modify that portion without affecting the rest of the footage. Once you make the adjustment, playback of the clip is no longer seamless because the two portions of the clip are different.

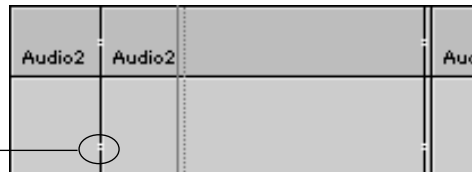
You can add an edit to a single audio or picture track, or you can place the add edit across several tracks at once.

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.
3. Click the Add Edit button. The edit appears in the sequence, with an equal sign to indicate a match frame.



Equal sign indicates a match frame



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 10](#).

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.

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/or OUT points.
2. Select the tracks from which you want to remove the edits.
 3. Choose Remove Match Frame Edits from the Clip menu.
Film Composer removes the edits.



You cannot remove match-frame edits between segments in which audio pan levels have been adjusted.

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 picture clip to end on a particular shot. You can back time the edit to match the end points of the tracks.

Here are a few concepts to keep in mind:

- Film Composer needs only three marks to perform a backtimed edit when four edits of unequal duration exist in the sequence. The IN and OUT points set on the record side always take precedence.
- If you do not mark an IN point in the sequence, Film Composer uses the position indicator as the IN point.
- If you do not mark an OUT point in the clip, Film Composer uses the end of the clip as the OUT point.
- If you mark OUT points in both the Source monitor and in the Record monitor, Film Composer uses the OUT point on the record side.

To backtime an edit:

1. Mark an OUT in the sequence where you want the edit to end. Also mark an IN 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.

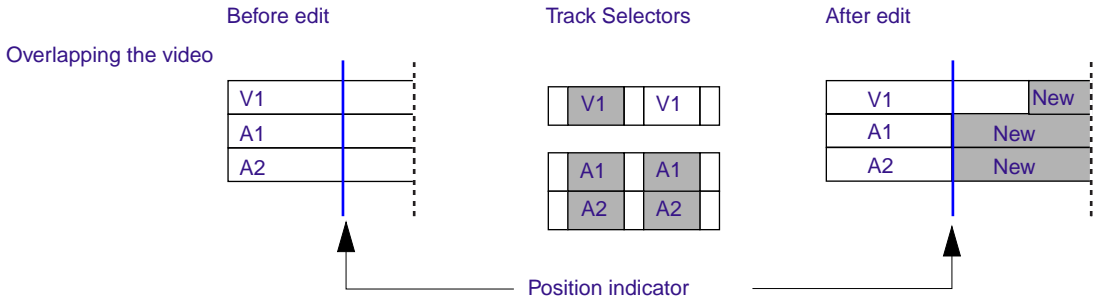
Creating One-Step Overlap Edits

For more information on creating overlap edits in Trim mode, see [“Creating Overlap Edits” on page 305](#).

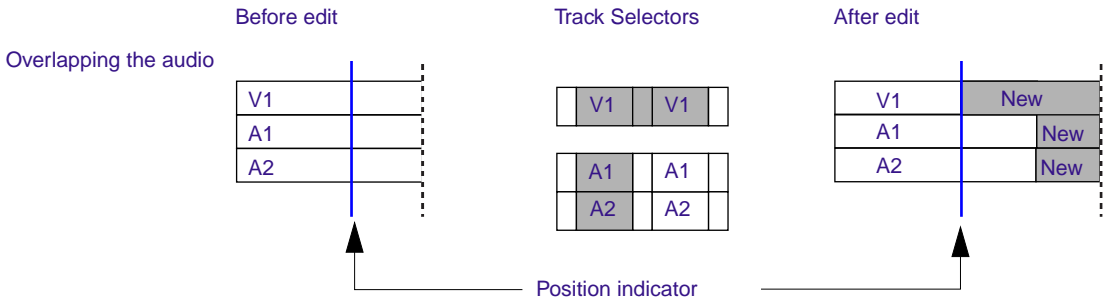
You can quickly create an overlap edit (also known as an L-cut or delay edit) at the end of a sequence by using the Option key while performing an overwrite edit.

To perform a one-step overlap cut:

1. Move the position indicator to the edit point before the end of the sequence.
2. Choose record tracks for overlapping either the picture or the audio:
 - To extend the picture beyond the audio, select the audio tracks.



- To extend the audio beyond the video, click the picture tracks.



3. Press the Option key while you click the Overwrite (red) button.

The overlap edit is complete.

Additional Offline Aids

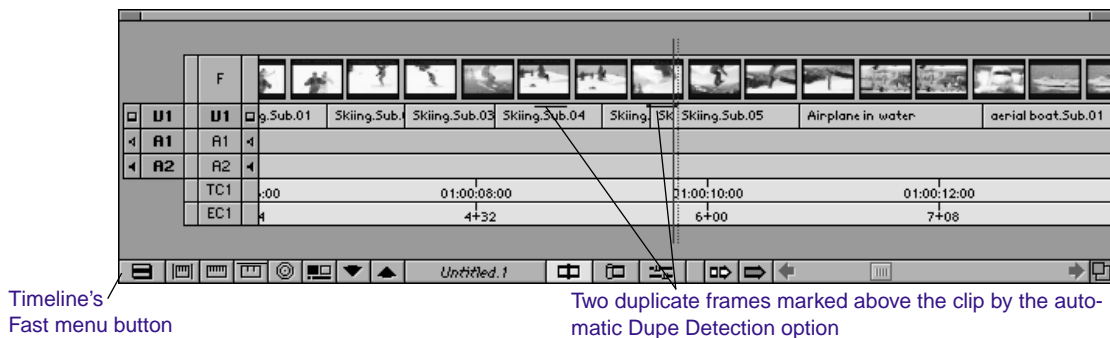
Film Composer provides two features specifically designed to aid the offline editing process by helping you track and adjust edits to avoid extra work in the online suite. These features are Dupe Detection and Color Frame tracking.

Detecting Duplicate Frames

When editing offline with plans to generate an EDL, 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.

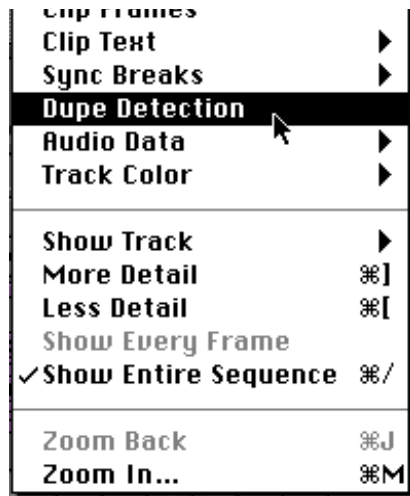
When you activate Dupe Detection, each set of duplicate frames is tagged with a different color. (Up to ten color sets can be distinguished during a single detection process.) Matching frames have matching colors. If the duplicate frames are unnecessary, you can use any of the Trim mode options to remove the superfluous frames prior to generating an EDL.

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 in order to 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.



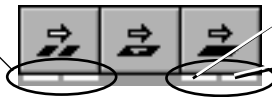
The Film Composer system may mark a special effect optical (such as a superimposition) as a duplicate frame. Double-check your sequence for this possibility before deleting frames.

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 option to track and correct instances where an edit cuts between the four fields (two frames) required to lay down a complete NTSC color sync signal phase.

When Color Framing is enabled, green bars appear beneath the Overwrite and Splice edit buttons 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.

Green color frame phase bars blink during an interruption



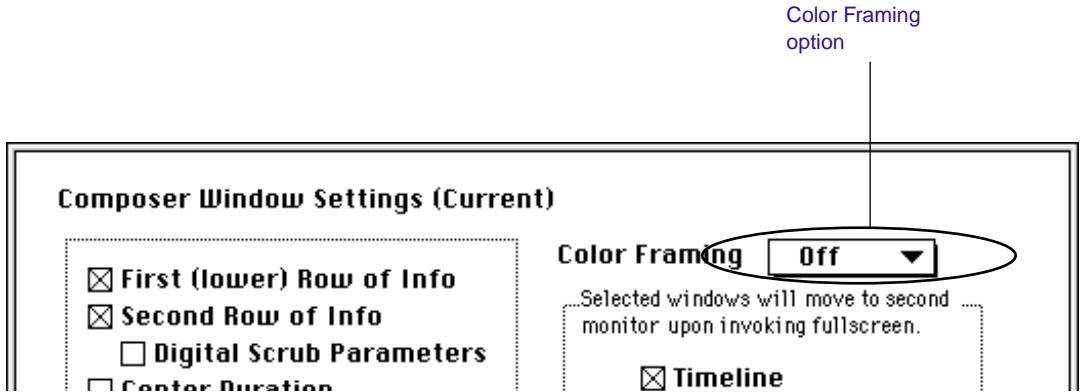
Start Frame color phase indicator

End Frame color phase indicator

Use the following procedure to enable Color Framing while editing:

1. Click the Settings button in the Project window, then double-click Composer Settings in the project's settings list.

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

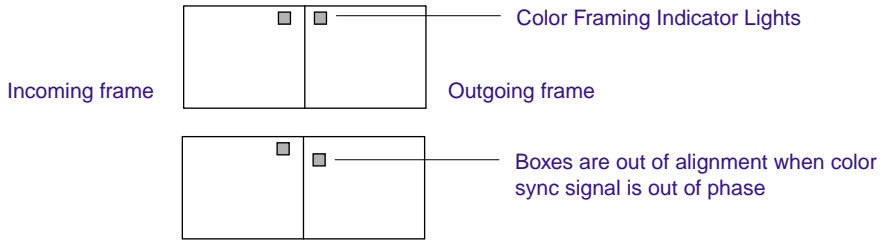
The dialog box displays the setting you selected.

3. Click OK to complete the setting selection.

To correct color frame interruption as you edit:

1. Note any edits that cause the green lights to blink below the edit buttons. You can adjust the edits now, or place locators to return to these edits and correct them at a future time.
2. To adjust the edit, enter Trim mode.

In Trim mode, the Composer 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 indicator lights below the Splice and Overwrite buttons 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 may have to make adjustments during online editing if your edits interrupted any color-frame fields in the sequence.

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.

LaserWriter "Minnie" 7.0

Copies: **Pages:** All From: To:

Cover Page: No First Page Last Page

Paper Source: Paper Cassette Manual Feed

Print: Black & White Color/Grayscale

Destination: Printer PostScript® File

Print **Cancel**

2. Select printing options, then click Print.

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.



CHAPTER 10

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. Trim mode procedures are described in the following sections:

- [Basic Trim Procedures](#)
- [Creating Overlap Edits](#)
- [Extending an Edit](#)
- [Slipping or Sliding Shots](#)
- [Maintaining Sync While Trimming](#)
- [Using the Transition Corner Display](#)

Basic Trim Procedures

For illustrations of the various types of trim edits you can perform in Trim mode, see the *Avid Media Composer and Film Composer Quick Reference*.

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:

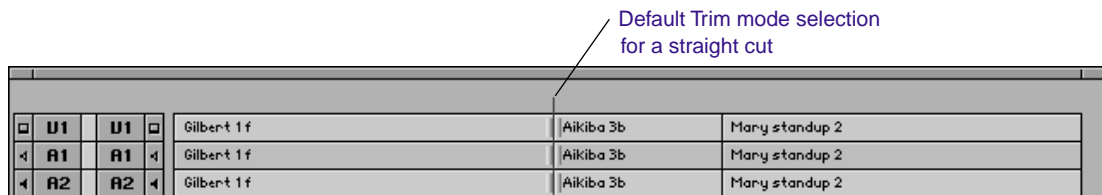
- Select additional tracks
- Toggle between Big and Small Trim mode
- Toggle between trim sides
- Perform and play back the trim

Entering Trim Mode

There are four alternative methods for entering Trim mode:



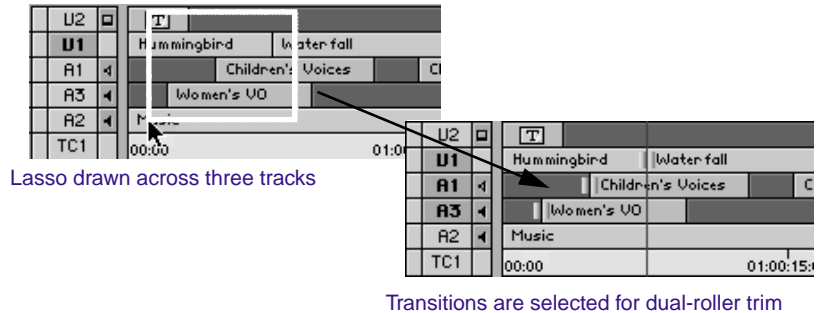
- **Click the Trim Mode button.** By default the system enters Trim mode and selects the tracks nearest the position indicator for dual-roller trimming. This method is useful for selecting straight-cut transitions on one track or across video and audio tracks.



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.

- **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.



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.



If you want to select transitions located below several track layers, you can draw a lasso within the Timeline by pressing the Control key while you drag.



- **Press the Enter Trim at Previous or Next Transition buttons.** By default the system selects the nearest transition in either direction of the selected track for dual-roller trimming.

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



- **Enter Trim mode in a playback loop by clicking the Review Transition 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 is described in [“Trimming During a Playback Loop” on page 304.](#)



The Review Transition 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 the *Avid Film Composer Getting Started Guide*.

Exiting Trim Mode

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



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



Click in the TC track at a selected location

The system exits to Source/Record mode, and relocates the position indicator



Toggling Between Big and Small Trim Mode

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

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

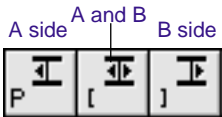
Selecting Between Trim Sides

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

A side B side A and B



- 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.



A side B side



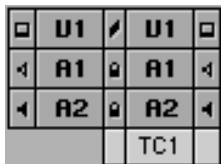
Highlight indicates
Active sides

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.

Selecting Additional Transitions

While in Trim mode, there are several ways to select additional transitions for trimming in different contexts:

Select tracks on the record side to add transitions



- 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.

- 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- 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 cursor 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.

- To quickly add multiple transitions to the currently selected transitions, press the Shift key and lasso the additional transitions. Press Shift-Control while lassoing tracks that are below other tracks.

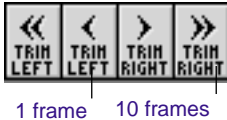
- You can select and trim two heads or tails simultaneously, in any combination, for each track in the sequence. All selected transitions are trimmed the same number of frames. This allows you to save time, and in some cases, maintain sync by performing a single trim procedure across multiple tracks and transitions.

U2				
U1	Environmental	Environmental	Environmental	
A1	Environmental	Environmental	Environmental	
A2				
TC1		01:01:10:00		01:01:15:00

In this example, tail frames on both shots are trimmed simultaneously across an overlap edit.

Performing a Basic Trim

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



- Use the Trim buttons to trim forward or backward by one- or ten-frame increments.
- Use the numeric keypad at the right side of the keyboard (beneath the Num Lock/Clear button), 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 *200*, then *F*, and press Enter.
 - To move the transition to an exact timecode, type a timecode number larger than 99, including frames. For example, type *102* to enter 1 second and 2 frames.
- Use controls in the Timeline by clicking a roller at the selected transition and dragging forward or backward in the sequence.

SUN IN ROC	JUNGLE RI	L B M	SNA	SLC	FR	TREE PAN	WATE		HUN	SUN	SU	RC	MOU	MOU
AUDIO												AUDIO		
AUDIO												AUDIO		
00:00	01:00:09:20						01:00:19:10						01:00:29:00	

Click and drag a transition in the Timeline

- For greater control:
 - Press the Option key as you drag to move one frame at a time.
 - Press the Command key to snap to other transition points.

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

Reviewing the Trim Edit

Use the following procedure 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.)



You can also choose an option in Trim Settings to focus the Timeline automatically when you enter Trim mode. For more information, see the Avid Film Composer Getting Started Guide.

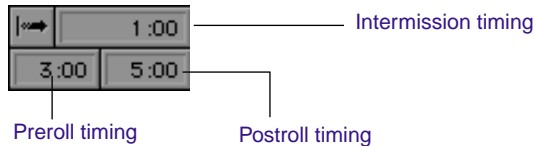
2. To view the playback in Full-Screen mode, press the Full Screen (Single Quote) key on the keyboard.



3. Click the Review Transition 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.

4. In Big Trim mode, you set and alter the length of the preroll, postroll, and intermission intervals by clicking in the appropriate timing field, and typing a new value.



To adjust these playback loop parameters in Small Trim mode, enter Big Trim mode briefly, or use the Trim Settings dialog box. For more information, see the [Film Composer Getting Started Guide](#).

5. Stop the playback loop by clicking the Review Transition button.
6. To leave Trim mode, click the timecode track in the Timeline, or click the Source/Record Mode button.

Dual-Image Playback During Trims

Dual-image playback allows you to preview A-side and B-side frames in real time while performing a trim. You can play through the transition by using any of the standard playback controls, such as the J-K-L keys, or the Play, Transition Loop, Play In to Out, or Play to Out buttons.



Dual-image playback works with single-field resolutions only. Only one side rolls when you attempt to use dual-image playback with material digitized at AVRs 12, 70, 71, 75, and 77.

To use dual-image playback during trims:

1. Double-click Trim in the Project Window Settings scroll list 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.
4. Press a playback button or key combination.

As the transition plays or loops, 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 that you want to trim to, press the Space bar to stop playback and update the transition in the sequence.

Trimming On the Fly

In both Big and Small 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 the *Film Composer Getting Started Guide*.

For convenience, this method isolates the trim controls to just three keys. However, when performing a dual-roller trim, you cannot view both sides at once; the monitors play only the A side during the procedure, updating the B side once the trim is completed.

Trim on the fly as follows:

1. Select one or more transitions for single- or dual-roller trimming.
2. Use the J-K-L keys to jog, play, or shuttle through the footage at varying speeds:
 - Press and hold the K key while pressing J or L to jog 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.

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 one- or ten-frame increments until you achieve the desired trim. You can perform this procedure in Big or Small Trim mode, using either single-roller or dual-roller trims.

1. Enter Trim mode and select transitions for trimming.
2. Click the Review Transition 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 301](#).

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 just 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 Review Transition button.

Creating Overlap Edits

You can use an overlap edit to smooth a transition by giving the viewer the subtle illusion that the audio, or video, is shared between two separate but adjacent shots.

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 picture. 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 tracks, but not both:
 - If the video transition occurs at the right 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 right place, but you want the picture to transition either before or after the audio cut, trim the video track accordingly.

Extending an Edit

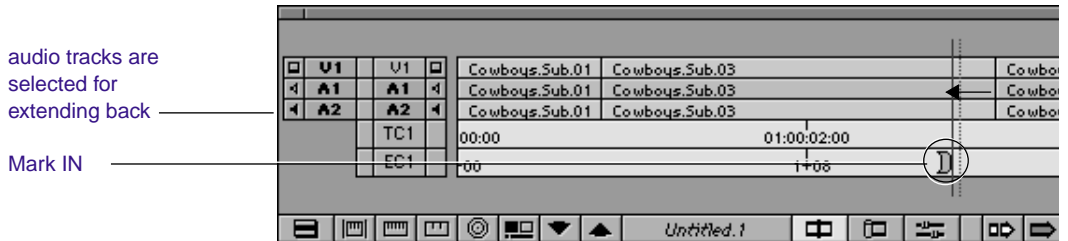


Use Extend Edit to perform dual-sided (A and B side) trims on selected tracks from within Source/Record mode. Using Extend Edit allows you to quickly create a split edit without entering Trim mode. It also allows you to establish the exact frame that you want to trim to by using the position indicator. (If you enter Trim mode, by default the position indicator moves to the nearest transition.)

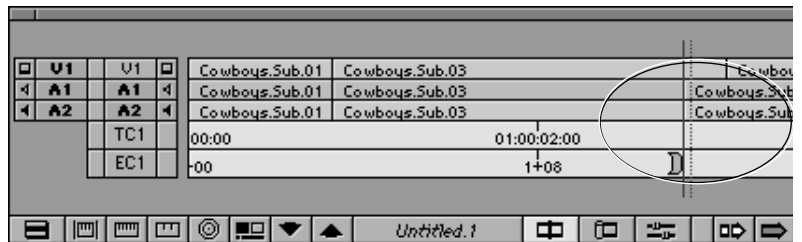
You can extend edits backward or forward in the Timeline. In either case, like a dual-roller trim the Extend Edit function always maintains sync relationships.

To perform an Extend Edit:

1. Select the tracks you want to extend.
2. Find the point in the sequence to which you want to trim. If the trim point is before the edit, mark an IN. If it is after the edit, mark an OUT.



3. Click the Extend Edit button. 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. These 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. 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 Option key while you drag.



Drag right to left around at least two transitions

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 Option key while you 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/or 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/or slide the video and audio for a shot together. Alternatively, slip and/or slide a single segment of video or audio independently from the rest of the shot. You can also slip shots in Source/Record mode using the Slip Left and Slip Right buttons.

The Slip/Slide Display

Once you select the clips for slipping or sliding, the Trim mode interface changes to a four-frame display.

Outgoing video (or A side)

Tail and head frames of the selected clip

Incoming video (or B side)



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 307](#), do one of the following:
 - Click any of the rollers 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.
 - Use the trim keys or buttons to shift the selection by one- or ten-frame increments.
2. Monitor the progress of the trim using the monitors, the frame 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 bright white line at the transition indicates the limit. After completing the initial slide, you can perform another slide in the same direction.

3. When you are finished, exit slip or slide mode either by clicking another transition for trimming, or by clicking either the Source/Record Mode or Effects 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 using the Slip Left and Slip Right buttons, as follows:

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).
- Hold the Option key while you click the Slip Left or Right button to trim 8 frames at a time.



The Slip Left and Slip Right buttons do not appear on the interface or keyboard by default. You must map them from the Master command palette in order to use this procedure.

Performing a Slide Trim

1. While in Big Trim mode, press the Option key and double-click a shot or a segment of video or audio to select the frames that precede and follow the shot or segment.

Or hold the Option key, then press the mouse button and drag a lasso around the material you want to slip.

2. In the Timeline, press one of the selected heads or tails, then drag the shot to the left or right.

If you slide the shot to the right, the edit before the shot is extended to the new IN point for the shot. The edit after the shot is trimmed forward to the new OUT point for the shot.

If you slide the shot to the left, the edit before the shot is trimmed back to the new IN point for the shot. The edit after the shot is extended back to the new OUT point for the shot.

Maintaining Sync While Trimming

For more information about sync relationships, as well as additional procedures for managing sync, see [Chapter 12](#).

Film Composer provides two features that you can use in Trim mode to ensure that you do not break sync unintentionally between two or more video and/or 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.


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 242](#).

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. You can use the Control 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.

To add black while trimming, press and hold the Control key while performing any of the A-side or B-side trim procedures. The system adds a black segment to fill the duration of trimmed frames.

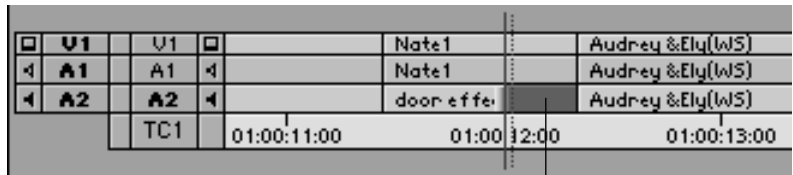
Trimming without adding black



<input type="checkbox"/>	U1		U1	<input type="checkbox"/>		Note1		Audrey & Elly (WS)
<input type="checkbox"/>	A1		A1	<input type="checkbox"/>		Note1		Audrey & Elly (WS)
<input type="checkbox"/>	A2		A2	<input type="checkbox"/>		door effect		Audrey & Elly (WS)
			TC1			01:00:11:00	01:00:12:00	01:00:13:00

Adding black while trimming

(Control key + trim)



<input type="checkbox"/>	U1		U1	<input type="checkbox"/>		Note1		Audrey & Elly (WS)
<input type="checkbox"/>	A1		A1	<input type="checkbox"/>		Note1		Audrey & Elly (WS)
<input type="checkbox"/>	A2		A2	<input type="checkbox"/>		door effect		Audrey & Elly (WS)
			TC1			01:00:11:00	01:00:12:00	01:00:13:00



You can only add black while performing single-roller trims, because dual-roller trims do not cause sync breaks.

Trimming with Sync-Locked Tracks



Sync-locked tracks aid only single-roller trim functions in Trim mode, because dual-roller trims do not cause sync breaks.

Trim with sync-locked tracks as follows:

<input type="checkbox"/>	U1	/	U1
◀	A1	/	A1
◀	A2	/	A2
			TC1

Sync-lock icon

1. Sync-lock the tracks as follows:
 - Click the center column next to the tracks you want to keep in sync. The sync-lock icon appears.
 - Option-click in the column next to the TC track to toggle sync-lock on and off for all tracks.
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.

	U2		<input type="checkbox"/>	<input type="checkbox"/>	T		
/	U1		<input type="checkbox"/>		Hummingbird		Water fall
/	A1		◀				Children's Voices
/	A3		◀			Women's VO	

Before trimming forward, three tracks are sync-locked

	U2		<input type="checkbox"/>	<input type="checkbox"/>	T		
/	U1		<input type="checkbox"/>		Hummingbird		Water fall
/	A1		◀			C	Children's Voices
/	A3		◀		Women's		Women's VO

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.

- 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.

U2	□	T			
U1		Humming	Water-fall	Sun in Roots	Wildlife
A1	◀		Children's C	Children's Voices	
A3	◀	Women's VO		Women's VO	

Before the trim, three tracks are sync-locked

Trim is stopped here

U2	□	T			
U1		Humming	Water-fall	Sun in Roots	Wildlife
A1	◀		Children's C	Children's Voices	
A3	◀	Women's VO		Women's VO	

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.

Using the Transition Corner Display

The Transition Corner Display is a Trim Mode interface that shows six important frames you use as reference points when trimming a transition effect:

Transition Corner
Display button



Frames on which the
transition effect starts

The two frames between
which a cut point defines
the transition

Frames on which the
transition effect ends

The screenshot shows a video editing software interface. At the top, there is a timeline with a clip named "Ride and run" starting at 29:25. Below the timeline is a preview area with a 2x3 grid of monitors. The top row shows a transition from a person in a boat to a person on a beach. The bottom row shows a transition from a person on a beach to a person on a beach. The interface includes a timeline, a clip shelf, and a control panel.

Use the Transition Corner Display to trim the transition effect's start frames, end frames, and duration in feet+frames. As you trim the transition effect, you will be able to see the corresponding frame adjustments in all six monitors simultaneously.



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 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 desired transition.



2. Click the Transition Corner Display button.

The button turns bright green, and the display is enabled.

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. (Hold the Option key to roll forward or backward slowly one frame at a time.)
 - Click the appropriate trim button to trim backward 8 frames; trim backward 1 frame, trim forward 1 frame, or trim forward 8 frames.
 - Enter the number of frames you want to move forward on the numeric keypad, then press Enter. Or, type a minus sign (-) and enter the number of frames you want to move backward, then press Enter.
4. To review your edit, click the Transition Play Loop button.



CHAPTER 11

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. Film Composer 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 using the Audio EQ tool. These procedures are described in the following sections:

- [About Audio Tools](#)
- [Audio Editing Aids](#)
- [Using the Audio Mix Tool](#)
- [Using Audio Gain Automation](#)
- [Using the Audio Equalization Tool](#)
- [Using Audio Punch-In](#)
- [Fine-Tuning Audio Transitions](#)
- [Mixing Down Audio Tracks](#)

About Audio Tools

Film Composer 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 sections [“Preparing for Audio Input” on page 63](#), and [“Preparing for Output” on page 449](#).
- 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 327](#).
- Use the Audio Gain Automation feature in the Timeline for finer control over volume break points and ramps within a sequence. For more information, see [“Using Audio Gain Automation” on page 335](#).
- 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 Equalization Tool” on page 341](#).
- 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 [“Using Audio Punch-In” on page 351](#).

The following section describes two features that help you locate transitions and monitor audio samples while editing or adjusting sound with the tools.

Audio Editing Aids

The Film Composer system provides audio scrub features and waveform plots specifically designed for frame-accurate cuing, 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* originates 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:

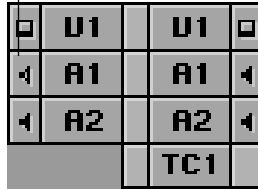
- **Smooth audio scrub** mimics the variable pitch playback of traditional analog tape.
- **Digital audio scrub** takes advantage of the digital environment by sampling incoming and/or outgoing frames at normal pitch and playback rate.

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 and see which works best in different situations.

Selecting Tracks for Scrubbing

By default, the system selects the topmost audio track unless you make a selection. Always check the position of the hollow speaker icon and select the correct track, if necessary, to avoid marking or trimming the wrong track.

Hollow speaker indicates a track selected for scrubbing



□	U1	■	□
■	A1	■	■
■	A2	■	■
■		TC1	■

To select a track for scrubbing, hold down the Option key and click the speaker icon in the track panel beside the Timeline.

The speaker icon becomes hollow to indicate that it is selected for scrubbing.

Using Smooth Audio Scrub

You perform the smooth audio scrub procedure using either the J-K-L keys or the mouse, as described in this section.

Smooth Scrub Using the J-K-L Keys

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 jogging one frame at a time, ten frames at a time, or while shuttling at fixed rates up to eight times normal speed.

To monitor audio with three-button play:

1. Make sure you have selected the correct track and adjusted playback volume as necessary.
2. Play the audio using the three-button variable speed playback procedures described in the *Avid Film Composer Getting Started Guide*.

Smooth Scrub Using the Mouse

You can use the mouse to perform smooth audio scrubbing of selected tracks. (You cannot activate digital scrub using the mouse.) Like the J-K-L keys, you can jog and shuttle with 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 N key (Mouse Jog key) or the semicolon key (Mouse Shuttle key).
3. Play the footage with the mouse as described in the *Avid Film Composer Getting Started Guide*.



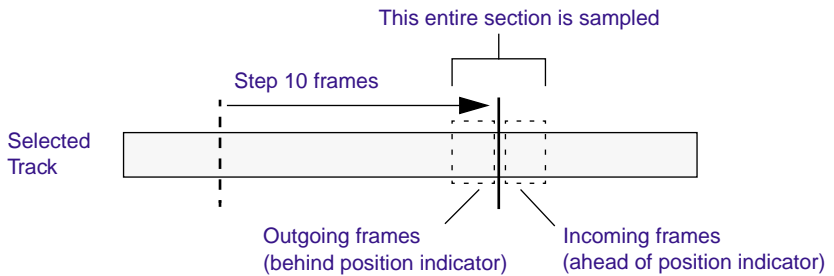
When you use the Steenbeck Controller, smooth audio shuttling is invoked by default.

Using Digital Audio Scrub

Digital scrub enables you to sample selected frames of incoming or outgoing audio as you move through the footage, without a change 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, 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 back 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.

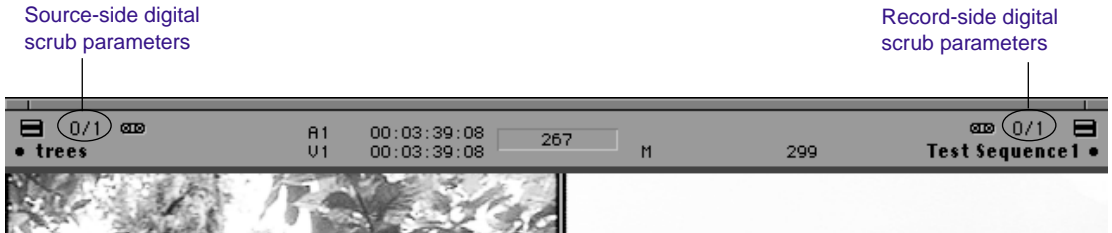
You can increase these settings to include more frames of audio on either side — for example, when you want to sample whole words or parts of words as you scrub to find edit points within a phrase. Or you can reverse the settings, to sample frames behind the position indicator (outgoing frames) as you scrub. In general, you should avoid increasing the number of sampled frames on both sides at once, because this can 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:

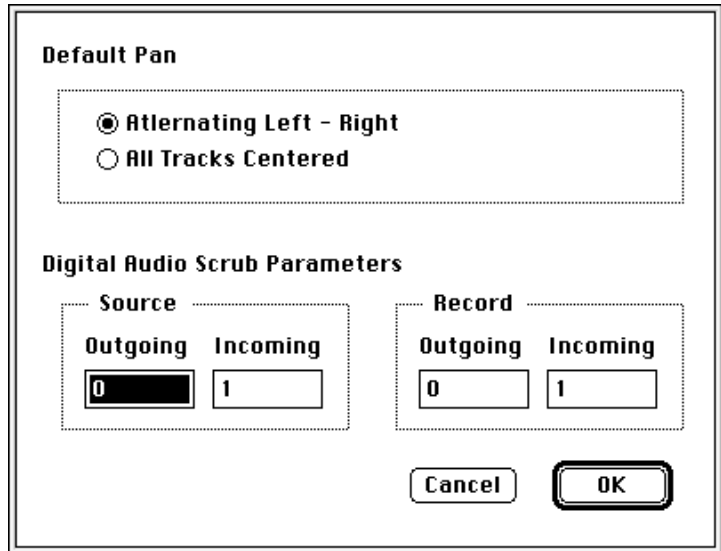
1. Open the audio settings dialog box using one of the following procedures:
 - Double-click Audio in the Settings scroll list of the Project window.

For more information on displaying two information rows, see the *Avid Film Composer Getting Started Guide*.

- If you have two information rows displayed above the monitors in the Composer window, you can Option-click the digital scrub parameters that appear in the top row next to the Fast Palette button for each monitor.



The audio settings dialog box appears.



2. Click in an entry field and type a new number of outgoing or incoming frames on the source side, the record side, or both.
3. Press Return. The new parameters are now in effect.

Performing the Digital Scrub Procedure

To locate an audio edit point in either source-side or record-side audio 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.
3. Move through the material in one of the following two ways to hear the scrub:
 - Drag the position indicator.
 - Click Jog buttons to step through in fixed increments: one-frame backward, one-frame forward, ten-frames backward, ten-frames forward.



When you've found the right 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), you see the position indicator is located at the *head* of the last sampled audio point; if you are sampling outgoing frames, you see the position indicator is located at the *tail* of the last sampled audio point.

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

1. If you are searching for a point in a known section of the tracks, zoom in and/or show more detail in the sequence to isolate a sec-

tion of the audio. With less audio to display, the system draws the waveform plot faster.

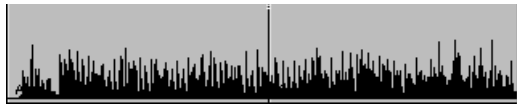
2. Choose Audio Data from the Timeline Fast menu. A submenu appears containing two waveform plot options.



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



- 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 the following optional procedures:
 - Continue to expand or shrink your view of the Timeline (by clicking the Show More or Show Less Detail buttons), 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 ⌘-L to enlarge or ⌘-K to reduce.
- You can also increase or reduce the size of the Sample plot image itself (this does not work with Energy plots), without enlarging its track, by pressing ⌘-Option-L to enlarge, or ⌘-Option-K to reduce.

Audio waveform plots can slow your navigation through the Timeline. You may want to use these selectively. To facilitate this, you can create a custom Timeline view, as described in the *Avid Film Composer Getting Started Guide*.

4. Move through the audio shown in the waveform using any of the playback methods. You hear sound as you track the audio visually. When you have the position indicator parked at the desired point in the waveform, you can mark, trim, or perform any other function.

Once you've 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 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 at any time to mute all audio tracks. Press it again to turn them on.

Using the Audio Mix Tool

For additional information on audio levels for digital cut output, see [“Preparing for Output” on page 449](#).

The default volume for master clips is set to zero (that is, with no attenuation) when you first digitize the media. Pan is based upon the tracks recorded in the field, and subsequently digitized into the system.



The pan option in the Audio Settings dialog box determines how the system plays back the default pan. For more information, see the [Avid Media Composer Products Reference](#).

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 and/or pan for one track at a time.
- Adjust volume and/or pan for multiple tracks simultaneously by ganging them together.

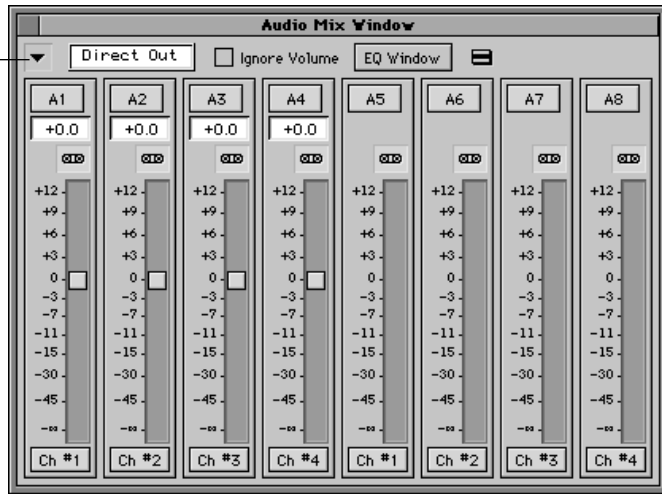
The system uses these adjustments for all playback, including output to a digital cut.



You can also adjust volume levels in the Timeline using [Audio Gain Automation](#). For information, see [“Using Audio Gain Automation” on page 335](#).

Open the Audio Mix tool by choosing Audio Mix from the Tools menu.

Display/Hide
sliders



Resizing the Audio Mix Tool

You can simplify the Audio Mix tool display by clicking the Display/Hide Sliders button to toggle between hiding and displaying the volume sliders.

Volume Level display

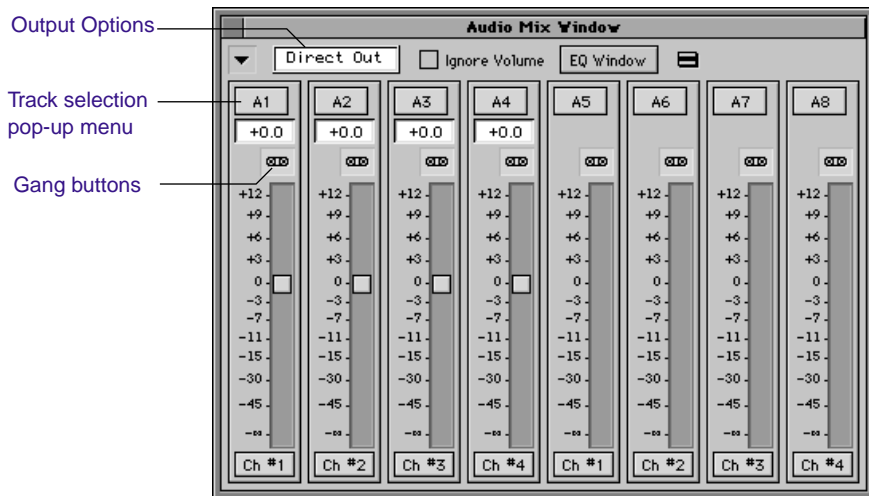


With the window collapsed, you can continue to adjust levels by selecting a track and typing values using the numeric keypad on the keyboard, or by typing a value into the volume level display.

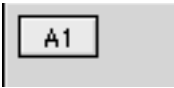
Adjusting One Audio Track at a Time

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.
 - To adjust levels from an IN point through the end of the track, mark an IN point only.
 - To adjust levels globally throughout the track, make no marks.
3. Choose Audio Mix from the Tools menu to open the Audio Mix tool.



If you have five audio tracks or more, and need to adjust all of them, consider mixing down to four tracks, as described in [“Mixing Down Audio Tracks” on page 360](#).



The Audio Mix tool contains four to eight panels (depending upon your system model), one for each audio track you can monitor and adjust. The Audio Mix window can only display tracks that exist in the sequence, or tracks that were digitized with the source clip.

4. Choose the type of audio output from the Output Options pop-up menu:

- Choose Stereo Mix to make adjustments for output to left and right speakers.
- Choose Mono to make adjustments with all levels panned to center between speakers.
- Choose Direct Out when performing a digital cut for output of up to eight source tracks to a maximum of four output channels. For more information, see [“Generating Four-Channel Audio” on page 462](#).

5. Select the audio track to be adjusted by choosing the desired track from the track selection pop-up menu in a panel.

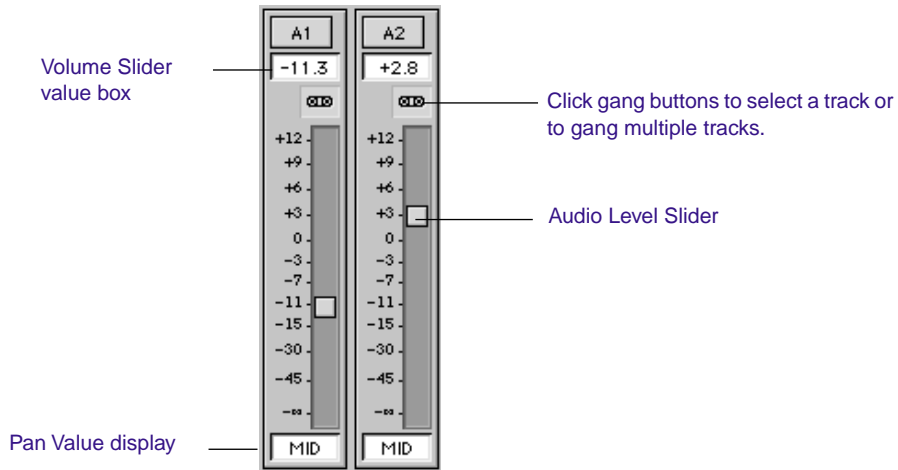
6. Choose the type of mix you want when applying stereo mix output from the Stereo Mix pop-up menu:

- Mix to 1 & 2 sends the stereo mix to output channel one and the left speaker, and output channel two and the right speaker.
- Mix to 3 & 4 send the stereo mix to output channel three and the left speaker, and output channel four and the right speaker.

7. With the Audio Mix window active, use any playback method (such as the J-K-L keys on the keyboard) to play, shuttle, or jog through the audio to check for necessary volume or pan adjustments.

The keyboard controls 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.

8. Decide whether to raise or lower the volume, or pan left or right.



Use any of the following methods to change a value in the panel:

- Click a number along the vertical edge of the volume slider.
- Click the slider and type a value.
- Values are cumulative until you press Return. 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 Return before typing the 2.
- Click the slider and then drag it.
- Click the Volume Slider value box and type a value.
- Set a value of zero decibels by clicking the slider and entering 0, or by clicking 0 along the vertical edge of the volume slider.
- Adjust pan by clicking the Pan Value display to reveal the pop-up slider, then drag the slider to a new position.



Pop-up slider for pan

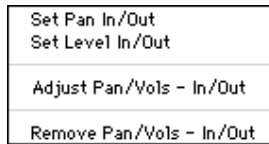
If the sequence is playing, notice that play stops when you make an adjustment (the Audio Mix window does not provide real-time audio control).

9. Apply the adjustments to a chosen region of the track using the Audio Mix Fast menu located at the upper right of the tool.

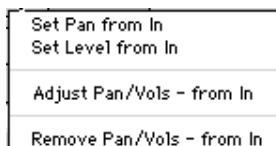


Options in the Fast menu are dimmed until you select a track. The options vary depending upon the types of marks you set within the clip or sequence, as follows:

- **With IN and OUT marks:** Commands in the Fast menu apply adjustments to selected tracks between the marks.



- **With an IN mark (no OUT mark):** Commands in the Fast menu apply adjustments from the IN point to the end of selected tracks.

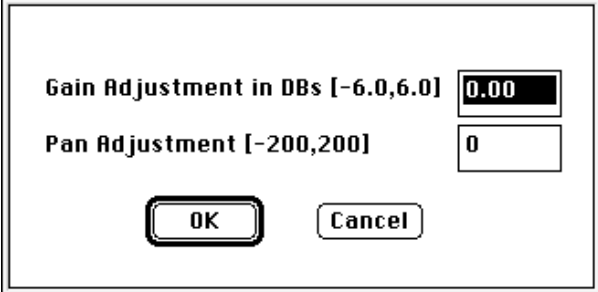


- **With no marks:** Commands apply globally (across entire tracks).



There are three ways of applying the adjustments:

- 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.



The dialog box contains the following text and controls:

- Gain Adjustment in DBs [-6.0,6.0]
- Pan Adjustment [-200,200]
-

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 one decibel 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.

Gang and Adjusting Multiple Tracks

You can gang multiple tracks in the Audio Mix tool in order to maintain the same relative settings between tracks when you make adjust-

ments. 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 button in the first track panel.
2. Click the Gang button of any additional panels. Click the button a second time to deselect it.
3. Adjust either volume or pan for one of the tracks 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. You can also isolate either volume or pan sliders for ganging as follows:

- To gang only the volume controls, Shift-click anywhere within the volume sliders.
- To gang only the pan controls, Shift-click anywhere within the Pan Value displays.

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 Output 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.

The volume controls disappear. Deselect the option to restore the current settings.

To turn off pan adjustments:

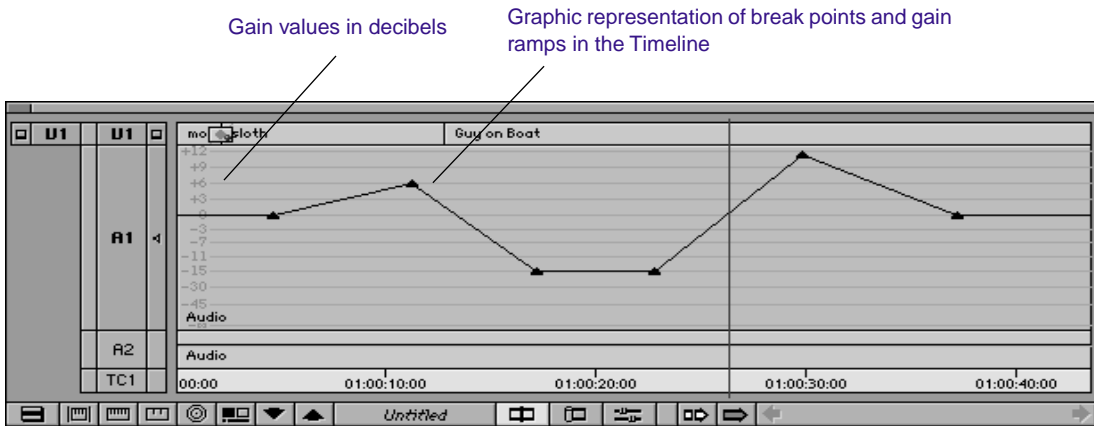


- Choose Direct Out from the output options pop-up menu to play back the tracks with their default pan settings.
- Choose Mono from the output options pop-up menu to pan all tracks to center during output.

When you choose one of these options, the pan controls disappear in the Audio Mix tool. Choose Stereo Mix to restore the current settings.

Using Audio Gain Automation

Audio Gain Automation (also known as audio volume rubber-banding) allows you to change the volume of a segment by adding and manipulating gain break points in the Timeline. The following illustration shows an expanded audio track containing gain break point information.



The Composer system uses a linear ramp to change the volume from one gain break point to the next. The above illustration shows four ramps.

System Clip Gain

When you add a break point, the Composer 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 window are referred to as system clip gain values. Audio gain break points are not additive

to the system clip gain values. When you move a gain break point up or down, it cancels the system clip gain for that point in the sequence.

If you move the volume slider for a clip in the Audio Mix window, all the break points for that clip move relative to the new value.

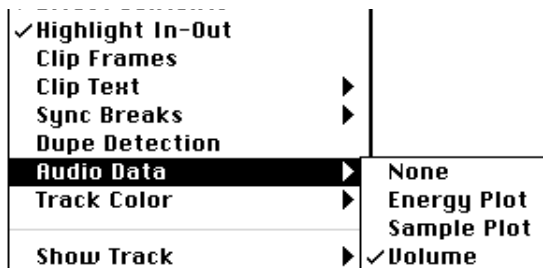
Real-Time Response of Audio Gain Automation

In real time, the Composer system reads the gain value every 2000 audio samples and linearly ramps between readings. For example, at 44.1 kHz (44,1000 samples per second), the Composer system checks the gain value every 0.0416 seconds. This works well when you use gradual ramps.

Using Audio Gain Automation

To use Audio Gain Automation:

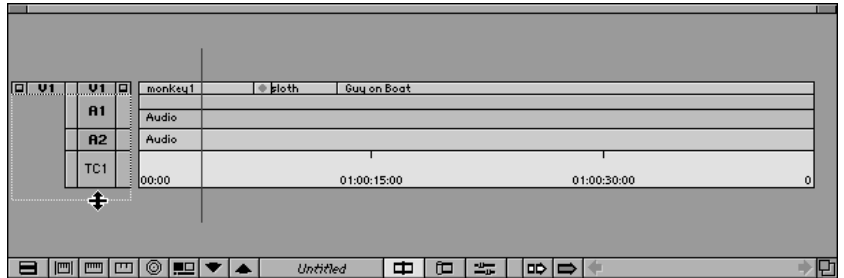
1. Select an audio track for adjusting volume.
2. Choose Volume from the Audio Data submenu of the Timeline Fast menu.



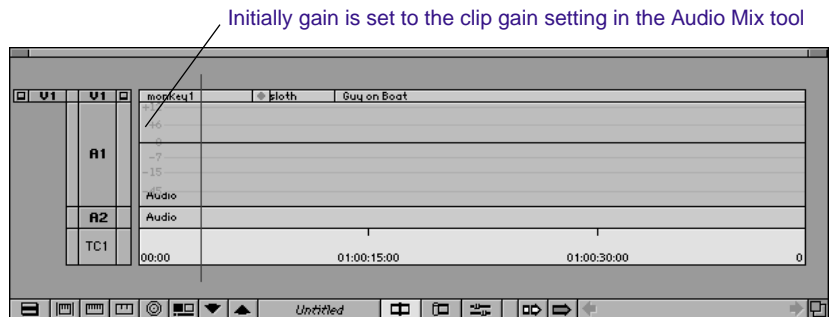
You can enable both Volume and Energy Plot or Sample Plot in the Audio Data submenu of the Timeline Fast menu to display audio gain meters and break point information superimposed over waveform plots in the Timeline.

A straight line appears in the selected audio track. The line shows the current gain level for that track in the Audio Mix tool.

3. (Option) Expand the audio track by pressing \mathbb{H} -L, or pressing the Option key and dragging in the Track Selector panel.



The following illustration shows the expanded audio track.



4. Click the Add Key Frame button on the Master command palette to add break points along the Timeline. The Composer system adds a break point to each enabled track.

By default the Add Key Frame 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.

After you add one break point to a segment, you can adjust the gain for the entire clip. After you move the point up or down, the corresponding volume slider in the Audio Mix window moves also.

Deleting Break Points

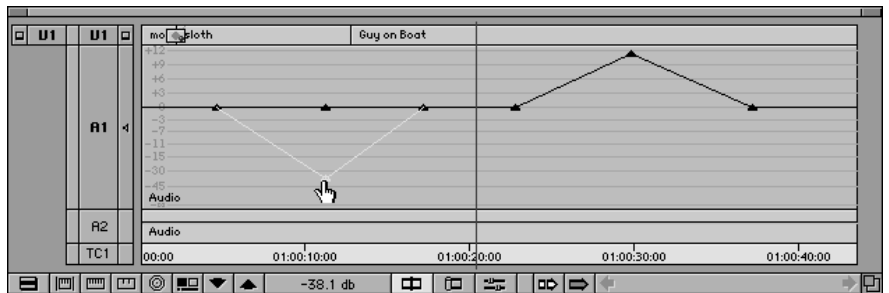
To delete break points, do one of the following:

- To delete a single break point, move the cursor over the point. When the cursor turns into the pointing hand, press the Delete key. If there are identical break points in other active tracks, the system deletes them also.
- To delete groups of break points, mark an IN to OUT or mark the entire segment, then delete any key in the marked area.

Moving Break Points on the Timeline

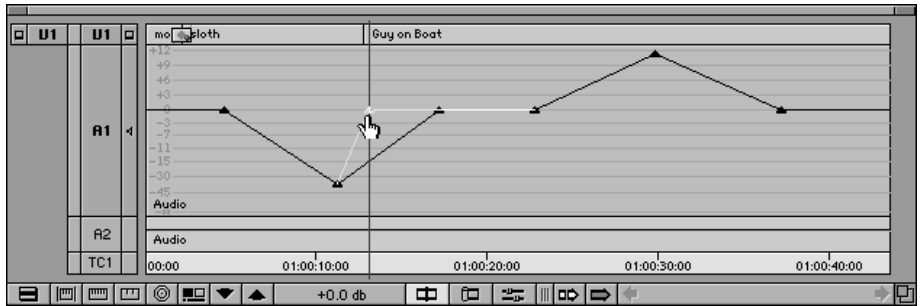
Move break points using one of the following methods:

- Click a break point 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, hold the Command key (⌘) while you drag the point.

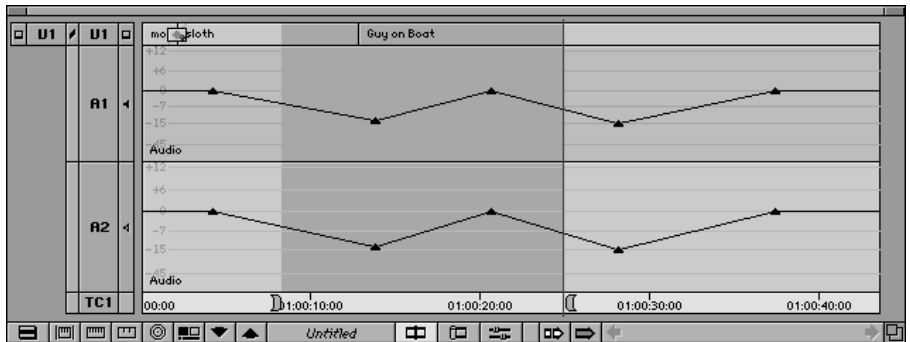
- Move a break point horizontally to move the start or end of a ramp. Option-click the point and drag it. You cannot move one break point on top of another.



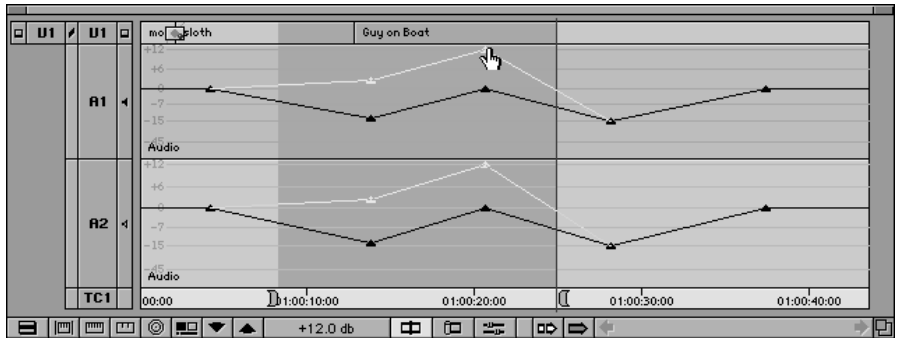
- Move several break points on a track at the same time by placing IN and OUT marks to select the desired area. When you move one break point within the marked area, all break points within the marked area move in relation to each other. This works for all enabled audio tracks.

This is similar to ganging sliders on an audio mixing board or in the Audio Mix tool.

This example shows how to move break points within IN to OUT marks on two tracks.



Notice that the break points outside the IN to OUT marks do not move.



Using the Audio Equalization Tool

The Audio 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.

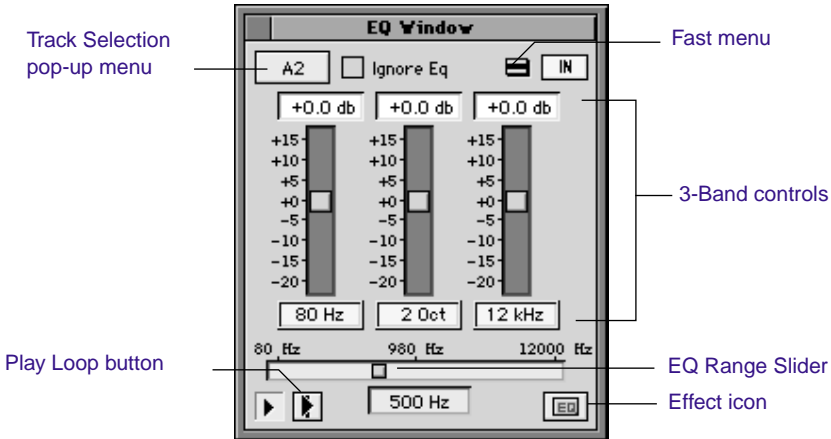
Tools	
New Deck Controller	
Audio Mix	
Audio EQ	
Audio Tool	⌘1
Burn-In Tool	
Calculator	⌘2
Clipboard Monitor	
Command Palette	⌘3
Composer	⌘4

- Click the EQ Window button in the upper portion of the Audio Mix window.

EQ Window button



The Audio EQ tool appears.



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 zero.

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 control the width of the curve.

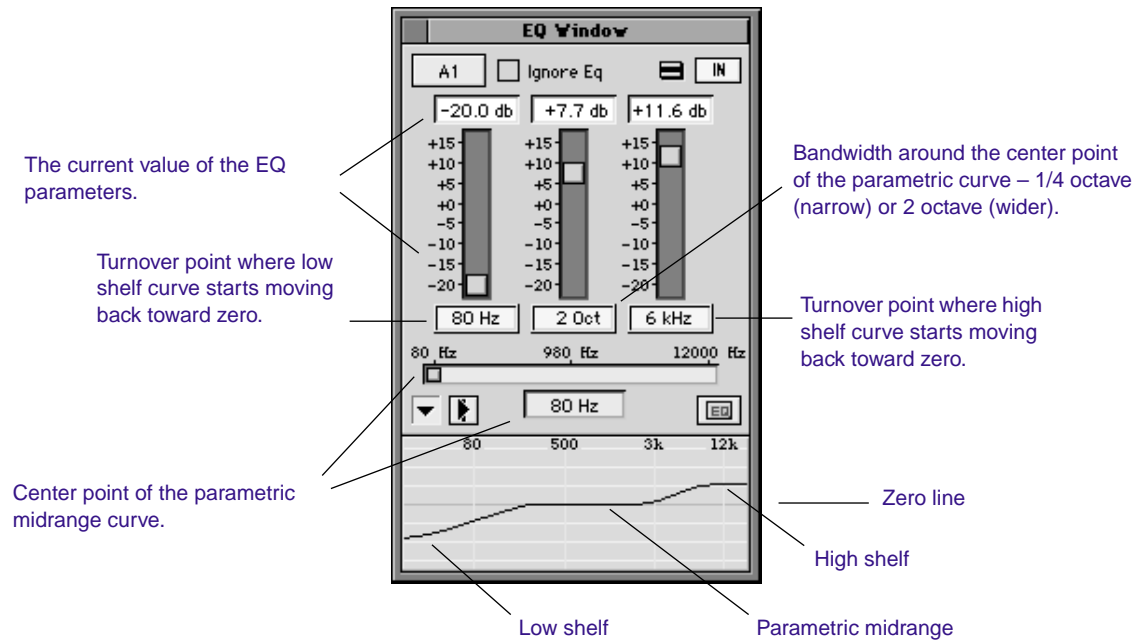
- The third band, the high shelf, has four turnover points (6 kHz, 8 kHz, 12 kHz, and 15 kHz). The high shelf affects all frequencies from the high shelf turnover point to 20 kHz.

The horizontal center line of the graph is zero. 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.

You apply Audio EQ like effects:

- Audio EQ can only be applied to entire segments. You cannot isolate portions of a segment for an Audio EQ effect using IN and OUT marks. You must use Add Edits (match frames) to mark off a smaller segment.
- You can use IN and OUT marks 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.

The following illustration shows the Audio EQ tool with the frequency response curve displayed and identifies the related areas of the window. The graph displays from 20 Hz to 20 kHz.



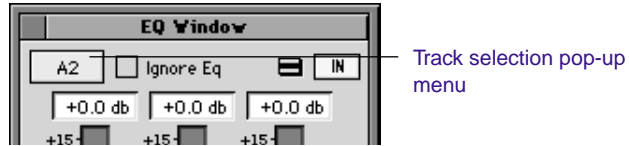
The Audio EQ tool allows you to emphasize or deemphasize audio frequencies. The height of the curve shows the amount of emphasis or deemphasis (also called boost or cut) that is being applied. The range is from +15 db to -20 db.

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.
3. (Option) Mark off a range of audio segments by adding IN and OUT marks 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.



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/Out range. To stop the loop playing, click the button again or click anywhere in the Timeline.
7. Use any of the following methods to change a value in the 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 Return. 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 Return before typing the 2.

- Click and drag the slider.
- Click the Volume Slider value box and type in a value.
- Set a value of zero decibels by clicking the slider and entering 0, or by clicking 0 along the vertical edge of the volume slider.

Notice that playback stops when you make an adjustment (the Audio EQ tool does not provide real-time audio control).

8. Apply the adjustments to a chosen region of the track using the Audio EQ Fast menu located at the upper right of the tool.



The Fast menu on the Audio EQ tool has one entry: Set Eq In/Out. This allows you to remove or apply EQ effect to clips included within the current IN to OUT range.

For example, the following illustration shows a segment with one EQ 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.

U1	<input type="checkbox"/>	mist wide	water-fall			<input type="checkbox"/> mtn mist	mtn mist
A1	<input type="checkbox"/>	Audio					
A2	<input type="checkbox"/>	Audio Clip 1	Audio Clip 2	EQ	Audio	Audio Clip 3	
TC1		59:29	01:00:09:29		01:00:19:29	01:00:29:29	

Before Set EQ In/Out

U1	<input type="checkbox"/>	mist wide	water-fall			<input type="checkbox"/> mtn mist	mtn mist
A1	<input type="checkbox"/>	Audio					
A2	<input type="checkbox"/>	Audio Clip 1	EQ	Audio Clip 2	EQ	Audio Clip 3	EQ
TC1		59:29	01:00:09:29		01:00:19:29	01:00:29:29	

After Set EQ In/Out – EQ effect is added to Audio Clip 1 and Audio Clip 3.

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.

U1	□	mist wide	water fall	mtn mist	mtn mist
A1	◀	Audio	Audio	Audio	
A2	◀	Audio Clip 1	Audio Clip 2	Audio Clip 3	
TC1		59:29	01:00:09:29	01:00:19:29	01:00:29:29

Before Set EQ In/Out

U1	□	mist wide	water fall	mtn mist	mtn mist
A1	◀	Audio	Audio	Audio	
A2	◀	Audio Clip 1	Audio Clip 2	Audio Clip 3	
TC1		59:29	01:00:09:29	01:00:19:29	01:00:29:29

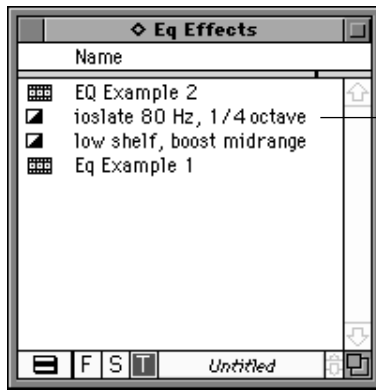
After Set EQ In/Out – EQ effect is deleted from Audio Clip 1 and Audio Clip 2.

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 through 10 until you are satisfied with the EQ adjustments.

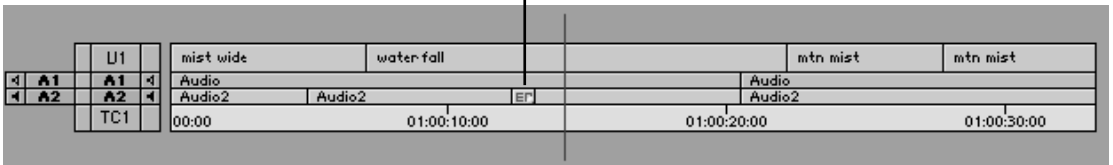
Saving Audio EQ Effects

The Film Composer 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 EQ effect icons in a bin and in the Timeline.



EQ effect templates in a bin

EQ effect in the timeline



Use the effect icon 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. See the *Avid Media Composer and Film Composer Effects Guide* for more information on using effect templates.

Audio EQ Examples

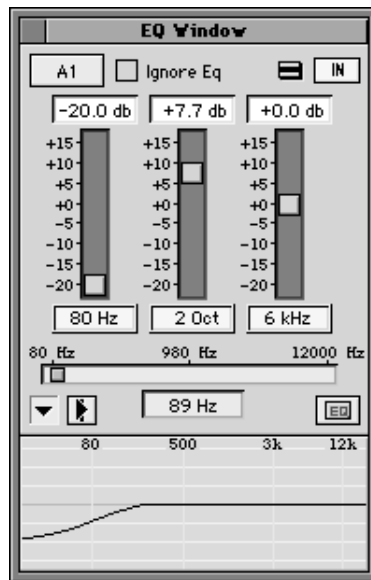
The following examples show two different ways to use the Audio EQ tool to remove excess bass from an audio track. These examples use the sound track from the Rain Forest sequence. The bass in the sound track is very pronounced, and we use the Audio EQ tool to deemphasize it. The main challenge with this particular sound track is 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.

Keep in mind that the goal of the adjustments is the final sound. In general, you should use small adjustments to preserve as much of the original sound track as possible. Don't 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 decibels 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:

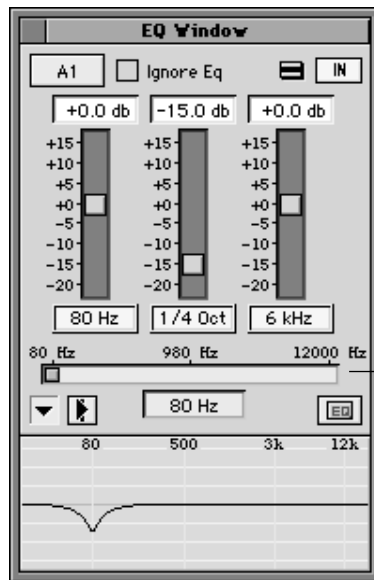
1. Use the 2 octave midrange setting to create a wide midrange.
2. Move the midpoint of the parametric curve over to 89 Hz.
3. Boost the midrange of the parametric curve to $+7.7$ dB.



Small Octave Range Example

This example isolates the particular frequency that we want to deemphasize. In this example we don't 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 we want to deemphasize is right around 80 Hz.



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 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 desired frequency, you can adjust it as needed.

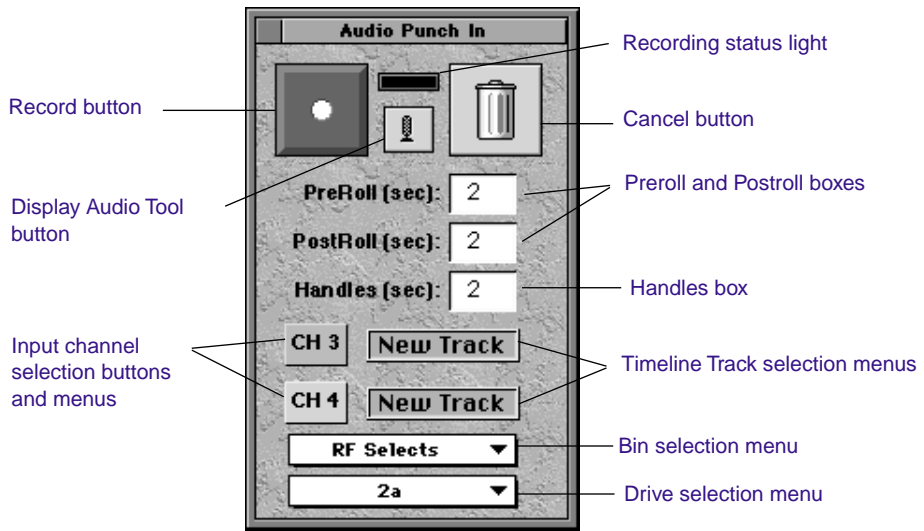
Using Audio Punch-In

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 steps of recording the narration to tape first, digitizing, and then editing the audio clip into the sequence.

You access the Audio Punch In tool from the Tools menu.

Tools	
New Deck Controller	
Audio Mix	
Audio EQ	
Audio Tool	⌘1
Audio Punch In	
Burn-In Tool	
Calculator	⌘2
Clipboard Monitor	
Command Palette	⌘3
Composer	⌘4
Compression	⌘5
Console	⌘6
Digitize	⌘7
Effect Palette	⌘8
Hardware	

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 Display Audio Tool button displays the Audio tool so that you can monitor and adjust the audio levels during recording.
- The PreRoll text box allows you to provide a visual cue before the recording begins. The Composer 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 Composer 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 turns pink when it is selected. Option-click the button to display a menu and select another channel.
- The Track selection menus allow to specify where the Composer system places the audio in the Timeline. Either choose New Track or select an existing track. When you choose an existing track, the Composer 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 Composer system for creating voice-overs in the Timeline.

Connecting the Hardware

Before you can use Audio Punch In, 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 card or to the Audio Interface on your Composer system.
- Connect a microphone to a microphone preamp and connect the preamp to the Audio card or to the Audio Interface on your Composer system.

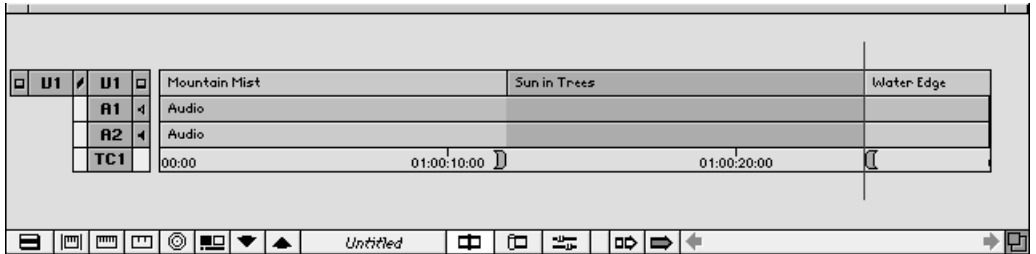
Refer to *Avid Media Composer Products Connecting Audio and Video Equipment* for information on connecting the hardware.

Creating the Voice-Over

You can replace part (or all) of an existing track or you can instruct the Composer system to create a new track for the voice-over. The follow-

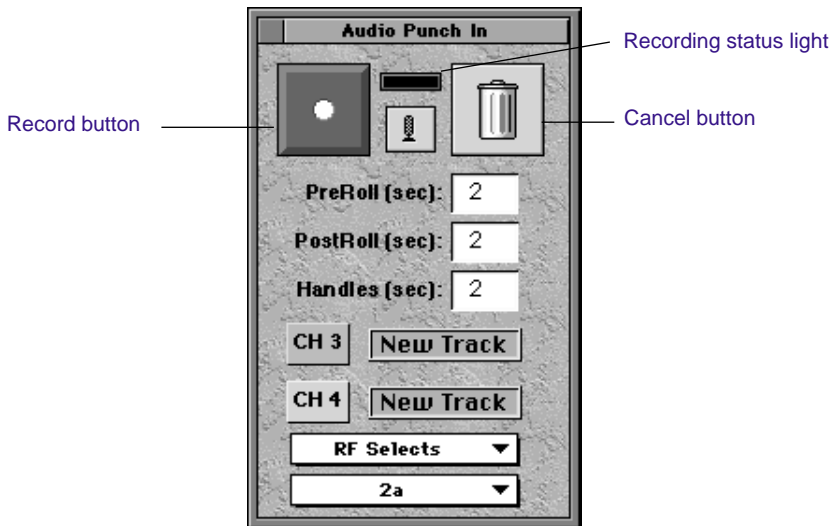
ing procedure shows how to use the tool when you want to mark IN and OUT points and plan to create a new track for the voice-over.

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.

The Audio Punch In tool appears.



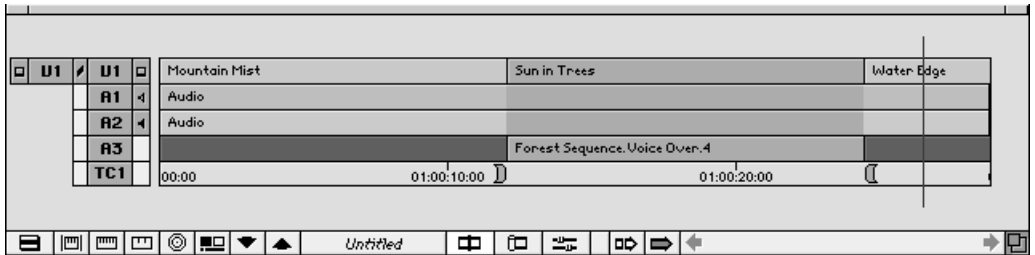
3. Choose the channels that correspond to your hardware setup and set other values in the dialog as appropriate.

4. To start recording, click the Record button.

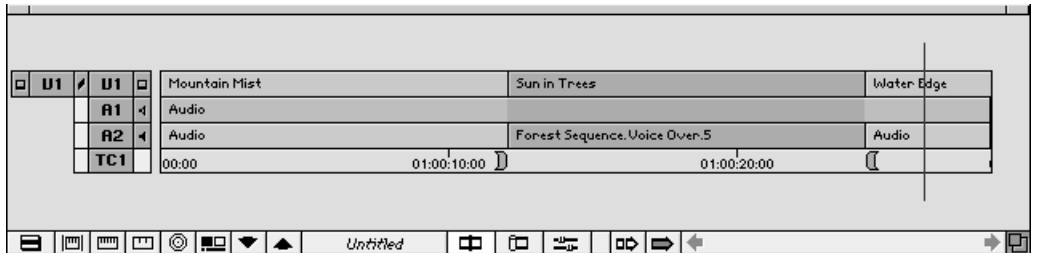
If you started with both IN and OUT points in the Timeline, the Composer system automatically stops recording when it reaches the OUT point (or after it adds the appropriate audio handle after the OUT point). If you only added an IN point, click the record button a second time to stop the recording.

The following illustrations show the results after 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

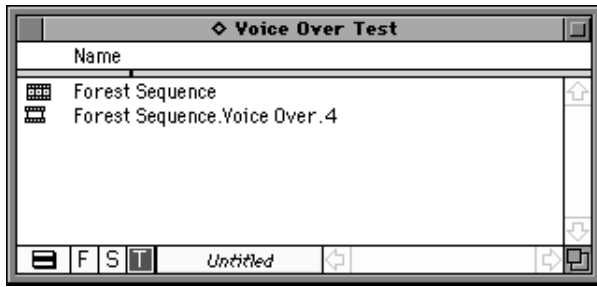


Voice-over replacing a portion of a track



Voice-Over Media Files

The Composer 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, Film Composer looks at either an individual clip in the Source monitor, a shot 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.

1. Find the start of the area where you would like 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 [“Creating the Voice-Over” on page 353](#) to change the level or pan within this new segment.

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 Composer 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.

You can use the procedures described in [“Using Audio Gain Automation” on page 335](#) to achieve these effects. If your model does not include Audio Gain Automation (releases prior to Release 6.1), you must use the procedures described in this section.

This section describes three basic procedures for achieving *fades*, *dips*, and *crossfades* with Film Composer. For complete information on applying and adjusting effects, see the *Avid Media Composer and Film Composer Effects Guide*.

Fading Audio

To fade or crossfade audio, you can use the procedures described in [“Using Audio Gain Automation” on page 335](#). If your model does not include Audio Gain Automation (releases prior to Release 6.1), you must use the procedure described in this section.

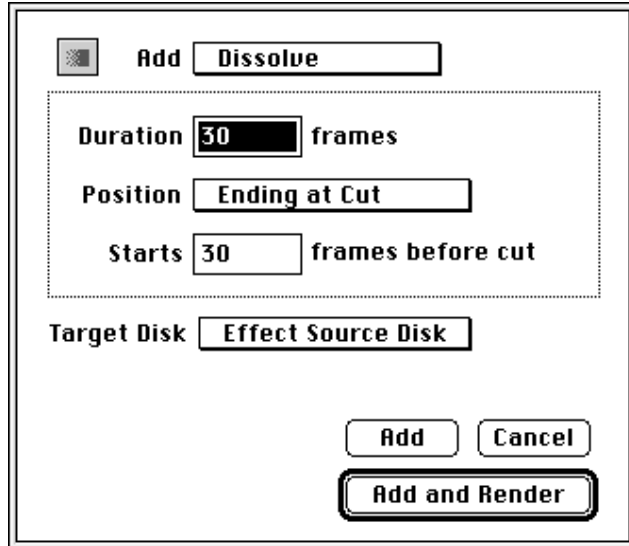
Fading and crossfading audio are easy effects to achieve. The procedure that differs most from analog editing is crossfading. In the analog world, unless you are using a mixer you must lay down audio on two separate channels and fade one down, then fade up the second on an overlapping section. With Film Composer, you simply apply the aural equivalent of a visual dissolve.

To apply a fade or crossfade:

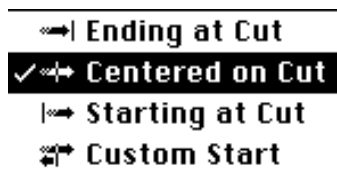
1. Place the position indicator on the desired transition.
2. Click the Add Dissolve button (it appears by default on the second row of buttons below the Record monitor).



The add 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 one second of NTSC footage; 25 frames for PAL).
5. Choose the location for the dissolve from the Position pop-up menu.



- *Ending at Cut* fades the audio to zero from the A-side segment by 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.
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” entry box. Otherwise, leave the default value in the entry box.
 7. (Optional) Choose a media drive other than the default Effect Source Disk from the Target Disk 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 335](#). If your model does not include Audio Gain Automation (releases prior to Release 6.1), 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.

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 desired volume level as described in the section [“Using the Audio Mix Tool” on page 327](#).
5. Apply a Quick Dissolve to both Add Edit points, using the techniques described in the previous section. Be sure to 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

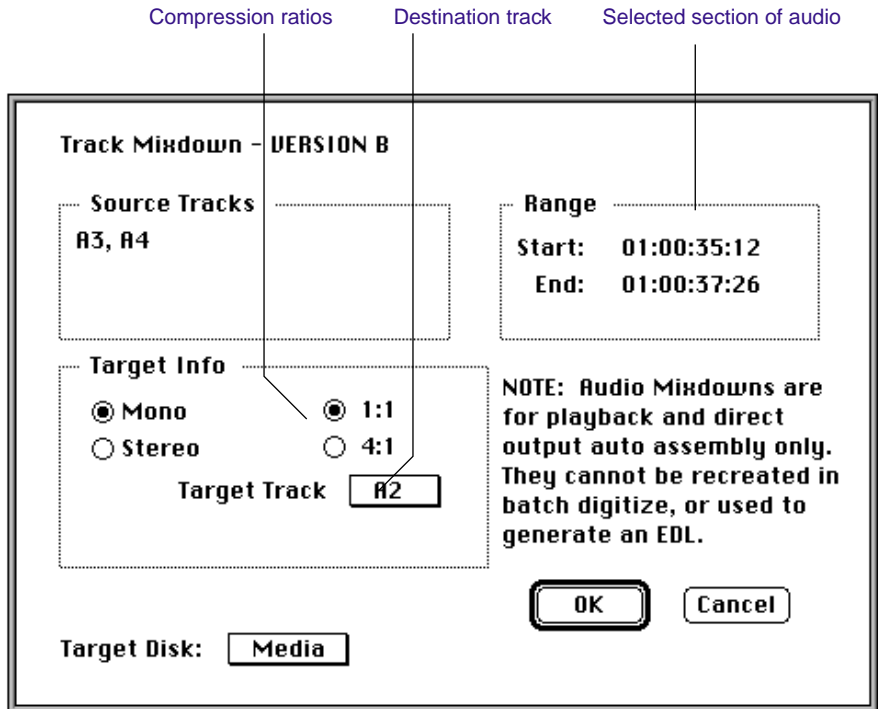
When you work with multiple audio tracks while editing your material, you may need to mix the final audio down to two tracks.

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 selectors to select the audio tracks you want to mix down.
3. Mark an IN and an OUT 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 top of the box displays the source audio tracks and the start and end time-codes for the section of audio you’ve selected to mix down.



5. Click Mono and select the target track to which you want to mix down the audio.

If you desire stereo, click Stereo and select two target tracks for the mixed-down audio. The system mixes down all the odd audio tracks to the left track and all the even audio tracks to the right.

6. Select a compression ratio for the mixed-down audio.

Compress the audio at a ratio of 4:1. Select 1:1 if you do not want to compress the media for the tracks you're mixing down.

7. Choose a target disk.

The target disk is the media disk where the system stores the media files for the mixed-down audio.

8. Click OK.

The audio is mixed down and ready for two-channel playback.



CHAPTER 12

Syncing Methods

Film Composer 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:

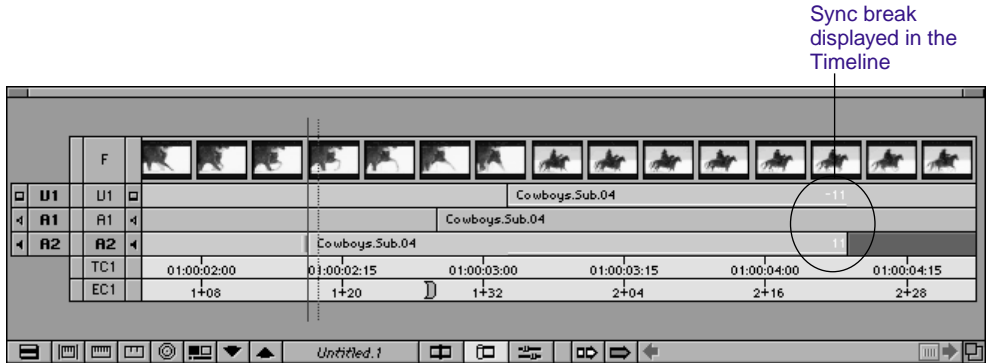
- [Autosyncing Clips](#)
- [Resyncing Subframe Audio](#)
- [Managing Sync Breaks](#)
- [Managing Sync with Multiple Tracks](#)
- [Using Sync Point Editing \(SPE\)](#)
- [Ganging Footage in Monitors](#)
- [Using Match Frame](#)

Autosyncing Clips

For more information on tracking sync breaks, see [“Displaying Sync Breaks” on page 368](#).

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 film projects in which picture and sound are 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 an artificial IN point or OUT point relationship you establish with marks.

Use the following guidelines when autosyncing:

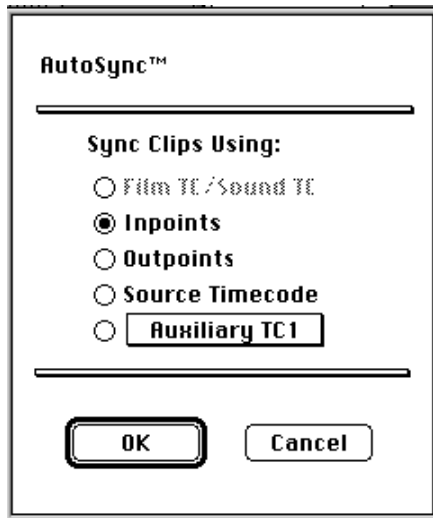
- You can autosync audio clips with video clips only. To link two or more video clips or audio clips, use the Grouping option described in [“Grouping and Multigrouping” on page 389](#).
- You can create only one autosynced subclip at a time. You cannot autosync numerous pairs of audio and video clips 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.
- If you are autosyncing clips of different lengths, the longer clip is truncated to the length of the shorter clip.
- If you autosync according to common timecodes that are staggered (one clip starts later than the other) the later starting time-

code 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. Choose AutoSync from the Bin menu.

The AutoSync dialog box appears.



2. 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 is dimmed if you are not working on a film project.
 - *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. Select an Auxiliary TC, 1 through 5, from the pop-up menu.
3. Click OK. The subclip is created and named by default after the video clip with the suffix “.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.

Resyncing Subframe Audio

Film Composer allows you to adjust the sync between the audio and video portion of subclips at the *subframe* or perforation level (1/4 frame adjustments) 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 may be off by one or more perforations.

The following conditions apply to resyncing at the perforation level:

- You may adjust the sync between a single video and a single audio track within subclips only. These can be the subclips created when you autosync, or subclips you create manually from master clips in preparation for editing.
- You cannot slip beyond the duration boundaries of the source master clip.
- 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 319](#) to locate the closing-slate frame.
3. Turn on the Audio Waveform display by selecting Waveform/ Sample Plot from the Timeline Fast menu.



4. Click the Source/Record toggle 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. Select 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 8 perfs in either direction.
8. Use the resynced clip to edit into the sequence.



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.

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 (audio only or video only for example) and performing edit functions that lengthen the duration, such as Splice, Extract/Splice, or adding frames in Trim mode.
- Selecting only one synced track and performing edit functions that shorten the duration, such as Extract, Extract/Splice, or removing frames in Trim mode.

Film Composer 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:

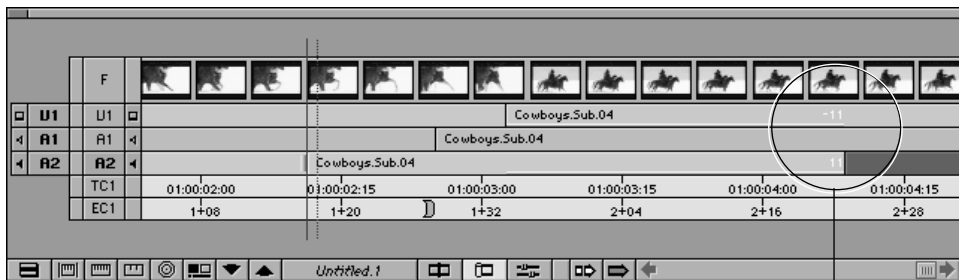
- When adding material to a track, use the Replace or Overwrite functions instead of Splice, whenever possible.
- When removing material from a track, use Lift instead of Extract (the Lift function leaves filler of the same duration when removing footage).
- When performing Segment mode edits, use the Lift/Overwrite function instead of Extract/Splice 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 Control-key function for adding black during trims, as described in [“Maintaining Sync While Trimming” on page 311](#).

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.



Sync Breaks

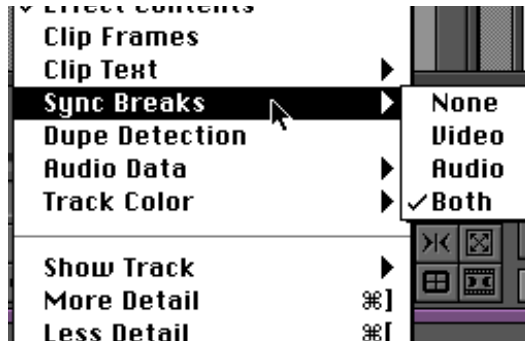
You encounter sync breaks and match frames in different circumstances:

- 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.
- 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.

For more information on match frames, see [“Adding an Edit \(Match Framing\)” on page 284.](#)

You can also customize the Timeline view to display sync breaks and match frames 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

In general, sync breaks are displayed only when the out-of-sync tracks overlap. In other words, 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 10](#).

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. When using Trim mode, keep the following in mind:

- 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. 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 8](#).

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 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 just 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 254](#).

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.

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. There are a number of additional techniques you can use to manage sync when working with four or more tracks. These include the sync lock feature, tail leaders, and Add Edits.

Using Sync Lock

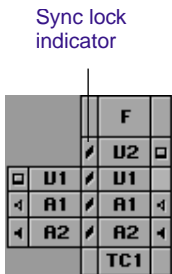
For more information on sync-locking tracks in Trim mode, see [“Maintaining Sync While Trimming” on page 311](#)

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 the indicator box in the Track Selector panel to display the Sync Lock icon. You can also toggle all locks on or off by Option-clicking in the indicator box of the TC track.

There are several unique aspects to sync-locking:

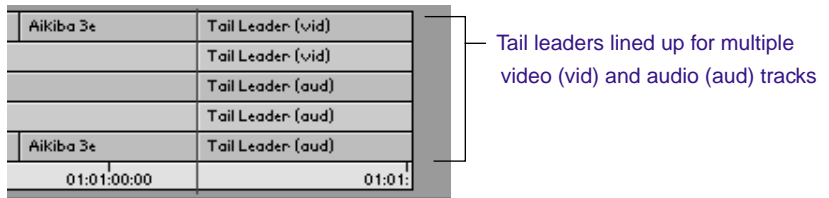
- Sync locking is a Trim mode feature only. Edits performed in Source/Record, Segment, or Effects mode will override sync-locked tracks.
- Sync locking applies to single-roller trims only, because dual-roller trims do not break sync.



- You can sync lock any number of tracks in any combination. In other words, the tracks do not require matching timecode or common sources, and can include multiple video tracks as well as audio tracks.
- Sync locking affects entire tracks. This means that parallel segments in other sync-locked tracks are affected when you trim anywhere in the sequence.

Using Tail Leader

You can add tail leader to the audio or video material in Film Composer to provide a useful visual reference in the Timeline for tracking and fixing sync breaks across any number of 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 171](#).

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:

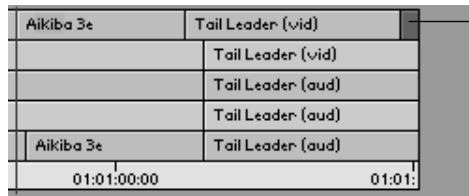
1. Place the position indicator in the black segment that follows the out-of-sync leader.
2. Select the track, then click the Mark Clip button. You can measure the break by checking the IN/OUT duration of the marked segment.



Mark Clip allows you to measure the break

- To restore sync, find the point at which the sync was lost. Add or remove frames using the appropriate edit function, as described in [“Fixing Sync Breaks” on page 369](#).

As a quick fix, you can enter Extract/Splice 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.



Move the black segment using Extract/Splice



Using Locators

For more information on using locators, see the *Avid Film Composer Getting Started Guide*.

Like tail leaders, you can add locators to material in the Timeline to track and adjust breaks in sync between any number of tracks. With locators, you have the advantage of placing them anywhere in the sequence, and adding specific notes.

To mark sync points with locators:

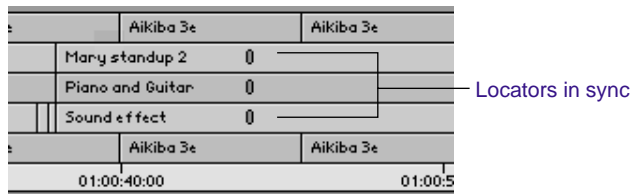
- Place the position indicator at the point in the sequence where you want to maintain sync between two or more tracks.



2. Select the first track, and click the Add Locator button.

The system adds a red locator to the track in the Timeline and in the Record monitor.

3. 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 Timeline, type the text into the Locator Text box, and click OK.
4. Repeat the procedure for subsequent synchronized tracks. Make sure to keep the position indicator in the same location in order to line up the locators in sync.



You can use the Find procedure to go to a locator quickly with text. For more information, see the *Avid Film Composer Getting Started Guide*.

5. After completing an edit that you think may 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/OUT duration of the marked section.
3. To restore sync, find the point at which the sync was lost. Add or remove frames using the appropriate edit function, as described in [“Fixing Sync Breaks” on page 369](#).

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.

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.

Using Sync Point Editing (SPE)

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. It is important that the duration of the material being edited into the sequence is 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 an IN or OUT point in either the Source or Record monitor, leaving the opposite monitor clear of marks. Alternatively, mark an IN and OUT in the Source monitor, or an IN and OUT in the Record monitor. (If there is no point in the Record monitor, the edit occurs at the position indicator.)
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 in the Source/Record window 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.



Orange mark
indicates Sync
Point Editing

Notice the orange box on the Overwrite button that signals that Sync Point Editing is active.

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/or 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.

Use the following procedure to gang monitors:

1. Load a sequence into the Record monitor.
2. Load one or more clips into the Source monitor and/or pop-up monitors.



3. Click the Gang button for each monitor that you want to synchronize (the Record monitor is always ganged). The button turns green when enabled.



The Gang button appears by default in the second row of buttons below the Record monitor, and in the second row of information above the Source/Record monitors.

4. View the footage in any of the monitors 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 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.

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.

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 marks are removed when you use match frame. To override this, Option-click the Match Frame button.

Performing a Reverse Match Frame

To perform a reverse Match Frame:

1. Place the position indicator on the desired frame in the source footage.
2. Make sure the appropriate tracks are selected in the Timeline.
3. Press the Control key and click the Match Frame button under the Source monitor.

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.

Using the 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 subclip 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 the [Avid Film Composer Getting Started Guide](#).



CHAPTER 13

Multicamera Editing

Film Composer multicamera editing tools allow you to incorporate multiple camera angles easily into the nonlinear editing process. Systems equipped with the Multicamera Play option can also play back, in real time, up to four camera angles in a Source monitor quad split, along with playback of the sequence in the Record monitor. Techniques for using these features are described in the following sections:

- [Developing a Postproduction Model](#)
- [Grouping and Multigroupings](#)
- [MultiCamera Edit Modes](#)
- [MultiCamera Editing Techniques](#)
- [Workflow Options](#)

Developing a Postproduction Model

As the name indicates, multicamera production *multiplies* the amount and complexity of source material you manage in a project. As a result, comprehensive postproduction planning is essential to avoid the hazards of mismatched shots, takes, and entire reels during digitizing and grouping.

This section presents a postproduction model that can help you organize your material. While the routines of a typical situation comedy are used to illustrate these organizing principles, you can easily adapt this model to suit the particular needs of other productions, such as sports, theater, and nightclub events.

The guidelines of organizing for a large multicamera project are as follows:

- Choose a tape-numbering scheme and be consistent.
- Film the multicamera shoot logically according to offline and online editing needs.
- Manage the production path of both sound and picture for quality and efficiency.

Tape Classification Schemes

Because multicamera production involves both sequential and synchronous recording on numerous reels, a comprehensive classification scheme for reels, takes, and clips can help avoid confusion.

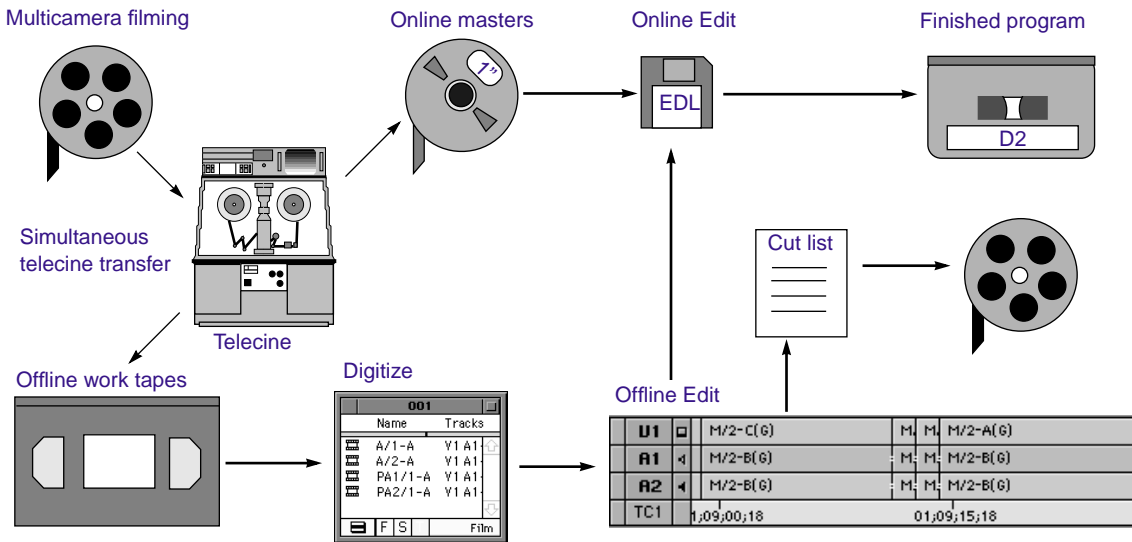
Many multicamera film productions use alphabetical designations for classifying source footage. For example, the cameras are referred to as A, B, and C, covering the scene from left to right as viewed from the camera side. A fourth camera X is often a floater, used to grab close-ups and miscellaneous shots. You can classify the shot rolls with the letter of the source camera, then numbered sequentially. For example, camera roll A1 is the first roll for Camera A.

Production Paths

In addition to a numbering scheme, you can organize the flow of recorded material throughout postproduction to make efficient use of resources and maintain the quality of video and audio.

For multicamera television productions shot on film, the most common picture path is described in the *Avid Film Composer Getting Started Guide*. This involves simultaneously transferring of the camera rolls to both a set of offline tapes (3/4-inch cassettes, for example) and a set of online tapes (such as Betacam or 1-inch). The primary differences are:

- Each take is multiplied by four, therefore all reels require strict organization and labeling at all stages to avoid confusion.
- Many productions use time -of-day as the audio timecode, synced to picture using a smartslate. These audio timecodes can be transferred to the address track of tapes in telecine, and /or imported into the Sound TC column or an Auxiliary TC column.
- Alternatively, you can record in-camera timecode both on film and on an audio track for autosyncing in Film Composer.



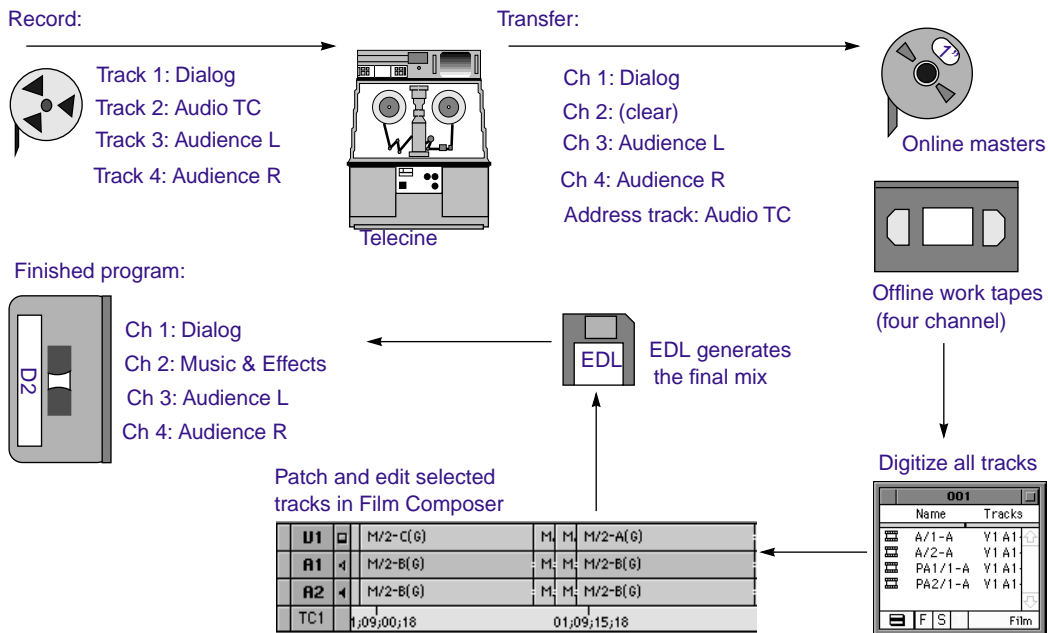
Facilities and formats may vary. The basic model can apply to any multicamera production in which high quality output is the goal.

Managing Audio

The Film Composer MultiCamera features allow you to patch channels of audio from any source clip to any track during editing. You can strategically designate specific channels of audio to record on specific reels or tracks in preparation for editing and generating an effective EDL or cut list.

In this example, the goal is to create a finished master tape with production dialog on channel 1, music and sound effects on channel 2, audience left on channel 3, and audience right on channel 4. Your production might use a 1/2-inch four-track tape recorder, as follows:

- Dialog on track one
- Audio timecode on track two
- Stereo audience left on track three
- Stereo audience right on track four



Any music and effects during production can be recorded as wild sound and edited into the program on track two along with additional effects and music during postproduction. All tracks are transferred to tape in telecine, with audio timecode recorded onto the address track and used during digitizing and editing.

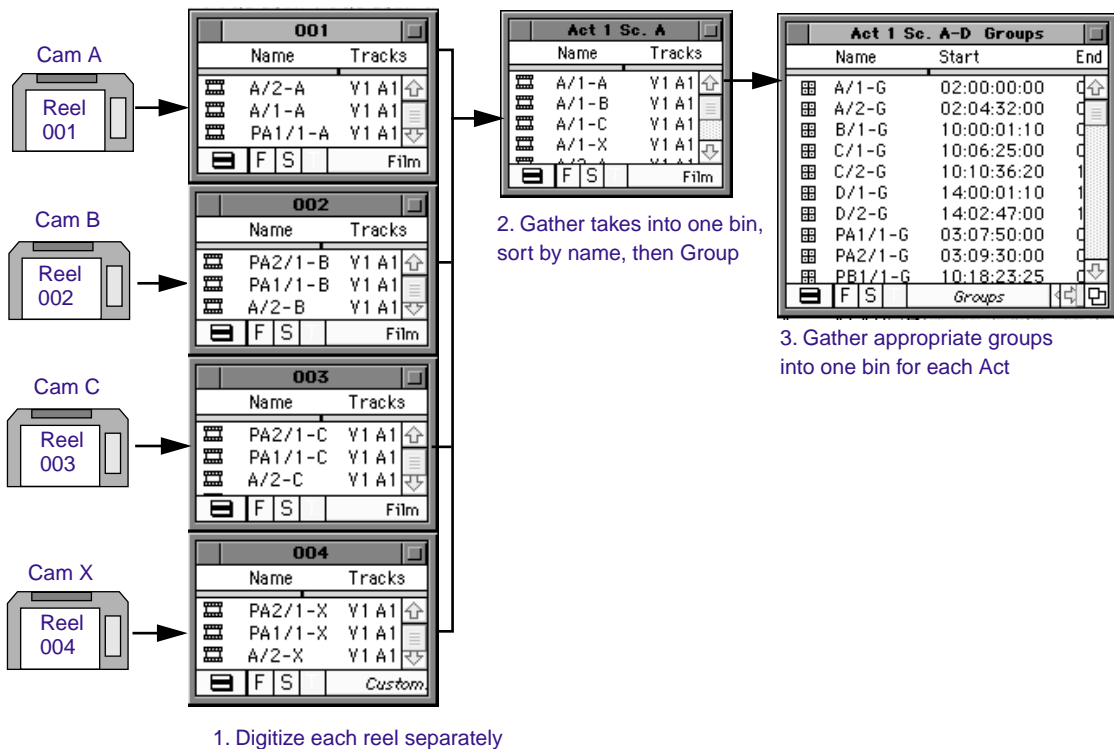
This is just one example. Choose the right path for your production.

Digitizing Workflow

The organization of the digitize bins helps to avoid slowing the system with large bins. It also keeps editing resources free of clutter. The basic procedure for using the digitize bins is as follows:

1. When you are ready to digitize, create one bin for each tape (usually each day's worth of takes will fit onto a single dailies tape). This keeps bins to a manageable size, and when you autdigitize the system automatically names each clip (take) after the name of the bin (tape), and numbers them sequentially.
2. After digitizing, you can rename the clips to reflect the scene and take.
3. Gather the clips for each take into one bin. This helps avoid accidentally grouping clips with the same timecode from different days. Sort the clips by name so they group in the right order.
4. After creating groups, move all the new clips into a separate bin. This helps simplify the contents of the bin for editing.

For television productions shot on film, scenes are often referred to as Scene A, B, C, and so forth. When the film is transferred to tape for offline editing, you can import the log of the transfer and batch digitize the reels.



Digitizing Methods

For more information on logging and digitizing procedures, see [Chapter 2](#) and [Chapter 3](#).

Film productions generally use one digitizing method: import the log from the telecine transfer and use this to batch digitize.

However you choose to digitize, you should have accurate notes on the number and content of takes on each reel in order to identify the content of each clip when necessary.

Storage Tips

The following tips can help you make the best use of storage drives:

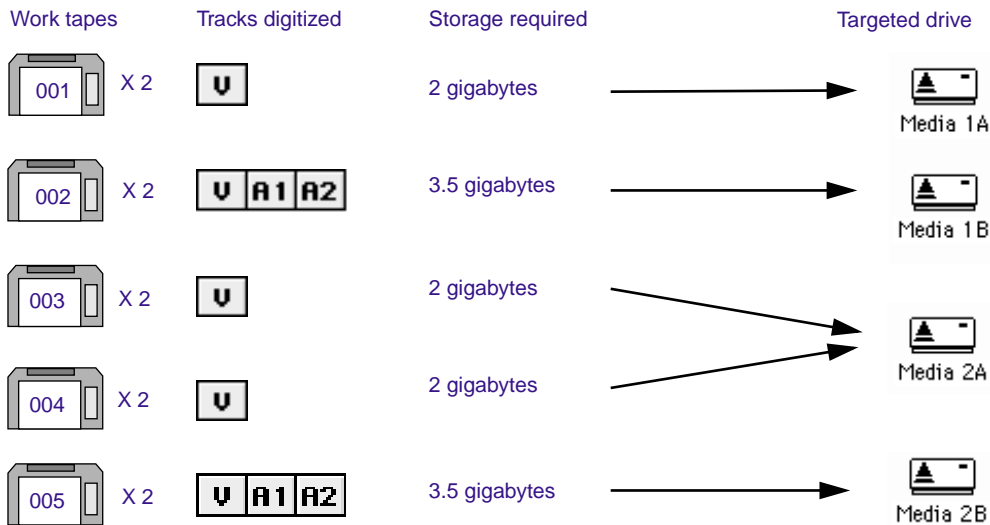
- To save storage space, digitize only the audio channels required for offline editing.
- For the most efficient playback of multicamera material, distribute the reels in each tape load between drives.
- To avoid switching drives while digitizing the same reel, target one volume per reel whenever possible.

With a large multicamera production, you can plan the use of drives in advance, based on the number of drives available, the chosen AVR, and the length of each reel.

Consider the following example:

- You have a four-camera production yielding two tape loads (approximately 50 minutes per tape).
- You want to autdigitize at AVR 3m.
- You need to digitize 2-channel audio at 44.1 kHz from cameras one and four.
- For storage, you have four 4-gigabyte drives.

With this set of circumstances, you might distribute the media as shown in the following illustration. Storage requirements are based on information provided in the *Avid Media Composer Products Reference*.



Checking the Bins

Before gathering the digitized clips into bins for grouping, you should open the bins in each tape load and compare the clips for inconsistencies. You can take steps to conform the bins now and avoid problems during grouping and editing, as follows.

Replacing Missing Clips

If one bin has fewer clips than the others, the camera may have been stopped during a particular take. If you group the take with the missing camera, the shots shift in the Quad Split to fill the missing angle, which can disorient the editor. Correct this problem by creating a *dummy clip*.

To create a dummy clip:

1. Log a new source clip into the bin.
2. Match the timecode from one of the clips from another camera, and use any name.

When the clips are grouped and loaded during editing, this dummy clip displays the message “Media Offline,” and maintains the distribution of camera angles in the Quad Split.

Checking Audio and Image Quality

Check the Audio column to make sure the audio was recorded on the correct channels, from the correct source reels, at the correct kHz. You cannot play back audio compressed at different rates within the same group or multigroup.

You can also spot-check the picture quality by loading two or more clips from each bin into the Source monitor and viewing the clips. If you find a problem, you can redigitize before the edit session begins.

Additional Offline Editing Aids

Film Composer provides features specifically designed to aid the offline editing process, including:

For more information on these features, see [Chapter 9](#).

- Color Frame tracking, for avoiding color frame shifts in online editing with 1-inch videotape
- Dupe Detection, for avoiding duplicate frames in online editing

Grouping and Multigrouping

The grouping and multigrouping procedures both gather selected clips into a single unique clip. Both allow you to use special Multi-Camera 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*.

- 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 may even cause the wrong clips to be grouped together.

Both group clips and multigroup clips are limited to eight clips in each synchronized group, although multigrouping can string an unlimited number of groups together sequentially.

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

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.

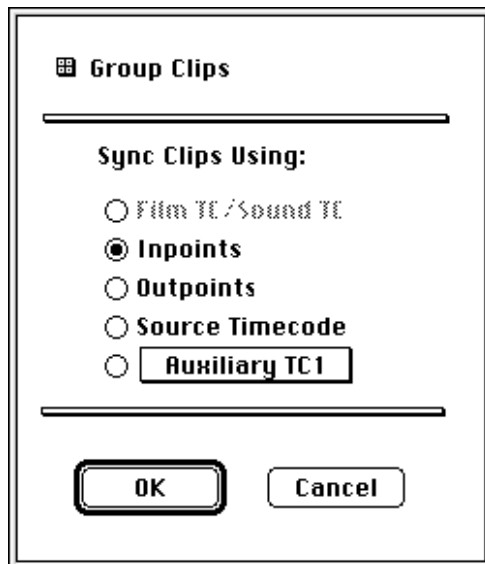
To create a group clip:

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.



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 is dimmed if you are not working on a film 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*: Select 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, following by the extension “grp.n.”

The *n* is an incremental numbering of group clips with the same name in the same bin. You may 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, use the following procedure:

1. Sort the clips by name in the bin.
2. Choose Select All from the Edit menu to select the master clips.
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 third Full-Screen monitor also remains full-screen.



The basic features of Full-Monitor display are as follows:

- Provides *source-oriented* control of multicamera material. In other words, 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 are described in [“MultiCamera Editing Techniques” on page 398](#). The only distinction is that in Full-Monitor display you can view each angle full-size as you edit.

Quad Split

After loading a group clip into the Source monitor, you enter Quad Split by clicking the Quad Split button. The Source monitor splits into four quadrants. A green Quad Split Menu icon appears in the second row of information above the Source and Record monitors. The third monitor displays the Quad Split when the Source monitor is active, and full-screen when the Record monitor is active.



The basic features of Quad Split are as follows:

- Provides *source-oriented* control of multicamera material, like Full-Monitor display. In other words, you can switch camera angles, playback, 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 398](#).
- Provides a list of all group clip video and audio tracks in the Quad Split menu for custom selection and patching.
- Allows you to toggle 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 third monitor (you can toggle between Quad Split and full-screen as needed).

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 left monitor to the sequence footage displayed in the Record monitor. All shots are synchronized and continuously updated during playback and editing. The third monitor always displays the Quad Split.

Quad Split Menu icon

Source monitor controls are disabled

The Gang icon turns green.



The basic features of MultiCamera mode are as follows:

- Provides *sequence-oriented* control of multicamera material, in contrast to Full-Monitor and Quad Split. In other words, 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 398.](#)

- Provides the ability to cut between shots on the fly during full-motion playback, as you would during live switching of a show.
- 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 (the third monitor always displays the quad split in MultiCamera mode).

MultiCamera Editing Techniques

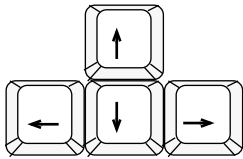
When you load a group or multigroup clip into the Source monitor and begin editing, the Timeline provides a unique display of the clip name to indicate the presence of a group.

U1	<input type="checkbox"/>	32.16	34.16(G)	34.16	32.16(G)	31.16(G)	33.16(G)	(G) indicates a group clip	
A1	<input type="checkbox"/>	31.16(G)							
A2	<input type="checkbox"/>	31.16(G)							
TC1	<input type="checkbox"/>	01;06			01;19;41;06				

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.

Switching Shots with the Arrow Keys



You can switch the display of camera angles 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.

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 Hot Keys

You can switch the display of up to eight camera angles using hot keys on the keyboard. The default hot keys are F9 through F12 for cameras one through four. You can map an additional four cameras from the Master Command palette to the keyboard for the full eight.

Key equivalents for quadrants:



If you press a hot 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, hold the Option key when you press a hot key.

You can also cut on the fly during playback using the hot keys. Systems equipped with the Film Composer Release 6.0 or later can cut on the fly with live playback of all four quadrants, creating a virtual live-switching environment with the added ability to stop, trim, or adjust edits at any time

Using the MultiCamera Linecut Option

The Linecut option in the Composer Settings dialog box allows you to edit and playback a linecut (single stream playback of the edited sequence) while in MultiCamera Mode. Primarily for systems that

include the Avid MultiCamera Play option, this preference allows you to switch between singular and quad-split playback without exiting MultiCamera mode. The Linecut option is not selected by default.

To select the Linecut option:

1. Double-click Composer in the Settings scroll list of the Project window. The Composer Settings dialog box opens.
2. Click the Play MultiCamera Linecut check box to select it.

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, since it allows you to concentrate on the beats and ignore camera angles until the edits are placed.

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 hot keys. For more information on mapping keys, see the *Film Composer Getting Started Guide*.

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 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 Quad Split Menu

The Quad Split 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.

Click the Quad Split icon to display the pop-up menu



The Second Row of Info option must be selected in Composer Settings to display the Quad Split icon above the Source monitor.

In addition, you can choose the Audio-Follow-Video option from the Quad Split menu to instruct the system to switch both audio and video for each camera angle together when you cut on the fly or single-camera style.

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 equals sign).

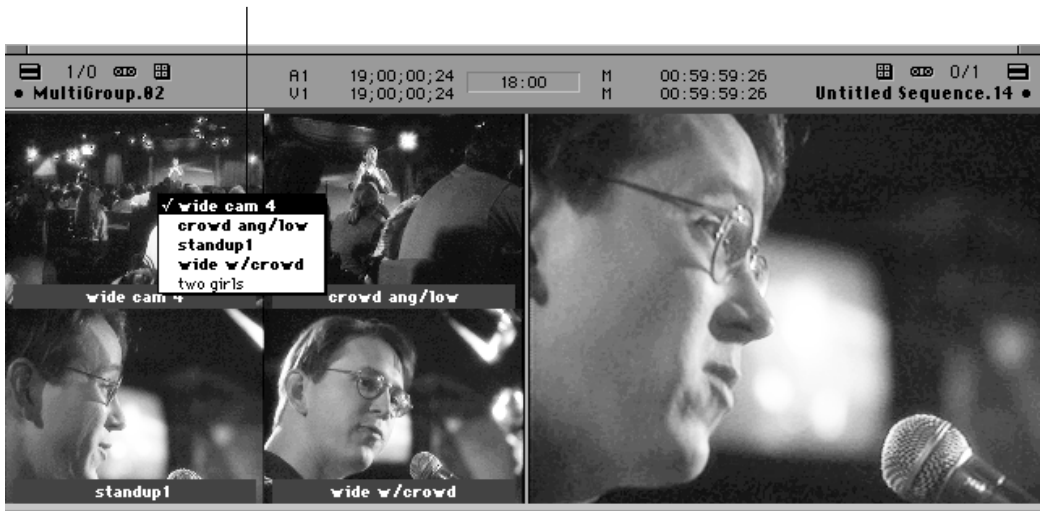
Using the Quad Menus

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 Control key to activate the display of shot names in the Source monitor quad split.
2. Click the name of the quadrant where you want to display the new shot. The Quad menu of shots in the group appears.

Select additional angles from the Quad menu



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 matchframing from the source group. For more information on using the Match Frame feature, see [“Using Match Frame” on page 378](#).

Workflow Options

Film Composer’s 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 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.

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 the desired camera angle for the first shot, then splice the entire scene into a sequence.
5. Use the arrow keys and/or the Add Edit button to select edit points and switch to different angles throughout the master scene in the sequence.
6. If you need to replace a portion of the take with a better part from another take, use the timecode notes again to cue up the desired 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.

Cutting on the Fly

When cutting on the fly, you use MultiCamera mode in conjunction with the hot keys (function keys F9 through F15) to switch between Quad Split camera angles ganged to the record sequence. The capability of full-motion quad-split playback with the Avid Broadcast Video

Board allows you to virtually re-create the live event atmosphere, as though you were switching the shots live on location.

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 the desired camera angle for the first shot, then splice the entire scene into a sequence.
5. Choose Setup MultiCamera from the Special menu to enter Multi-Camera 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 hot keys to switch to different angles on the fly.
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.

After cutting in various angles, you can adjust transitions and/or 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. The following are two examples:

- 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.



CHAPTER 14

Output Options for Film

At various stages of postproduction you need to generate lists that can be used to prepare conformed cut previews, optical effects, audio tracks, and eventually the final cut. Film Composer and Media Composer with film options provide tools for creating frame-accurate lists that can be used to conform workprint, film negative, audio tracks, or videotape transfers, as described in the following sections:

- [Film List Concepts](#)
- [Creating a List](#)
- [Working with Multiple Cuts and Reels](#)
- [Using the Matchback Option](#)



For information on video output options such as generating a digital cut or audio and video EDLs, see [Chapter 15](#).

Film List Concepts

The Cut List and Change List tools allow you to generate detailed information for conforming the workprint, the negative, or the audio tracks of a film project in various contexts:

- For screening of dailies or selects, you can generate lists that the lab or an assistant editor can use to prepare work print.

- For screenings of a current cut, you can generate ink number lists the assistant editor can use for conforming work print and magnetic track.
- For developing the final sound tracks, you can generate lists that the sound department can use for editing and mixing the original audio source reels.
- For preparing optical effects, you can generate lists that the optical house can use for compositing multilayer film effects.
- For screenings of more advanced cuts and reels, you can generate lists containing information about multiple sequences that the assistant editor can use to combine reels or bring conformed work prints up to date.
- For the final cut, you can generate key number lists that the negative cutter can use for conforming the negative.
- At all stages, you can also record a digital cut of the sequence or a digital cut of the audio tracks for use in screening or as an aid in conforming the cuts, as described in [Chapter 15](#).

The following section describes the specific types of lists you can generate in Film Composer.

Cut Lists Versus Change Lists

Cut lists and change lists provide breakdowns of exactly which frames should be cut from the workprint or original negative. Unlike video EDLs, which must conform to the specifications and limitations of various edit controllers, film lists are read by assistant editors or negative cutters who can include levels of complexity not possible with EDLs.

Cut lists and change lists serve two basic purposes:

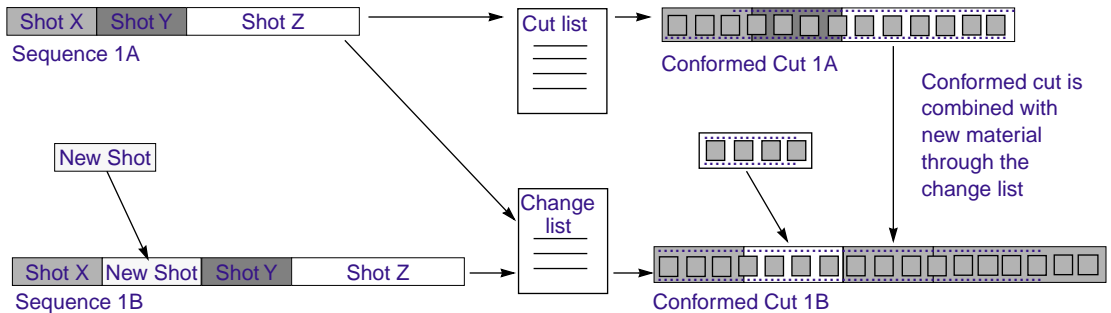
- You generate a cut list the first time you conform a work print, negative, sound track, or optical effect to match the sequence.

- You generate a change list to simplify the process of updating conformed cuts to match future changes in the sequence.

In Film Composer, each cut list uses the existing frame reference numbers contained in the bins to represent edit details in a sequence. Change lists use the same reference numbers to compare two or more versions of a sequence or set of sequences in order to make only the changes necessary to bring previously conformed cuts up to date.

When comparing a new sequence with a previous version of the same sequence, the change list indicates the following categories of sequence changes:

- Insertions of new material
- Deletions of old material which is no longer needed
- Trims to be made to the head and/or tails of the edits
- Moves that consist of a matched pair of deletions and insertions
- Optional information that details which portions of the sequence should not be altered



Frame Reference Numbers

You can generate all of the standard frame-reference information required for an assistant editor or negative cutter to conform a cut, provided you entered that information in the bin.



If you did not log a category of data during logging and digitizing, you can add optional information to the bin at any time before generating a list. For example, if you add ink numbers in the Ink Number column after editing, the system will include these in the lists.

In addition, Film Composer allows you to display unique categories not normally included in a conventional cutlist, such as:

- **Head Frames.** You can include a Frame column to display a selected image from each clip.
- **Locator comments.** You can include any comments you associated with a particular clip using locators.
- **Add comments.** you can include any added comments you associated with a clip in the sequence during editing.

Comments can be very useful. For example, you can use locators to tell the composer where the music begins, or you can provide specific color correction instructions for a frame or clip, and print these notes separately.

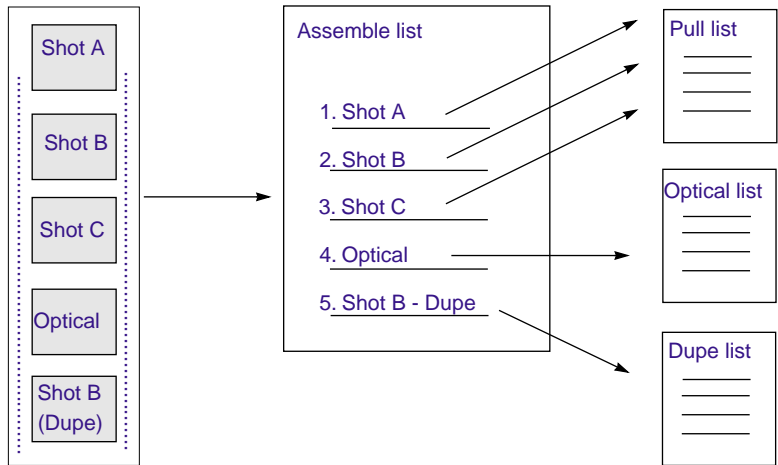
About Sublists

Both cut lists and change lists make use of sublists that communicate specific tasks to the assistant editor, negative cutter, the sound department, or the optical house. For example, these lists can instruct the facility to:

- Pull or assemble cuts, scenes, or takes in a particular order
- Remove takes that are no longer needed
- Layer and composite optical effects
- Check for duplicate frames and jump cuts
- Print or flag the required duplicate negative

The heart of a cut list or change list is the *assemble list*, which provides a sequential breakdown of the cut into all its required parts. These

might include scenes and takes, optical effects, and duplicate frames, all of which you can compile in additional, supporting sublists. You can also choose to generate pull lists, which literally “pull” out selected elements from the list and display them in various sort orders.






Each type of sublist is described in the following sections.

Assemble Lists

The assemble list shows the order in which a sequence’s clips, optical effects, or standard dissolves and fades are assembled from start to finish. The assemble list also shows where you have dupes (duplicate frames), even if you do not choose to generate a dupe list. In addition, you can choose to display optional settings and information categories such as comments or locators you add to the sequence, or matchback information.

version 1				4 events	handles = 0	
Picture 1				0 dupes	total footage: 99+08	
Assemble List				1 optical	total time: 00:01:06:09	

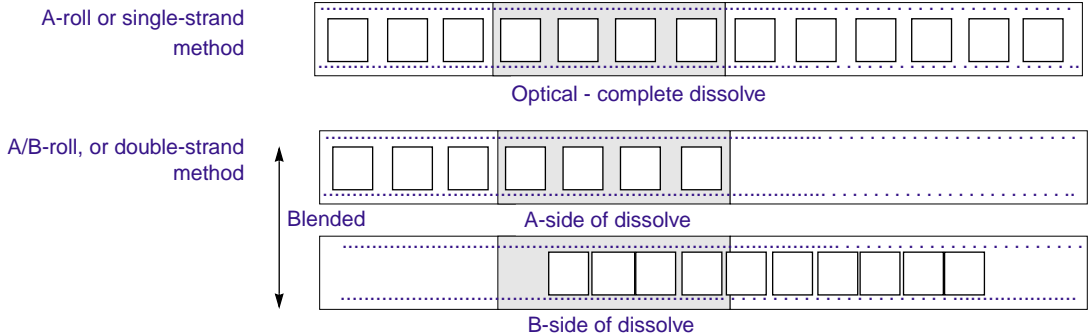
	<i>Footage</i>	<i>Duration</i>	<i>Head</i>	<i>First/Last Key</i>	<i>Lab Roll</i>	<i>Cam Roll</i>
1.	0+00 22+02	22+03		KJ 32 1324-4590+03 4612+05	FL01	A21
2.	22+03 61+04	39+02		Opt 1-0000+00 0039+01	OPTICAL #1	
3.	61+05 79+00	17+12		KJ 32 1324-4715+01 4732+12	FL01	A21
4.	79+01 99+07	20+07		KJ 32 1324-4746+15 4767+05	FL01	A21
(end of Assemble List)						

A-Roll Versus A/B-Roll Conforming

Film Composer assemble lists refer to one of two conforming methods: *A-roll* or *A/B-roll*. Before generating a cut list or change list containing an assemble list, you select one of these methods based on the following criteria:

- **A-roll or single-strand.** Used primarily for 35 mm film editing, this method requires the compositing of all multilayer effects into a single layer (including laboratory-standard dissolves and fades) before assembly. A-Roll assemble lists contain information about all single layer, straight cut events, with all other information about the sequence described in the optical list.
- **A/B-roll or double-strand.** Used primarily for 16 mm film editing, the limits the amount of optical work by managing most standard dissolves and fades using two strands of film. A/B roll assemble lists contain information about single-layer, straight-cut

events as well as laboratory-standard dissolves and fades, with all other information in the optical list.



A laboratory-standard dissolve or fade is a multiple of 12 or 16 frames and is between 12 and 96 frames long. All other transition effects, titles, graphics, dissolves and fades of nonstandard length appear in the optical List.



Sound Lists are always A/B Roll and describe dissolves of any length.

Scene Assemble List

A variation on the standard assemble list is the *scene assemble list*, which presents the edit events sorted in the following order:

- Order of assembly
- Scene and take
- Reel number

version 1				3 scenes	handles = 0
Picture 1				0 dupes	
Scene Assemble List					

	<i>Duration</i>	<i>First/Last Key</i>	<i>Lab Roll</i>	<i>Cam Roll</i>	<i>Sc/Tk</i>
1.	212+09	KJ 32 1324-4576+00 4788+08	FL01	A21	1/2
2.	212+09	KJ 32 1324-4576+00 4788+08	FL01	A21	1/3
3.	212+09	KJ 32 1324-4576+00 4788+08	FL01	A21	1/5
(end of Scene Assemble List)					



The Scene column must be filled in within the bin in order to generate a scene pull list and/or scene assemble list.



If you do not have scene information, you can enter the information quickly by copying the Name column, and pasting that information into the scene column.

Optical List

Optical lists specify the source material required to create special effects and any edit event other than a straight cut, such as a dissolve or fade. The optical list presents each optical event in the order in which it appears in the Film Composer sequence, and includes precise specifications about the timing of transitions and the relationship between all layers of source material required to recreate the effect.

OPTICAL #4		Assemble Event #5		total length: 32+09	
<i>Footage</i>	<i>Description</i>	<i>Length</i>	<i>← A side →</i> <i>First/Last Key</i>	<i>← B side →</i> <i>First/Last Key</i>	
Layer 1 of 2					
1.	0+00 32+06	Normal	32+07	KJ 32 1324-4734+15 4767+05	
2.	32+07 32+08	Leader	0+02	LEADER	
Layer 2 of 2					
1.	0+00 21+12	Leader	21+13	LEADER	
2.	21+13 32+08	Superimpose	10+12	KJ 32 1324-4704+14 4715+09	
(end of Optical List)					

Common footage for lay-up

NOTE: The optical layer "Normal" represents the foundation video layer (V1) in the sequence. This is the video track to which additional video tracks or layers were added and/or nested when the special effect was created.

Types of Effects Supported by Optical List

Film Composer's optical lists support the following effects and combinations of effects only:

- All transition effects; such as wipes, dissolves, and fades.
- Several blend effects, such as superimpositions, title effects, matte key effects, luma and chroma keys, and picture-in-picture effects.
- Single-layer segment effect blow-ups
- Several Single-layer effects, such as flips, flops, flip/flops, and motion effects

- Combinations of single-layer effects, such as a flipped motion effect
- Combinations of single-layer effects with Blend effects, such as a key effect applied to a motion effect
- Transition and Blend effects that appear on two separate video tracks
- Overlapping Transition effects on two separate video tracks

Film Composer cut lists do not include standard film masks that you apply to a clip or sequence to view a different aspect ratio. Masks are usually applied only after the conforming of a workprint or negative.

Dupe List

Dupe lists refer to all the source material that the lab must duplicate before you conform the film negative. Additionally, dupe lists display every instance of unintended duplicate frames you may have edited into the digital sequence.



To avoid including unnecessary dupes in your lists, use the Dupe Detection function during editing, as described in [“Detecting Duplicate Frames” on page 289](#).

The listed duplicate frames are organized within sets of dupe groups. Each dupe group set provides the IN and OUT points of two or more entries that are duplicates of each other in related sections of the sequence.



If you use Dupe Detection in the Timeline while editing film material, you might see unwanted duplicate frames that will not actually appear in cut lists. You can either trim out the frames, or generate a dupe list to see if they appear.

A Sample dupe list containing two Dupe Groups

Version 1		2 groups		handles = 0						
Picture 1										
Dupe List										
<i>Group</i>	<i>Num</i>	<i>Reel</i>	<i>Footage</i>	<i>Duration</i>	<i>First/Last Key</i>	<i>Lab Roll</i>	<i>Cam Roll</i>	<i>Sc/Tk</i>		
1.				87+12 (total)		FL01	A21	1/2		
	1.		0+00 30+02	30+03	KJ 32 1324-4607+00 4637+02					
	2.		30+03 57+11	27+09	KJ 32 1324-4629+02 4656+10					
	3.		57+12 79+00	21+05	KJ 32 1324-4652+03 4673+07					
	4.		79+01 104+12	25+12	KJ 32 1324-4669+00 4694+11					
=====										
2.				29+05 (total)		FL01	A21	1/3		
	1.		104+13 120+12	16+00	KJ 32 1324-4754+00 4769+15					
	2.		120+13 137+10	16+14	KJ 32 1324-4766+07 4783+04					
(end of Dupe List)										

Dupes are also indicated in the assemble and pull lists by default, regardless of whether you choose to generate a separate dupe list.

Pull Lists

Pull lists display selected elements of the sequence in various sort orders. The pull lists show dupes, but do not display comments, locators, or matchback information when these categories are selected from the Options window.

version 1		4 entries,		handles = 0		
Picture 1		0 dupes				
Pull List		1 optical				
	<i>Footage</i>	<i>Duration</i>	<i>First/Last Key</i>	<i>Lab Roll</i>	<i>Cam Roll</i>	<i>Asm #</i>
1.	0+00 22+02	22+03	KJ 32 1324-4590+03 4612+05	FL01	A21	1
2.	61+05 79+00	17+12	KJ 32 1324-4715+01 4732+12	FL01	A21	3
3.	79+01 99+07	20+07	KJ 32 1324-4746+15 4767+05	FL01	A21	4
4.	22+03 61+04	39+02	Opt 1-0000+00 0039+01	Opticals	Opticals 2	

(end of Pull List)

Change Pull List and Discard list

When generating a change list, the Options window of the Change List tool provides two additional options: The *change pull list* and the *discard list*.

- The change pull list is similar to the pull list, except that it only lists those new clips or effects that you need to insert into the updated cut.
- The discard list displays each clip that has been removed from the updated sequence and should be cut out of the newly conformed cut.

Scene Pull List

Scene pull lists show the cuts arranged in the following sort order

- Scene and Take

- Reel Numbers

The scene pull list contains one entry for each scene and take that was referenced in the assemble list; as entered in the Sc/Tk column heading of the bins. Each entry displays the entire length of the take as defined by the clip from which it came.

A Sample scene pull list

version 1		3 scenes		handles = 0	
Picture 1		0 dupes			
Scene Pull List					

	<i>Duration</i>	<i>First/Last Key</i>	<i>Lab Roll</i>	<i>Cam Roll</i>	<i>Sc/Tk</i>
1.	212+09	KJ 32 1324-4576+00 4788+08	FL01	A21	1/5
2.	212+09	KJ 32 1324-4576+00 4788+08	FL01	A21	1/3
3.	212+09	KJ 32 1324-4576+00 4788+08	FL01	A21	1/2
(end of Scene Pull List)					

Optical Scene Pull List

Optical scene pull lists show all the source material required to re-create the special effects in the sequence. The optical scene pull list actually contains the same columnar information as a scene pull list except that:

- Each optical is listed per scene.
- Takes required to re-create the optical are listed by scene number.

version 1				2 scenes		handles = 0
Picture				0 dupes		
Optical Scene Pull List						

	<i>Duration</i>	<i>First/Last Key</i>	<i>Address TC</i>	<i>Lab Roll</i>	<i>Cam Roll</i>	<i>Sc/Tk</i>
1.	212+09	KJ 32 1324-4576+00 4788+08	00:59:59:26 01:02:21:16	FL01	A21	1/3
2.	212+09	KJ 32 1324-4576+00 4788+08	00:59:59:26 01:02:21:16	FL01	A21	1/5
(end of Optical Scene Pull List)						

Understanding Icons in Cut Lists and Change Lists





Icons appear in Film Composer cut lists and change lists based on the following:

- Icons are displayed in cut lists and/or change lists only when you select the Icon option in the Cut List or Change List tools.
- Icons refer only to standard-length effects. For example, in 24 fps projects, the duration of effects must be divisible by 12 frames (a seven-frame effect, by contrast, will show up as an optical).

In A/B-roll cut lists generated in Film Composer, industry-standard icons are displayed in the last column. In change lists, icons are displayed aside the Footage Column:







Cut List

Cut List icons

	5+15					
Fade In		4+16				
2.	0+00 39+08	31+13		AA-5016+09 5056+01	C14C/1	
3.	39+09 47+15	6+15		AA-6059+00 6067+06	C14D/1	
	41+01	LOCATOR		AA-6060+08		
	Comment added to a Locator frame in the Sequence as a reminder to tint this frame					
4.	48+00 54+10	5+07		Opt 1-0000+00 0006+10	OPTICAL #1	















Change List

Change List icons

Sequence #4			15 events	Old Duration	2695	
Picture 1			5 insertions	New Duration	2695	
Change List - Reel			6 deletions	Total Change	+0	
			0 moves			
<i>All Counts Are Inclusive (inside/inside)</i>						
	<i>At This Footage</i>	<i>Do This</i>	<i>For This Length</i>	<i>Tail</i>	<i>Head</i>	
<i>v'</i>					<i>First/Last Ke</i>	
-	1. 0		Delete Shot	- 633		83 01 4401-81
	632					83 01 4401-81
-	2. 0		Insert Shot	+ 633		Opt 1-00
	632					Opt 1-00

The icons described in [Table 14-1](#) are used in cut lists and change lists to graphically represent edit events.

Table 14-1 Change List and Cut List Icons

Cutlist and Change List Icons	Change List Only Icons
 Short Cut	 Delete
 Jump Cut	 Insert
 Fade Out	 Insert Head
 Fade In	 Insert Tail
 Dupe	 Delete Tail
 Dissolve	 Delete Head
 Optical	 Delete Middle

Bad Clip icon



The Bad Clip icon indicates clips that have discontinuity of edge code. These discontinuities occur normally between scenes or takes in each KEM roll. When you create scene or take subclips from a digitized KEM roll master clip, however, each subclip normally includes its own continuous edge code. If a subclip or edited portion of a KEM roll master clip accidentally includes a break in edge code between takes, then the Bad Clip icon appears in the lists.

Creating a List

The first time you use the Cut List or Change List tool, you will typically follow these basic steps, described in the following sections:

1. Prepare the sequences, if necessary.
2. Open the Cut List or Change List tool.
3. Load the sequences into the tool.
4. Choose a desired cut list setting, if one exists.
5. Select audio and/or video tracks to include in the list.
6. Adjust options for the lists to suit your needs.
7. (Optional) Generate and view the cut lists.
8. (Optional) Continue to adjust the options if necessary.
9. Print or save the lists.

Once you become familiar with the tools and save a variety of custom settings, you will typically load a sequence, choose a setting, and click the Print button.

Preparing Sequences

Depending on the type of list you are creating, and the stage of your project, you may need to prepare the sequences before opening the Cut List or Change List tool. A normal workflow for each stage of list generation might be as follows.

Generating the First Cut List

To generate the first cut list for conforming a workprint:

1. To prevent accidental editing, lock all the tracks in the sequence by selecting the tracks and choosing Lock Tracks from the Clip menu.

2. Remove any unwanted Add Edits (match frame edits), by choosing Remove Match Frames from the Clip menu.
3. Copy the sequence by choosing Duplicate from the Edit menu, and place the original sequence into an archive bin.
4. Keep the copy of your sequence in a current cuts or work-in-progress bin, and generate lists from the archived original.

For the work in progress, you can keep the suffix “.Copy01,” created when you duplicated the sequence, as a way of indicating that it has been properly archived. You can also remove the word *copy*, but be sure to maintain the numbering of each successive cut so that you don’t lose track.

Generating a Change List

As you continue working on the sequences, use the Change List tool to update the workprint as necessary.

To generate a change list for a conformed workprint:

1. Lock all the tracks in the new (revised) sequence, remove any unwanted add edits, copy the sequence, and place the original into the archive bin, as described in the previous section.
2. Use successive versions of the sequence stored in the archive to generate the change lists. Try to maintain one sequence version for each time you conform the workprint.

Comparing and Combining Cuts and Reels

Often in the later stages of editing, you might need to compare several cuts, or combine two or more reels that have already been conformed. Tips and techniques for preparing and managing multiple sequences are described in [“Working with Multiple Cuts and Reels” on page 440.](#)

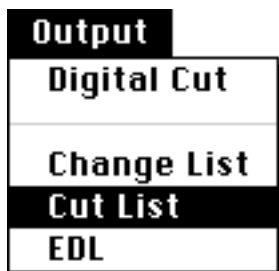
Generating a Final Cut List

When you are ready for the final cut, you can prepare the sequences and generate lists and other reference elements for the negative cutter as follows:

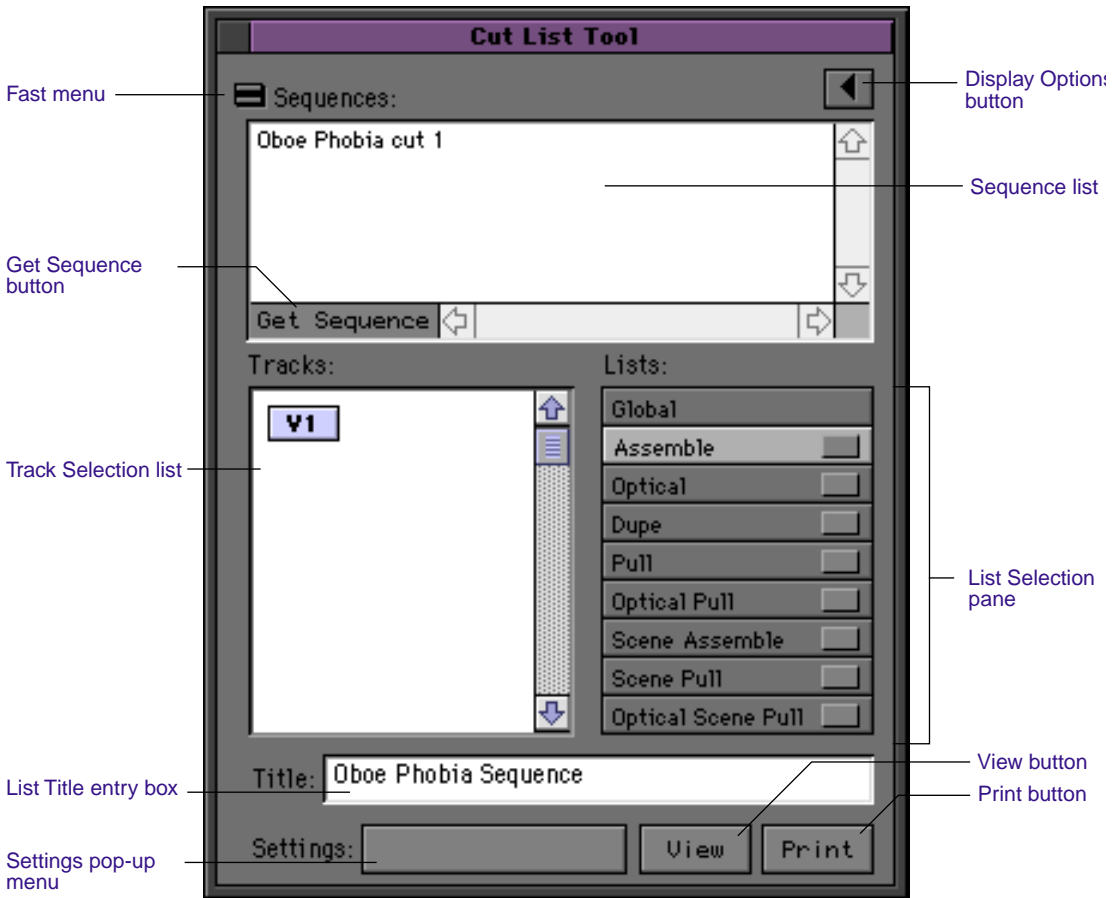
1. Lock all the tracks in the final sequences, and remove any match frames (Add Edits).
2. Back up your project and bins.
3. Record a digital cut to tape, preferably with burn-in, as described in [Chapter 15](#).
4. Prepare assemble lists for each reel by key number.

Opening the Tool

To open the Cut List or Change List tool, choose one from the Output menu.



The tool appears.



The Cut List and Change List tools have the following features:

- The Fast menu provides commands for getting sequences, viewing, printing, and saving lists.
- The Display Options button opens a window of options that are available for each type of list.
- The Sequence list displays currently loaded sequences.

- The Get Sequence button loads the sequence currently displayed in the Record monitor.
- The List Selection panes allow you to choose which sublist to enable for selecting options, and to select the sublists to include in the final list.
- The Track Selection list allows you to select the tracks to include in the list.
- The Print button opens the Print dialog for printing the list.
- The View button opens the View window for previewing the list.
- The List Title text box allows you to enter a custom name for the list.
- The Settings pop-up menu allows you to save the current settings for future use.

In almost all respects the tools behave the same, with the following exceptions:

- The Cut List tool has one sequence list pane, while the Change List tool has a pair of sequence list panes: one for the old versions of the sequences, and one for the new versions.
- Because there are old and new sequence lists, the Change List tool allows you select assemble or dupe lists separately for each sequence to include in the comparison when generating the list.
- The Change List Fast menu includes an extra command for getting both the old and new sequences to load into the tool.

Getting Sequences

Use one of the following methods to get one or more sequences for the list:

- Load a sequence into the Record monitor, and click the Get Sequence button located below any of the Sequence list boxes to load a sequence that is currently in the Record Monitor.

- Load a sequence into the Record monitor, and choose Get Sequence from the Fast menu.

Get Sequence	⌘G
Clear Cut List Tool	
<hr/>	
View Cut Lists	⌘L
Print Cut Lists...	⌘P
Save Cut Lists...	⌘S

If you are getting sequences for the Change List tool, the Fast menu provides separate Get Sequence commands for the old sequence list and the new sequence list.

If a sequence has already been loaded into the Change List or Cut List tool, the menu command changes to Add Sequence.

Add Sequence to 'Old' List	⌘G
Add Sequence to 'New' List	⌘H
Clear Change List Tool	
<hr/>	
View Change Lists	⌘L
Print Change Lists...	⌘P
Save Change Lists...	⌘S

Drag one or more sequences from a bin and drop them into a Sequence list box.



The names of the loaded sequences appear in the Sequence list.

To add sequences to the current list, hold down the Option key during sequence loading. (If you do not hold down the Option key, Film Composer replaces the contents of the Sequence list with the new selection.)



Sequences that are dark blue when you drag them onto the Cut List or Change List tool will replace the sequences currently loaded. Sequences that are light blue will be appended to the list.

When you load the first sequence, the Film Composer checks to determine whether the sequence was previously used to generate cut lists. If so, the Settings that were last used are automatically displayed.

Clearing the Display

If you close the Cut List Tool window and then reopen it, the window retains all of its contents. Closing the Cut List tool does not clear it.

To clear the contents of the display, choose Clear Change List or Cut List Tool from the Fast menu.

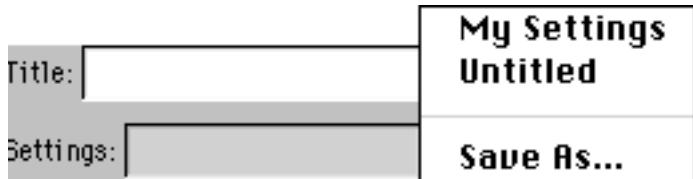
Recalling a Previous Setting

The Settings pop-up menu shows the name of any available list settings previously associated with the current project. If you are generating a list for the first time in the project, or do not want to use a previous setting, you can skip this section.



Each setting stores all the current Cut List Tool options. They do not store the track selection or title.

To load another setting, click the Settings pop-up menu and choose a setting.

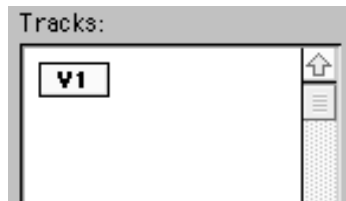


Selecting Tracks

If you select the Separate Lists for Each Channel option, you can select any combination of picture tracks. For more information, see [“Selecting Options” on page 432](#).

The Channel Selection box displays the tracks that exist in the sequence. The Cut List tool generates lists only for the tracks you select.

Click the track button to select or deselect it.



If the sequence is a 30 fps sequence (that is, a matchback project), audio tracks are not shown because matchback applies to picture-only sequences. Generate a separate EDL for sound, as described in [Chapter 15](#).



The Separate Lists for Each Channel option has no effect on audio tracks; you can always select any combination of sound channels.

Renaming the List

When you begin to create your list, Film Composer enters the name of the first sequence loaded into the List Title text entry field.

Title: Oboe Phobia Sequence

This is an editable text field. Whatever title you enter here will appear as the name of the list when you print or save it.

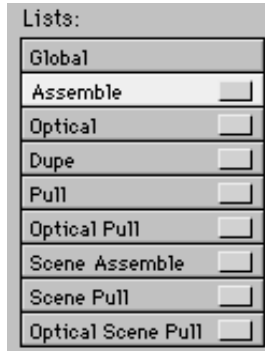
Selecting Options

The Options panes contain collections of specific options that apply to different types of lists. There are five basic option displays:

- **Global** options affect the overall appearance and content of the list.
- **Assemble list** options include standard film and timecode tracking numbers, transition indications, and custom column information.
- **Dupe list** options include film and timecode tracking numbers, custom column information, tolerance, and handle length information.
- **Optical list** options include film and timecode tracking numbers, custom column information, key frame, optical footage, and page break information.
- **Pull list** options include film and timecode tracking numbers, custom column information, pop-up menus for three levels of sorting, specifications for spooling method and inclusion of opticals and film leader. The same options are available for scene pull lists, scene assemble lists, optical pull lists, and optical scene pull lists.

To select options:

1. Open one of the option displays by doing one of the following:
 - Click the name in the List Selection pane for the chosen list type, then click the Display Options button located in the upper right of the tool.

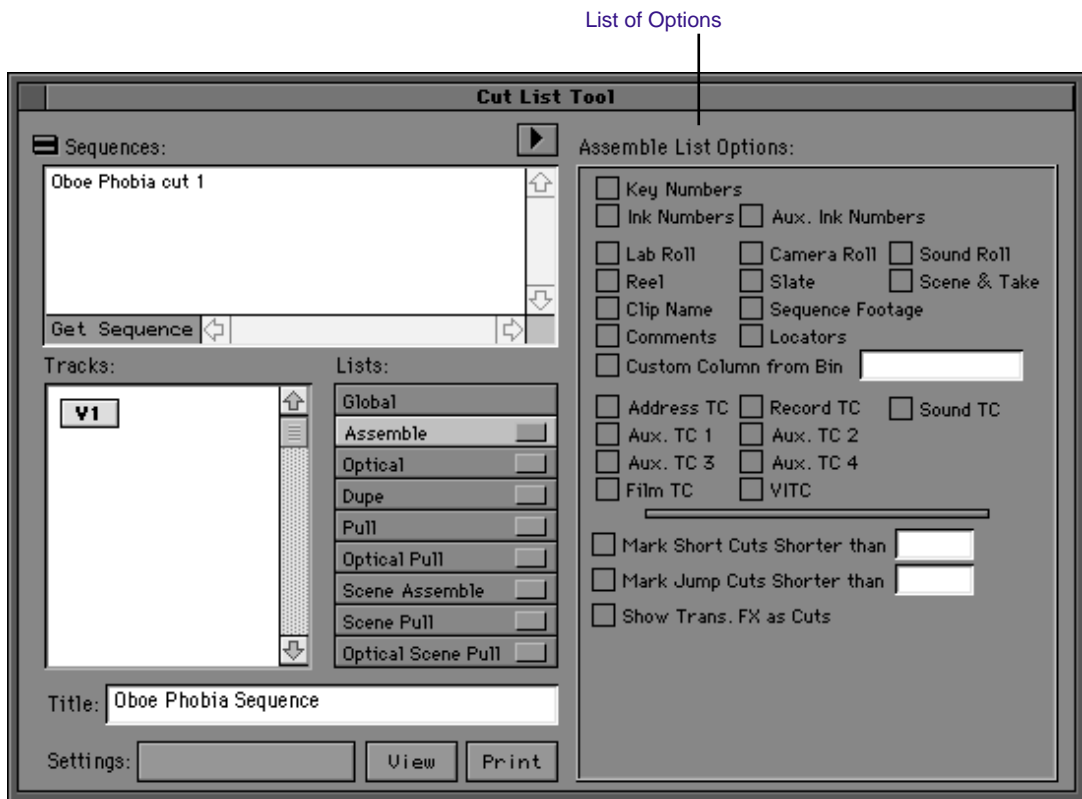


Select the list type, then click the Display Options button.



- Double-click the name in the List Selection pane.

The Options pane opens, displaying a customized set of options for that list type.



2. Click check boxes to select the desired options.



For a complete description of all options in the five categories, see the Avid Media Composer Products Reference.

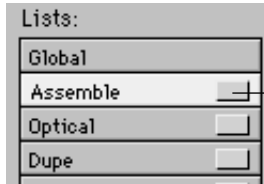
3. Click the Display Options button, or double-click the list name in the List Selection pane to close the Options pane when you are finished selecting options.

Same As Assemble List

(Button reads Same as Change List in the Change List tool)

4. (Option) After selecting assemble list options, you can instantly apply the same options to other sublists by opening the options for the sublist type, and clicking the Same As Assemble List button in the Options pane.

- When you are ready to generate the lists, click the selection buttons in the List Selection pane to enable only those list types that you want to include.



The Selection button turns purple when the list type is selected for including in the list.

Viewing the List



To generate the lists and open the View window, click the View button in the lower right of the Cut List or Change List tool.

A window opens displaying a lists.

Cut Lists						
List Summary						
1. Assemble List for Picture 1						
2. Scene Assemble List for Picture 1						
Version 2		12 events		handles = 0		
Picture 1		4 dupes		total footage: 3326		
Assemble List		2 opticals		total time: 00:02:18:16		
<i>Footage</i>	<i>Duration</i>	<i>First/Last Key</i>	<i>First/Last Ink</i>	<i>Lab Roll</i>	<i>Cam Roll</i>	
1. 57432 57810	379	KJ 32 1324-4588+11 4612+05	35-1012+11 1036+05	FL01	A21	
2. 57811 58250	440	KJ 32 1324-4633+09 4661+00	36-2057+09 2085+00	FL01	A21	
3. 58251 58436	186	KJ 32 1324-4692+00 4703+09	37-3116+00 3127+09	FL01	A21	
4. 58437 58744	308	Opt 1-0000+00 0019+03	Opt 1-0000+00 0019+03	OPTICAL #1		
5. 58745 58878	134	KJ 32 1324-4734+15 4743+04	35-1158+15 1167+04	FL01	A21	

The View window has the following characteristics:

- The View Fast menu is located in the bottom left corner of the window, and contains options for printing or saving the list, activating the Cut List tool, opening a new View window, or activating dynamic scrolling which updates the list in the window continuously as you drag the scroll bar.

Print Cut Lists...	⌘P
Save Cut Lists...	⌘S
Cut List Tool	⌘T
New View Window	
<input checked="" type="checkbox"/> Dynamic Scrolling	⌘D

- You can resize the window by dragging its lower right corner.
- If you close and reopen this window, it retains its contents. When you clear the Cut List tool, the View window is also cleared.
- The list in the window displays black characters on a white background. If you make a change in the source sequences for the list, the text in the View window changes to gray as a signal that the displayed lists do not match the source sequences.

Changing the Options

You can change the cut list or change list options any time before or after generating a list.

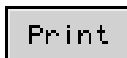
To adjust the options and update the list:

1. Click the Options button.
2. Alter your selections.
3. Click the View button. The cut list or change list is updated.

Printing or Saving the Lists

When the list is ready, you can print it immediately, or save it as a text file in various formats which you can bring to another location, import and use in another system, or open and print at a later time. When you save or print, the system uses the list you generated in the List View window, or if you bypassed the List View step, generates a new list based on the options you selected.

Printing the Lists



To generate the lists, if you have not already done so, and display the standard dialog box for printing, click the Print button in the lower right of the Cut List tool.

This button prints all currently displayed (selected) cut lists, complete with all options you selected for information categories and display characteristics such as font or icon and frame image columns.



If your lists contain any frame images, select Color/Grayscale in the Print dialog box for best printing results.

Saving the Lists

Film Composer supports the following formats for saving your list as a text file:

- Avid Columnar
- Avid Log Exchange
- Optical Block

You select one of these formats in the Global Options pane. For more information, see the *Avid Media Composer Products Reference*.

To save the lists in the chosen file format:

1. Choose Save Cut List or Save Change List from the Cut List (or View window) Fast menu. (You can also choose these commands from the File menu).
The Save As dialog box appears.
2. Name the file in the File Name entry field.
3. Choose a destination for the file from the File Directory pop-up menu.
4. Click OK.

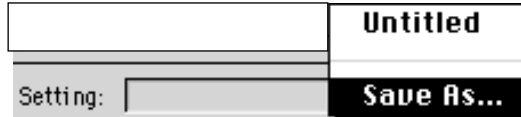
Saving the Settings

You can save the current settings for the Cut List or Change List tool for future use with similar material. Each setting contains the option

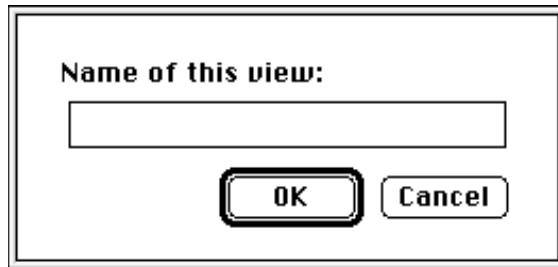
selections and entered values, their order on the screen, which option groups are “open,” and which options are hidden.

To save your current cut list or change list settings:

1. Click the Settings pop-up menu and choose Save As.



The save setting dialog box appears.

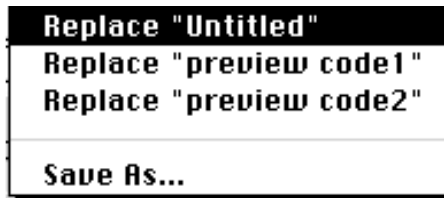


2. Enter the name of the view, then click OK:

Replacing Saved Option Settings

If your Settings menu list becomes extensive and there are a number of saved settings you no longer use and would like to replace, use the following procedure:

1. Hold down the Option key while you click the Settings button to view the list of saved-setting names (each appended with the Replace command).



2. Choose one. The current configuration of option settings replaces the chosen setting.

Working with Multiple Cuts and Reels

In the advanced stages of a project, you may need to make cut lists or change lists for conforming workprint or making comparisons between multiple cuts or reels. Film Composer provides specific features which allow you to:

- Create a single cut list for several sequences in order to compile them for a single conformed cut.
- Create change lists for multiple screening reels in order to update the conformed reels, make comparisons between sequences, or adjust breaks between reels in preparation for a final cut.

These techniques are described in the following sections.

Creating a Cut List for Two or More Sequences

When you load sequences into the Cut List tool, the system sorts the sequences according to name. With two or more sequences loaded, the system generates one cut list with appended sections for all sequences in their listed order.

To create a single cut list for several sequences:

1. Make sure the sequences are named so that they sort in the proper order in the Cut List tool.

2. Shift-select the chosen sequences in the bin, and drag them into the Sequences list field.
3. Choose the desired options, and generate the list.

The cut list provides lists for the sequences in order.

Creating Change Lists Across Multiple Reels

When you load comparable sequences, the system generates consecutive, appended lists for each set of cuts. You can make comparisons based on either reel numbers, or based on preview code that you assign to each sequence.

Depending on the options you select, the new list notes any of the standard change categories across the reels:

- Insertions of new material
- Deletions of material which is no longer needed
- Trims to be made to the head and/or tails of the edits
- Moves which consist of a matched pair of deletions and insertions
- Optional information that details which portions of the sequence should not be altered

In addition, you can generate separate lists for each set of reels, and simultaneously generate a single dupe list that describes duplicated shots across all the reels. These topics are described in this section.

Using Reel Numbers

When using reel numbers to generate change lists for multiple reels, observe the following conditions:

- For each sequence, the old version and the new version must have exactly the same reel number in order for the system to make the appropriate comparisons.
- The reel numbers must be entered into the Reel # column in the bin for each sequence.
- The reel numbers must be sequential so that the system can generate lists that match the appropriate order of the reels.
- You must have an equal number of old and new sequences. If necessary, create a dummy sequence to balance the reels.

To generate a change list using reel numbers:

1. Prepare the sequences with the appropriate reel numbering if necessary.
2. Shift-select all of the old sequences in the project bin (each sequence must represent a different reel).
3. Drag the selected sequences into the Old Sequences field to load them.
4. Repeat steps 2 and 3 for the new sequences, dragging them into the New Sequences field. Each new sequence must represent a different reel that shares the same reel ID as the corresponding old sequence.

Add sequences to the lists as necessary by holding down the Option key while dragging the selections into the appropriate sequence field.

5. Select the desired options and generate the list.

Using Preview Code

Preview code is an optional numbering system that you can use to ink each conformed workprint with continuous numbers that you match for the corresponding sequence in Film Composer.

Preview code applies to one generation of changes on the workprint only. You must re-ink each successive workprint and enter those Pre-

view Code numbers as KN Start numbers for each new revision of a sequence.



You can request that the lab differentiate successive generations of preview code by applying different colors.

Preview code both supplants comparisons based on reel numbers, and provides the advantage of continuous numbering within each generation of a sequence or cut.



Because new material edited into the sequence has not yet been inked with preview code, you must choose the options for displaying key numbers and/or ink numbers for referencing the original source footage for these clips in the list.

To track changes with preview code:

1. After re-inking the first workprint with preview code, enter the matching start preview code number into the KN START column of the bin for the corresponding sequence.

Enter the new Preview Code numbers in the KN Start column

Star Trek Bin					
Name	KN Start	Reel #	KN Duration	Ink Number	Durat
Version 2	KJ 32 0001-3589+08	R3	207+14		2:1
Version 4	KJ 32 0344-6772+04	R1	217+02		2:2
<input checked="" type="checkbox"/> Real-Time Title: TITLE 1			180+00		1:3
<input checked="" type="checkbox"/> Real-Time Title: CARD #2			180+00		1:3
<input checked="" type="checkbox"/> Real-Time Title: CARD #1			180+00		1:3
Version 1	KJ 32 0001-3589+08	R3	138+03		1:3
Version 3	KJ 32 1324-3982+02	R1	160+14		1:4
Spock	KJ 32 2448-4226+04	R2	205+03		2:1
Trial	KJ 32 1324-4576+00		212+08	35-1000+00	2:3



Change the starting key number for the sequence only. Do not override KN Start information for the original master clips used in the sequence.

2. Duplicate the sequence, and place the original into an archive bin.
3. Rename the duplicate, but be sure to maintain the same reel number in the Reel # column of the bin.
4. Continue editing the duplicate sequence.
5. When the time comes to generate a new change list, select the Preview Code option from the Information to Display group of the appropriate list that you want to generate.

For example, if you are generating an assemble list, open the Information to Display options beneath Assemble List, and select Preview Code.

6. After the workprint is reconformed, ink the new workprint with new preview code, and enter matching numbers into the KN Start column for the corresponding sequence (the duplicate of the original sequence).
7. Duplicate this sequence, and continue the same cycle as often as necessary.

Dupe Checking Across Multiple Reels

If your show consists of multiple reels, you probably have a separate sequence for each reel. These reels, however, might share footage that requires duplication. Film Composer allows you to check for dupes across multiple reels within one change list.

To generate a dupe list for multiple reels:

1. Follow the steps described in the previous section for loading comparable reels into the Change List tool.
2. When choosing options for the list, select assemble list, dupe list, and Reel Numbers options.

Using the Matchback Option

For more information on the matchback process and workflow, see the *Avid Film Composer Getting Started Guide*.

The Matchback option on a Media Composer system with Film Options allows you to generate a 24 fps cut list from a 30 fps video project that uses film as the source material. This video-to-film conversion is useful in a variety of matchback circumstances, including the following:

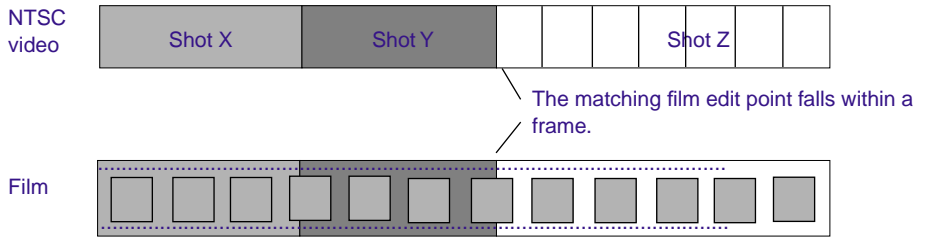
- Use the matchback option to generate both a videotape master for the project along with a final cut on film.
- Use the matchback option to generate pull lists for retransferring selects at high quality before online editing.

About Matchback

The matchback process refers to the video edit information for your sequence and performs a conversion to create a matching 24 fps cut list.

Because of the difference in frame rates between a video and film (30 fps or 25 fps for video versus 24 fps for film), the conversion of video edit points may fall within a film frame, requiring the addition or subtraction of a frame in that edit event in the resulting cut list.

For example, with a ratio of 24 film frames to 30 video frames, a seven-frame video edit corresponds to approximately 5.6 film frames. However, film cuts cannot include partial frames, so the edit must be rounded to five or six frames.



To make these adjustments, the following occurs during matchback:

- If the total video-sequence duration at the end of each cut is a frame longer than the film, then the system subtracts a frame from the last video edit. If the video is a frame too short, a frame is added to the last video edit.
- Where an essential frame was added or subtracted to the beginning or end of each edit, the system adds a message to the cut list stating that matchback shortened or lengthened the tail of the clip by one frame. The assistant editor or negative cutter can use this information to check the edit.
- Each track in the sequence must be corrected independently because the start and end points for split edits are different for each track. As a result, the picture and audio for a matchback video edit may be out of sync by no more than one frame.

Matchback is subject to the following limitations:

- The Matchback option uses key numbers to conform the negative. Therefore, you must have key number information entered into the bins for the project.
- You can generate cut lists, but not change lists in a matchback project.
- The matchback information applies to the picture only. You must generate a separate list (an EDL, for instance) for conforming the audio source tapes.

- Be sure to remove unwanted match frames (Add Edits) from your sequence before generating the cut list. Otherwise, the calculation of matchback frames will include these edits. For more information, see [“Preparing Sequences” on page 424](#).

Generating a Cut List with Matchback

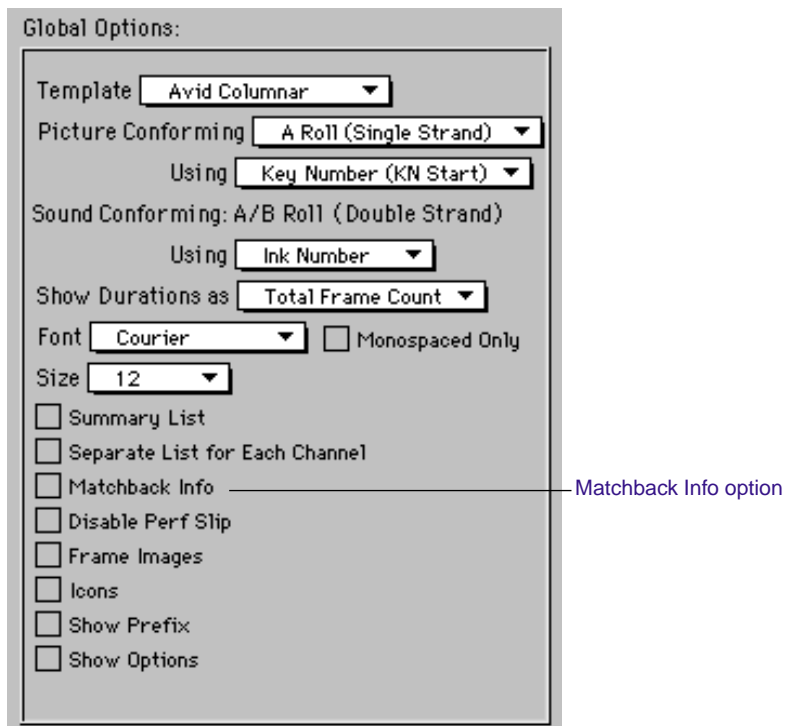
Matchback is automatically enabled when you begin a 30 fps video project on a system with the Matchback option. The system defaults to the 35 mm format when you generate the list.



If you plan to generate a list for conforming 16 mm or 65 mm film, you must specify that format when you first create the project, as described in the *Avid Film Composer Getting Started Guide*.

To generate a cut list matchback information, do the following:

1. After creating a sequence, use the procedures for getting a sequence, selecting tracks, and choosing settings, as described in [“Creating a List” on page 424](#).
2. When selecting Global options, click the Matchback Info option in the Options pane to display the matchback information in the list.



3. When selecting tracking information for the various lists, click the Key Numbers check box.
4. View, print, or save the list containing the matchback (plus or minus one frame) information.



CHAPTER 15

Output Options for Video and Audio

Film Composer provides tools for generating output for individual tracks or entire sequences to various videotape or audiotape formats. In addition, you can generate an edit decision list to be used by the sound department for preparing audio tracks, or by editors in a videotape suite for preparing a master tape from the film-to-tape transfers. You can also use VTR emulation for direct playback of sequences using an edit controller in an analog editing suite. These options are described in the following sections:

- [Preparing for Output](#)
- [Recording a Digital Cut](#)
- [Using EDL Manager](#)
- [VTR Play Emulation](#)

Preparing for Output

Preparing for video output involves the following procedures:

- Render all nonreal-time effects, as described in the *Avid Media Composer and Film Composer Effects Guide*.

For more information on mixing down audio tracks, see [“Mixing Down Audio Tracks” on page 360](#).

- Calibrate and adjust video output levels, as described in [“Calibrating for Video Output” on page 451](#).
- Calibrate and adjust audio output levels, as described in [“Preparing for Audio Output” on page 458](#).
- Decide whether you want to generate stereo or mono audio.
- Mix down multiple audio tracks if necessary. Systems equipped with a two-channel audio board can generate a maximum of two channels. Systems equipped with the Digidesign audio interface can generate a maximum of four channels.
- (Optional) Select settings for direct four channel audio output, as described in [“Generating Four-Channel Audio” on page 462](#).
- Prepare the record tapes.
- (Optional) Record reference bars and tone to tape.

In addition, you may need to make additional adjustments when recording from a 24 fps film project to tape, as described in the following sections.

Digital Cuts and Audio

You can use one of the following tape formats for audio output:

- You can record a digital cut directly to videotape.
- You can output to a mag stock recorder using a patch from the Digidesign Audio Interface.
- You can record a digital cut directly to digital audio tape (DAT) using a patch from the Digidesign Audio Interface conforming to the AES/EBU output standard.

Depending on the path you chose for your project’s audio (as described in the *Avid Film Composer Getting Started Guide*, and the videotape format used for transfer (NTSC or PAL), you must set the pull-down switch on Video Slave Driver as follows:

- If you used the offline audio path (digitizing audio from the telecine transfer) with an NTSC film-to-tape transfer involving pull-down, set the pulldown switch to X 0.99.
- If you used the offline audio path with a PAL film-to-tape transfer, set the pulldown switch to X 1.00.
- If you used the online audio path or the all-digital path (digitizing directly from the source audio tapes into Film Composer), set the pulldown switch to X 1.00.

Changing the Default Pulldown Frame

During a digital cut to 30 fps NTSC videotape, the system defaults to an A-frame pulldown conversion. You can change the default A-Frame setting by typing a new default in the Pull-In column for the sequence.

You can change the default Pull-In when appending several sequences to the same output tape on which continuous pulldown is required. For example, if one cut ends on frame C, then before performing the Digital Cut of the next sequence, change the pull-in for the successive sequence to the D frame.

Calibrating for Video Output

Read the information in the following sections based on the following:

- **Calibrating for video output (optional):** All users can follow the steps for calibrating video output, as described in the following section, "[Basic Output Calibration](#)."
- **Calibrating/syncing output signals in a production facility:** Advanced users and house engineers should follow the steps for adjusting and conforming output signals to house standards, as described in "[Advanced Output Calibration](#)" on page 453.

Basic Output Calibration

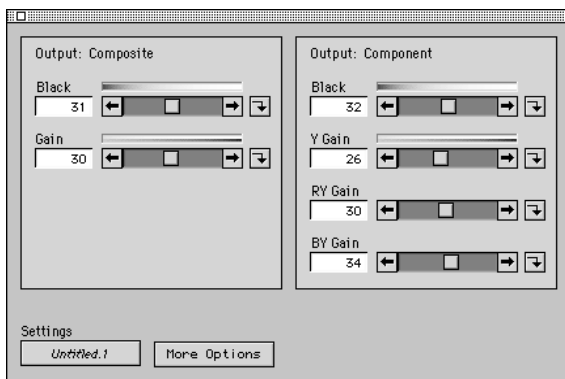
You can calibrate using digital bars and tone that you create and edit into the sequence, as described in this section.



If you or your site engineers calibrate the system as a general maintenance procedure, or if you do not have an external waveform monitor, leave the Video Output tool set to the preset values.

To calibrate for video output:

1. Choose Video Output Tool from the Tools menu. The tool opens.



2. Cue the sequence to bars and tone, and click or press Play (basic calibration requires digital bars and tone). Color bars are displayed on the third Full-Screen monitor, and signal appears on the waveform and vectorscope monitors.



3. Adjust luminance values based on the video format and the type of bars in the sequence.
4. Save this setting by choosing Save As from the Settings pop-up menu, typing a name, and clicking OK.

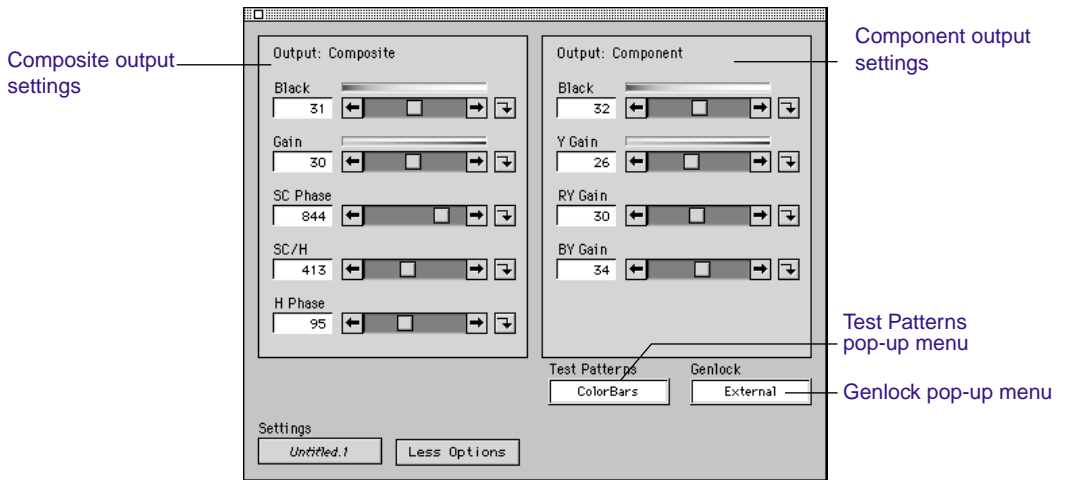
Advanced Output Calibration

Advanced users and site engineers can use the following procedures to fine-tune output calibrations using test patterns, genlock options, and signal timing controls, as described in this section.

Displaying Advanced Calibration Controls

To display additional controls in the Video Output tool, click the More Options button.

Additional options appear, and the More Options button becomes the Less Options button.



Using Test Patterns

The expanded Video Output tool provides a pop-up menu of test patterns you can use to calibrate the system output. To display a test pattern, click the pop-up menu and choose a pattern.



You can add test patterns to the list by doing the following:

1. Close the Film Composer application.
2. Find or create a PICT file for a chosen pattern.



You can create your own test pattern files by digitizing the pattern from videotape, and exporting it as a PICT file. You can improve the accuracy of the image by correcting colors and removing errors in a third-party application such as Adobe Photoshop™.

3. Place the file into the Test Patterns folder in the Supporting Files folder, which is located in the Film Composer folder on the Avid drive.
4. Start the Film Composer application. The new pattern appears in the Test Pattern pop-up menu on the Video Output tool.

Calibrating Site Output Settings

If you have connected a waveform monitor between the output of the Avid system and your video destination, you can use the Video Output tool to adjust the video output levels and timing to reference video.



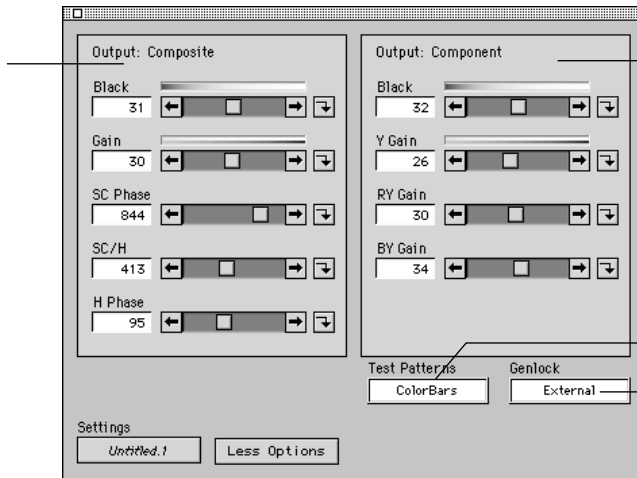
If you do not have external vectorscope and waveform monitors, leave the calibration settings at their preset values.

To calibrate the output signal:

1. Choose Video Output Tool from the Tools menu. The tool opens.
2. Click the More Options button if the left side (Output: Composite) display shows only two sliders.

Additional options appear, and the More Options button becomes the Less Options button.

Composite output settings



Component output settings

Test Patterns pop-up menu

Genlock pop-up menu

3. Choose the appropriate genlocking method from the Genlock menu:

- Choose External to use a genlock source connected to the Avid Broadcast Video Board's genlock input. Make sure a genlock source is attached.
- If there is no external source, choose Internal to create an internal reference signal.

4. Choose ColorBars from the Test Patterns pop-up menu.

Standard full-field, 75 percent color bars appear on the third monitor, and on the vectorscope and waveform monitors.

5. Set luminance values based on the settings in [Table 15-1](#).

Table 15-1 Luminance Settings

Parameter	SMPTE bars	Full-field bars at 75% signal level	Full-field bars at 100% level	Japanese NTSC
Black level (setup)	Adjust Line Selector to 183	Adjust Line Selector to 150	Any line	Any line
	Adjust Black slider to 7.5 IRE (NTSC)	Adjust Black slider to 7.5 IRE (NTSC), 0.3 volts (PAL)	Adjust Black slider to 7.5 IRE (NTSC), 0.3 volts (PAL)	Adjust Black slider to 0.0 IRE
White level (gain)	Adjust Line Selector to 203	Adjust Line Selector to 150	Adjust Line Selector to 150	Adjust Line Selector to 203
	Adjust Gain/Y Gain slider to 100 IRE (NTSC)	Adjust Gain/Y Gain slider to 77 IRE (NTSC), .825 volts (PAL)	Adjust Gain/Y Gain slider to 100 IRE (NTSC), 1.0 volts (PAL)	Adjust Gain/Y Gain slider to 92.5 IRE

6. Adjust chrominance levels as follows:

- For composite video, set hue by adjusting the SC Phase slider until the six color vectors fall within the target boxes on the vectorscope.



If you do not have separate vectorscope and waveform monitors, you can use the third monitor's "blue only" feature, if available, to adjust SC phase (hue) for composite output.

- Set subcarrier to horizontal phase timing by adjusting the SC/H slider according to house standards.



SCH phase becomes important only when video signals from two or more sources are combined or sequentially switched. If this is not the case, leave the SCH slider at the preset value.

- Set the horizontal phase by adjusting the H Phase slider according to house standards.

- For component video, use a three-channel waveform monitor to calibrate R-Y gain. For NTSC users using 75 percent color bars, the R-Y value should have a peak-to-peak deviation of 700 millivolts. PAL users should have a peak-to-peak deviation of 525 millivolts.
- Calibrate B-Y gain by adjusting the slider. For NTSC users using 75 percent color bars, the B-Y value should have a peak-to-peak deviation of 700 millivolts. PAL users should have a peak to peak deviation of 525 millivolts.

Save this setting by choosing Save As from the Settings pop-up menu, typing a name, and clicking OK.

Preparing for Audio Output

The Audio tool allows you to generate and customize calibration tone, and adjust global output levels. For information on additional audio mix procedures such as adjusting volume and pan, mixing down selected tracks, or ignoring mix levels, see [Chapter 11](#).

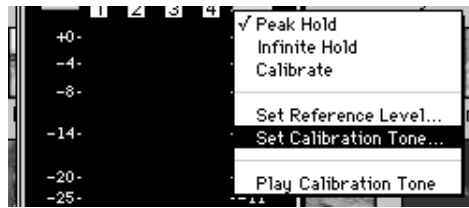
Setting the Calibration Tone

The Audio tool provides an internal calibration tone that you can customize and play as a reference signal on a digital cut. You can use the recorded reference signal for calibrating the digital cut audio at another site.

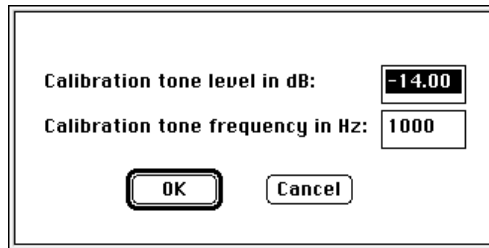
The default tone playback is -14 dB (digital scale) with a 1000 Hz signal. In some cases you might need to customize the signal. For example, a common reference signal convention for audio work involves recording 30-second segments of 1 kHz, 10 kHz, and 100 Hz tone back to back.

To change the parameters for the calibration tone:

1. Choose Set Calibration Tone from the Peak Hold pop-up menu.



The calibration tone dialog box opens.



2. Enter new values for the tone level and frequency, and click OK.

To play back the tone, choose Play Calibration Tone from the Peak Hold pop-up menu. To check the adjusted tone level in the meters, make sure the In/Out toggle buttons are toggled to O for Output.

Calibrating Global Output Levels

You can use the meters and a master attenuator (output slider control) in the Audio tool to make global level adjustments for output from the system. These adjustments affect levels for all output tracks to both the speakers and to record devices. The procedures differ slightly for systems equipped with a four-channel audio board and systems equipped with a two-channel audio board.

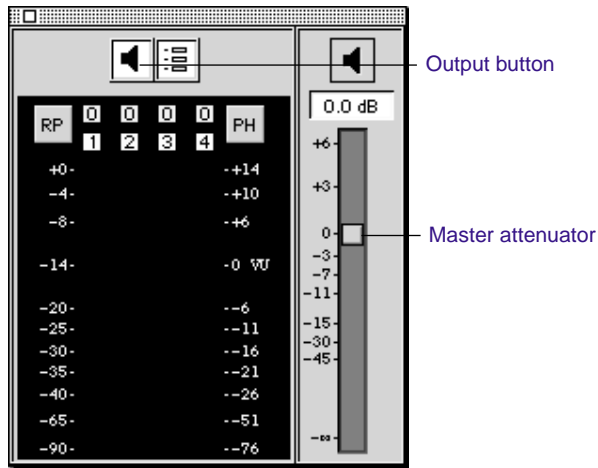


Normally you should leave this setting at the factory preset of 0 dB. Adjust the level only when necessary to raise or lower the overall volume based on the headroom parameters of the record format, or consistently over- or undermodulated source material.

Adjusting Output on Four-Channel Audio Board Systems

To adjust global output from a four-channel audio board system:

1. Click the In/Out toggle buttons above the meters to display O for Output.
2. Click the Output (speaker) button in the Audio tool to display the master attenuator.



A single slider appears for adjusting global audio output for all tracks.

3. Play back one of the following sources of reference audio:
 - Choose Play Calibration Tone from the Peak Hold pop-up menu.
 - Play back a representative sequence or clip containing audio.
4. Adjust the attenuator (slider) to an appropriate level.
5. Close the slider control by clicking the Output button.

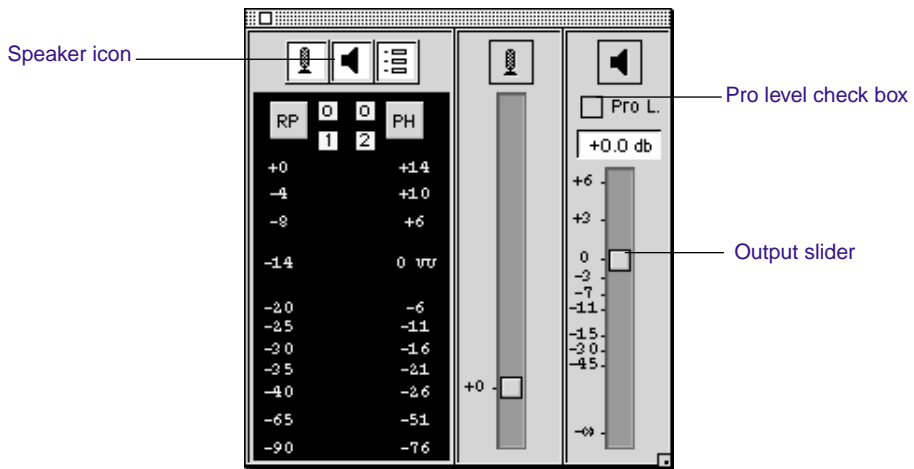
Adjusting Output on Two-Channel Audio Board Systems

Systems equipped with two-channel audio boards (MCXpress, Media Composer Offline, Media Composer 900, Media Composer 1000) can use the Pro Level option to take advantage of the professional audio output features of the card.

By default the “pro” output levels option is not selected, and the volume scales for output sliders in the Audio tool reflect levels for consumer-grade VCRs and recording devices.

To adjust the levels for recording to professional record decks:

1. Choose Audio Tool from the Tools menu.
2. Click the Speaker icon to display the Output slider and the Pro L. check box.



3. Select the Pro L. checkbox to enable professional output levels.

The electrical specifications for the professional audio output are as follows:

0 VU level: 2.5 V (+1 dBu)

Max before clipping: 13 V (+15 dBu)

The following points relate to the professional audio level output:

- All voltages are measured peak to peak.
- Use Avid cable #237 for input, which is a special attenuating cable.
- 0 VU is defined as -14 dB below the point where clipping occurs.

Generating Four-Channel Audio

If your system includes the Digidesign audio interface and a four-channel audio board, there are two ways to generate audio when creating a digital cut:

- You can use the system's default pan of odd-numbered tracks to output channel 1, and even-numbered tracks to output channel 2.
- You can select four audio tracks and send them to four separate output channels, for feeding to a four-channel record deck or through a mixer.

To enable four-channel output:

1. Load the sequence.
2. Choose Audio Mix from the Tools menu to open the Audio Mix window.
3. (Option) Resize the tool by clicking the Display/Hide Sliders button.

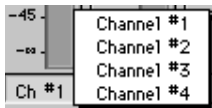
Output Options pop-up menu

Display/Hide Sliders button

Channel Selection pop-up menu



4. Choose Direct Out from the Output Options pop-up menu.



5. Direct the output of each track (up to eight tracks) to the desired channel (up to four channels) by choosing a channel from the Channel Selection pop-up menu located at the bottom of each track panel.

For example, you could output audio track A1 to physical channel 1, track A2 to channel 2, A3 to channel 3, and A4 to channel 4. Or you could output audio track A5 to physical channel 1, A6 to channel 2, A7 to channel 3, and A8 to channel 4.

Preparing Record Tapes

There are two basic methods of recording to tape: frame-accurate recording using the Digital Cut tool, and manual recording using controls on the record deck. Each of these methods requires different treatment of the record tapes.

Frame-Accurate Recording

Frame-accurate recording involves using the Digital Cut tool to record your sequence onto a *prestriped* tape (a tape with prerecorded control track and timecode), or a partially striped tape.

Before you can record a frame-accurate digital cut, you must prepare the record tapes in advance using one of the following options:

- If you intend to perform *assemble edit* recording, you must record black with timecode onto the tape including the necessary preroll prior to the IN point plus at least 10 seconds.
- If you intend to perform *insert edit* recording, you must *stripe* the record tapes (record black and timecode for the entire duration of the tape) in advance.

Manual Recording

Manual recording (sometimes referred to as *crash recording*) involves bypassing deck control in Media Composer and using manual opera-

tion of the record deck. Because the timing of playback is based on manual procedures, the recording is not frame-accurate. However, you do not need to record timecode onto the tape in advance. You can also record onto non-Avid-controlled decks, such as consumer grade VHS or Hi8.

To record manually:

1. Set the serial control switch on the record deck to Local.
2. Use the controls on the deck to start the videotape recording.
3. Play the sequence in Film Composer.

Recording Bars and Tone

You can also record a portion of bars and tone onto the tape before recording a digital cut. There are two methods of recording bars and tone to tape:

- If your recording must be frame-accurate, then consider adding a segment of digital bars and tone to the front of your sequence, or prepare it as a separate sequence that you can record using the Digital Cut tool. For more information, see [“Preparing Digital Bars and Tone” on page 169](#).
- If your recording does not need to be frame-accurate, you can manually record direct output of bars and tone from Media Composer.

To manually record bars and tone:

1. Open the Video Output tool and the Audio tool by choosing them from the Tools menu.
2. Choose a color bars pattern from the Test Patterns pop-up menu in the Video Output tool.
3. Choose Play Calibration Tone from the Reset Peak pop-up menu in the Audio tool.
4. Place the record deck on Local for manual recording.

5. Record the bars and tone as either an insert or assemble edit according to the operation of your record deck and chosen method.

Enabling Assemble-Edit Recording

Insert editing is the default setting for the Digital Cut tool. You can also use assemble-edit settings in Media Composer, along with the assemble-editing capabilities of your record deck, to quickly record frame-accurate digital cuts without striping entire tapes in advance.



To avoid accidentally breaking timecode on prestriped tapes during Digital Cut recording, enable assemble editing only when in use, and disable it during normal insert edit recording.

To enable assemble editing:

1. Double-click Deck in the Settings scroll list of the Project window to open the Deck Setting dialog box.

Assemble-editing
option

Deck Setting (Current)

Source Record

When No Tape in Deck Log as

Sync Mode

Pre-roll

Allow Assemble Editing for Digital Cut

Fast Cue

Switch to ff/rew (seconds)	60
Switch to search (seconds)	14

Stop Key Pauses Deck Shuttle Holds Speed

UTR Emulation Parameters

Device Code	2041
Edit Delay (frames)	12
Runup (frames)	5

Editing Controller

2. Select the option Allow Assemble Editing for Digital Cut.

Once assemble editing is enabled, you select additional options in the Digital Cut tool when you are ready to record, as described in the section, [“Recording a Digital Cut to Tape” on page 470](#).

These switches are often located below the machine’s playback control buttons. For more information, see your record device’s manual.

In addition, make sure the record deck has the following settings:

- The free run/rec (record) run switch should be set to record run.
- The Ext (external)/Int (internal) sync switch should be set to internal.
- The switch for internal timecode should be set to Regen (regenerate) or Slave Lock, not Preset.

- After you record 15 to 30 seconds of timecode onto the record tape for jam syncing, return the Local/Remote switch to Remote for deck control from within Media Composer.

Recording a Digital Cut

The Digital Cut tool provides frame-accurate control when recording a sequence to tape. You can also use the Digital Cut tool to preview the sequence with a computer-generated countdown.

Previewing a Digital Cut

You can manually record a digital cut including countdown, but the recording will not be frame-accurate. For information, see [“Preparing Record Tapes” on page 463](#).

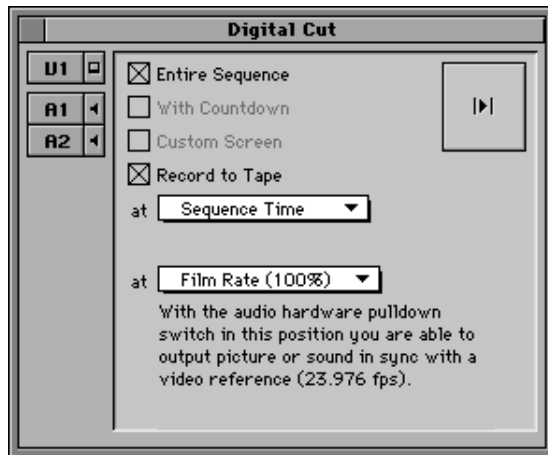
You can preview a digital cut before recording it to tape to make sure your preparations and output settings are correct, or for screening purposes.

To preview a digital cut:

1. Choose Digital Cut from the Output menu.



The Digital Cut tool appears.



2. Deselect the Record to Tape option.

The With Countdown and Custom Screen options are enabled.

3. Select the With Countdown option to preview the digital cut using the default computer-generated countdown containing the Avid logo.
4. Select the Custom Screen option to preview the digital cut using a customized countdown screen that you create, as described in the following section.



5. Select the audio and video tracks you want represented in the digital cut preview. The display of tracks in the Digital Cut window varies according to the tracks existing in the sequence.

Only those tracks beside and beneath the speaker icon and the monitor icon are included in the digital cut.



6. Press Play.

The system plays the digital cut in the Record monitor and the third Full-Screen monitor.

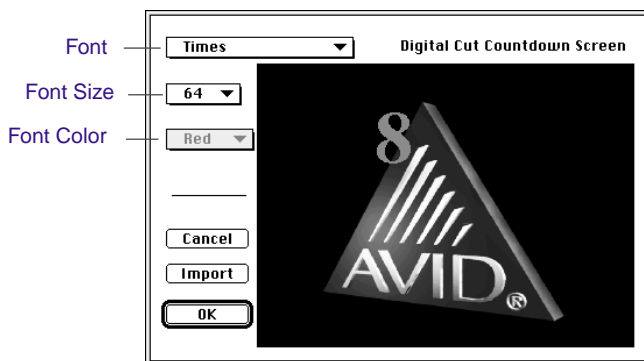
7. To stop the playback at any time, press the Space bar.

Creating a Custom Countdown Display

The Custom Screen option allows you to change the font (type style), size, and color of the countdown numbers. You can also import your own PICT graphic file as a background.

To create a custom countdown:

1. Select both the With Countdown and the Custom Screen options. The Custom Screen box appears in the Digital Cut tool.
2. Click the Custom Screen box. The Digital Cut Countdown Screen dialog box appears.

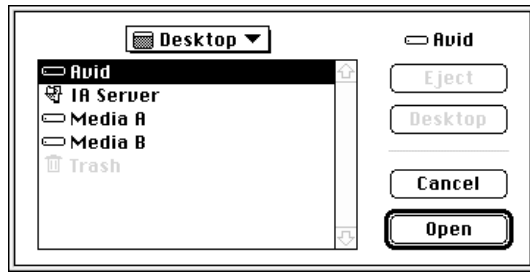


3. Choose another font, font size, or font color, if desired, from the pop-up menus.



The menus display all currently available fonts, as determined by the contents of the Fonts folder in the Macintosh System folder. For information on adding fonts to your system, see your Macintosh documentation.

4. Click the Import button if you want to import an available PICT file to use as a custom background. The Directory dialog box appears.



5. Locate a PICT file to serve as the new background image and select it.
6. Click OK. The custom countdown screen is ready for previews.



The best resolution for imported PICT files is 720 x 486 for NTSC and 720 x 576 for PAL. The resolution cannot be changed after import.

Recording a Digital Cut to Tape

If you have a Media Reader connected to your system, you can create burn-in timecode on the digital cut. For more information, see the *Avid Media Reader Setup and User's Guide*.

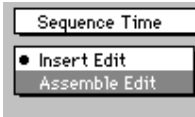
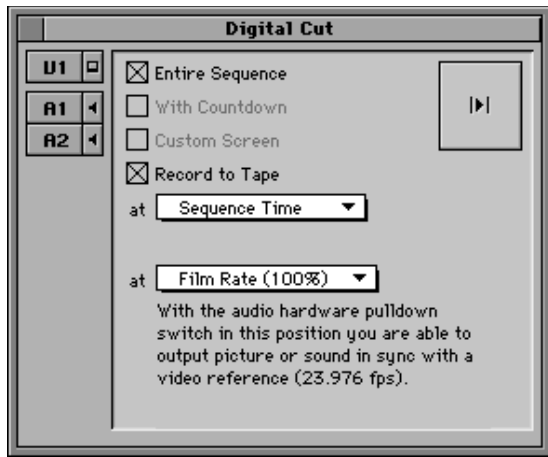
The Digital Cut tool provides several options for managing the recording of your sequence. For example, you can:

- Record using either assemble or insert edits
- Record a selected portion of the sequence or selected tracks
- Record according to different timecode parameters

To record a digital cut:

1. Choose New Deck Controller from the Tools menu. Use the deck controller to cue and the record tape during Digital Cut recording.
2. Load a sequence into the Record monitor. (You cannot access digital cut options without a sequence loaded.)
3. Choose Digital Cut from the Output menu.

The Digital Cut tool appears.



4. (Option) Choose either Insert Edit or Assemble Edit from the pop-up menu. This menu only appears if you enabled Assemble Editing in the Deck Settings dialog box.

5. Select or deselect the Entire Sequence option based upon the following:

- Select the Entire Sequence option if you want the system to ignore any IN or OUT marks and play the entire sequence from start to finish.
- Deselect this option if you have established IN and/or OUT marks for recording a portion of the sequence.



6. Choose an option from the record time pop-up menu as follows:

- Choose Sequence Time to start the recording at a timecode existing on tape that matches the start timecode of the sequence. If you intend to record several sequences to tape one after another, this option requires resetting the start timecode on each sequence to match appropriate IN points on the tape.

You can change the start timecode to match the record tape. For more information, see [“Changing the Sequence Clip Info” on page 233](#).

- Choose Record Deck Time to ignore the timecode of the sequence, and start the recording wherever the record deck is currently cued.
- Choose Custom Time to ignore the sequence timecode and establish a specific IN point on the record tape. When you choose Custom Time, an entry field appears for typing in the new value.



7. Select the audio and video tracks you want represented in the digital cut preview. The display of tracks in the Digital Cut window varies according to the tracks existing in the sequence.

Only those tracks beside and beneath the speaker icon and the monitor icon are included in the digital cut.

8. If you are working with an NTSC film project using pulldown, choose a playback rate from the pop-up menu.



- Film Rate (100%) outputs video synced to a normal film projection rate for the audio (with no pulldown). The system drops approximately 1 frame for every 1000 frames to simulate a full 30 fps (rather than 29.97) playback rate to sync with 44,1 kHz or 48 kHz audio output. Use this option with the Pull Down switch on the Avid Digidesign audio interface set to x1.00.

This is useful, for example, in sound stage productions needing to play back 24 fps sound in sync with 24 fps video, when outputting a 24 fps film sequence to 25 fps PAL videotape, or when outputting video for syncing with full-projection rate audio in AudioVision.

- Video Rate (100%+) simulates the telecine pulldown process for NTSC output, slowing the play rate and adding fields to adapt the 24 fps film rate to a 29.97 fps video rate. Use this option with the Pull Down switch on the Avid Digidesign audio interface set to x0.99.
9. Select the audio and video tracks you want represented in the digital cut. Only those tracks beside and beneath the speaker icon and the monitor icon are included in the digital cut.

The display of tracks in the Digital Cut window varies according to the tracks existing in the sequence.



10. Press Play.

The system cues the record deck, then plays and records the digital cut. The playback appears in the Record monitor and the Full-Screen monitor.

11. To stop the recording at any time, press the Space bar.



After assemble-edit recording, note that a freeze frame is usually added after the OUT point for one or more seconds, depending upon the record deck model. This provides several frames of overlap for the next IN point, before control track and timecode break up.

Using EDL Manager

An EDL (edit decision list) is a detailed list of the edits contained in a sequence, including all the timecode and supported effects information required to re-create the sequence in an online videotape suite. The EDL is organized into a series of chronological instructions called *events* which are interpreted by an edit controller that automates the assembly of the videotape master.

Your system includes the EDL Manager, an application with powerful features and sorting capabilities to help you prepare an EDL.

To launch EDL Manager, choose EDL from the Output menu.

For more information on specific features and capabilities of EDL Manager, see the *Avid EDL Manager User's Guide*.

VTR Play Emulation

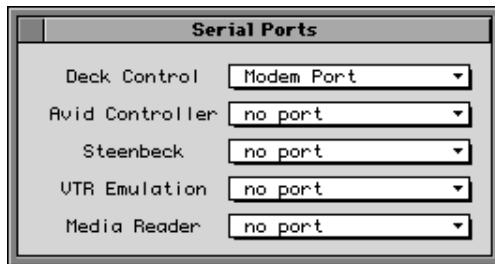
VTR play emulation allows you to control a sequence loaded in the record monitor from an edit controller for playback in the edit room along with other sources.



To use VTR play emulation, you must connect a supported controller (any controller that uses Sony® serial control protocol) to the Macintosh® using a 9-pin to serial cable.

With a controller properly connected, enable VTR play emulation as follows:

1. Choose Serial Ports from the Tools menu to open the Serial Ports tool.
2. Select the appropriate port (printer or modem) from the VTR Emulation pop-up menu.



3. Close the Serial Ports tool. The system saves the setting as a Site setting, effective for all projects.
4. Choose VTR Emulation from the Special menu when you are ready to use the system for playback.

A check mark appears next to the command to indicate that the system is ready. A yellow outline appears around the Play button in the Record monitor to indicate that VTR emulation is active.



This command behaves like a Local/Remote switch on a playback device, with VTR play emulation disabled (in Local mode) by default when you launch the system.

Once active, VTR play emulation allows you to control the sequence with an the edit controller as follows:

- You can shuttle, jog, play, cue, and mark points based on master sequence timecode for editing onto another master.
- Your control of the Media Composer system is for play only. For example, you cannot apply IN or OUT marks, arm tracks, or send record commands to the Composer system itself.
- Smooth audio scrub is enabled by default, emulating analog audio scrub on a VTR.



CHAPTER 16

Exporting and Exchanging Material

At the advanced stages of a production you may need to export or exchange material with another system, another application, or another platform. Film Composer provides various tools for exporting clips and sequences in various formats, or for transferring projects and media between systems, as described in the following sections:

- [Supported File Types for Export](#)
- [Preparing to Export](#)
- [Exporting PICT Files](#)
- [Exporting QuickTime Files](#)
- [Transferring OMF Files from Film Composer to AudioVision](#)
- [Transferring OMF Files to Pro Tools](#)
- [Transferring Projects and Media Files Between Systems](#)

Supported File Types for Export

There are several reasons why you might want to export video, audio, or both from the Film Composer system:

- You can export audio files for audio sweetening in compatible applications.
- You can export picture files for touching up or creating special effects in third-party applications.
- You can export files compatible with CD-ROM for use in multimedia projects.

You can export files in the following formats:

- Shot log (see [“Exporting Log Files” on page 48](#))
- PICT (see [“Exporting PICT Files” on page 480](#))
- QuickTime (see [“Exporting QuickTime Files” on page 486](#))
- OMF Interchange (see [“Exporting OMF Files” on page 495](#))

Preparing to Export

If you are exporting part or all of a sequence, you can speed the export process by preparing the sequence in advance as follows:

See the *Avid Media Composer and Film Composer Effects Guide* for more information on rendering.

- Render all effects in advance. Although any unrendered effects are rendered on export (except for an OMF export), rendering effects in advance saves you time.
- Consider mixing down additional tracks in advance, as described in [“Using Video Mixdown” on page 478](#) and [“Mixing Down Audio Tracks” on page 360](#).
- Check and adjust all pan and audio levels in advance, as described in [“Using the Audio Mix Tool” on page 327](#). All current pan and level settings in the sequence are carried through to the exported media.
- If you are exporting an OMF file, remember that OMF does not mix down the tracks in a sequence during export. OMF maintains all editing information in your sequence, allowing changes later.

Film Composer mixes down video for PICT and QuickTime formats and audio for PICT formats.

- If you are exporting an OMF file, consider consolidating the media to save time and disk space. See [“Consolidating Media” on page 184](#) and [“Transferring OMF Files from Film Composer to AudioVision” on page 503](#).

Using Video Mixdown

Video mixdown allows you to combine several tracks into a single new master clip. This is convenient for building multilayered effects, for consolidating media, and for export and exchange.



When you mix down video tracks, you cannot separate them again to work on the tracks individually. Use this function only during the last stages of editing when you no longer need to make changes, or to make a copy for previewing.

To perform a video mixdown:

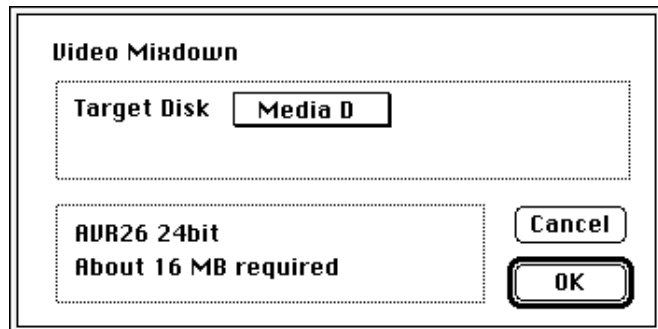
1. Make sure the videotrack monitor is in the topmost track that you want to mix down.

Video mixdown works from the monitored track down, regardless of track selection.

2. Mark an IN and OUT point around the area to mix down.
3. Choose Video Mixdown from the Special menu.



The Video Mixdown dialog box appears.



4. Choose a Target Disk for storing the new master clip and click OK.

A progress indicator appears, indicating the progress of the video mixdown. When the mixdown is completed, a new clip appears in the bin along with the sequence, and a new media file is created on the target disk.

Exporting PICT Files

You can export a single frame as a PICT file, or you can export a clip or sequence as a series of PICT files (a PICT sequence).

Before You Begin

PICT sequence export involves the following considerations:

- A PICT sequence is not one file, but a series of still PICT files. Be sure to transfer all files when moving them to another system for import.
- PICT sequence export has the added advantage that, in the case of a power failure or other mishap during export, there's a good chance you'll be able to recover some of the individual frames.

How to Export PICT Files

To export Film Composer system frames, clips, or sequences as PICT files:

1. Select the material you want to export in one of the following ways:
 - For a single frame, park the position indicator on the frame you want to export.
 - For clips in a bin, select the clip or clips you want to export.
 - For clips or sequences in a Source, Record, or Pop-up monitor:
 - Mark IN and OUT points in the monitor or in the Timeline, create a subclip, and then select the clip in a bin.
 - Mark an IN point in the monitor or in the Timeline. The system exports the material from the displayed frame (the position indicator location) to the end of the sequence or clip.

Make sure you monitor the highest video track, and select the proper tracks for export. As a general rule, the system exports whatever you see when you play the sequence.

2. Choose Export from the File menu.



If you do not see Export on the File menu, choose Switch To Long Menus on the Special menu.

The Export Format dialog box appears.

3. Select one of the following options:

- PICT: Select this option to export a single frame.
- PICT Sequence: Select this option to export multiple frames.
- Export Full Frame: Select this option if you are exporting any of the two-field resolutions (AVR 70 to AVR 77, or AVR 12). This option exports both video fields for higher resolution.

Export Format:

Avid Log Exchange

Tab Delimited

PICT

PICT Sequence

QuickTime Video & Audio

QuickTime Video Only

QuickTime Audio Only

Export Full Frame

OMFI Compositions Only

SD2 Format Audio

OMFI Video & Audio and Composition

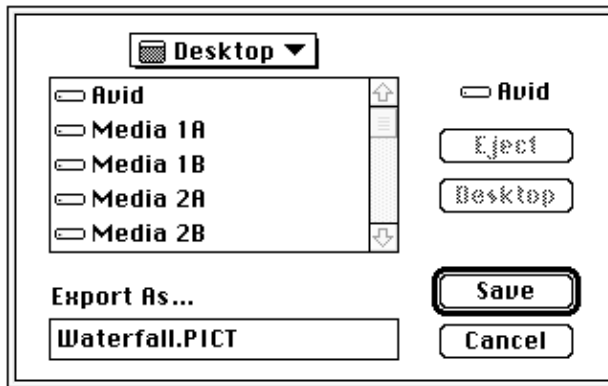
OMFI Video & Composition

OMFI Audio & Composition

Export as ▼

4. Click OK.

The File Save dialog box appears.



5. A default filename appears in the Export As text box with one of the following default file names:

- *sequence_name.PICT* (for a single frame)
- *sequence_name.PSEQ.n* (for a PICT sequence, where *n* is a sequential number beginning with 1)

You can change the filename.

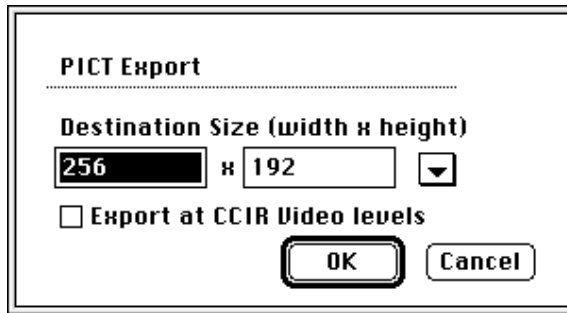
6. Select the destination folder for the file and click Save.

A new dialog box appears, depending on the file or files you are exporting.

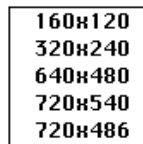
- If you are exporting a single frame as a PICT file, see the next section, [“Exporting a PICT Frame.”](#)
- If you are exporting a PICT sequence, see [“Exporting a PICT Sequence” on page 484.](#)

Exporting a PICT Frame

If you are exporting a single frame as a PICT file, the following dialog box appears.



1. Choose the file size, in pixels, of the frames to be saved in the file from the Destination Size pop-up menu.



These are NTSC frame sizes.
PAL export displays PAL sizes.

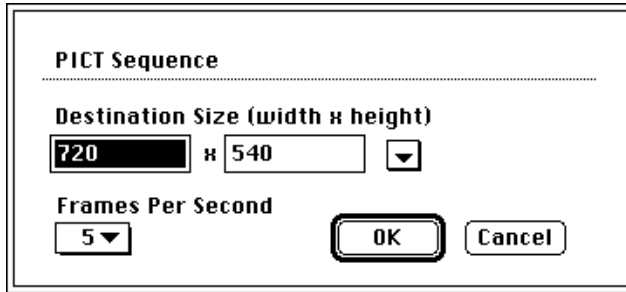
2. If you want to export the image at CCIR-601 video levels for further processing in an application that supports those levels, select the Export at CCIR Video Levels check box.
3. Click OK.

The files are saved in the destination folder that you selected in the File Save dialog box.

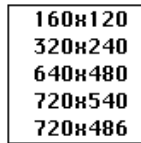
Now you can transfer the file or files.

Exporting a PICT Sequence

If you are exporting a PICT sequence, the following dialog box appears.

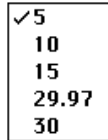


1. Choose the file size, in pixels, of the frames to be saved in the file from the Destination Size pop-up menu.



These are NTSC frame sizes.
PAL export displays PAL sizes.

2. Choose the number of frames per second to be saved in the file from the Frames Per Second pop-up menu. To reduce the size of the export file, select fewer frames per second.



These are NTSC frame sizes.
PAL export displays PAL sizes.

3. Click OK.

The files are saved in the destination folder that you selected in the File Save dialog box.

Now you can transfer the file or files.

Exporting QuickTime Files

You can export a single frame, a clip, or sequence as a QuickTime file.

Before You Begin

When you export a QuickTime file, you need to choose a codec (compressor/decompressor). Before you begin exporting, review your options for choosing a codec. Your choice depends on how you want to use the export, as follows:

- For quickest exchange between compatible applications, choose the Media Composer codec. This software-based codec creates encapsulated media files for quick export of high-resolution files that are readable within QuickTime applications that are also equipped with the codec. See [“Using the Media Composer QuickTime Codec from QuickTime Applications” on page 494.](#)

The codec allows you to maintain Avid Video Resolutions (AVRs) up to AVR 77 when exchanging material between QuickTime-compatible applications. It also speeds the QuickTime import/export process to a rate of approximately four times real time or better (depending on resolution). The codec provides a vast improvement over the standard QuickTime conversion, which can take as long as 300 times real time or more with full-size, high-resolution clips.

Exporting with the Avid codec does not cause any loss in quality, because the codec maintains the identical media data. However, the quality cannot be better than the original resolution of the digitized media.

- For high-quality, *lossless* compression (in which no picture information is lost) for In-Out exchange (export-import) between compatible applications, choose one of the following methods:
 - **Animation:** Uses the same compression algorithm for PICT files (run length encoding) and results in files that are 70 to 95

percent the size of the uncompressed file. At the maximum quality, this method is lossless compression.

- **Component Video:** Uses the same algorithm as the Animation method, but saves the file in YUV RLE format, which separates the luminance from the chrominance. All QuickTime applications can read this format, but only some can write to this format.
- **None:** Does not compress the file, and results in very large files.
- For medium quality, *lossy* compression (in which some picture information is lost) requiring less storage space, choose the following:
 - **Photo-JPEG:** Uses the Joint Photographic Experts Group algorithm for image compression, and results in files that are 20 to 30 percent the size of the uncompressed files. Some data is lost during compression, and the export process takes longer to complete (typically six times longer than the Animation compression, for example).
- For export at low resolution for use in contexts where high quality is not an issue, such as presentations or educational uses, or for small-screen size play back from CD-ROM or hard drive, choose one of the following methods:
 - **Graphics:** Uses a limited color palette version (16 colors) of Animation compression.
 - **Cinepak:** Uses CD-ROM playable compression.
 - **Video:** Uses the standard Macintosh compression, which takes less time to compress but does not play back as quickly as Cinepak.

How to Export QuickTime Files

To export Film Composer system frames, clips or sequences as QuickTime files:

1. Select the material you want to export in one of the following ways:
 - For a single frame, park the position indicator on the frame you want to export.
 - For clips in a bin, select the clip or clips you want to export.
 - For clips or sequences in a Source, Record, or Pop-up monitor:
 - Mark IN and OUT points in the monitor or in the Timeline, create a subclip, and then select the clip in a bin.
 - Mark an IN point in the monitor or in the Timeline. The system exports the material from the displayed frame (the position indicator location) to the end of the sequence or clip.

Make sure you monitor the highest video track, and select the proper tracks for export. As a general rule of thumb, the system exports whatever you see when you play the sequence.

2. Choose Export from the File menu.



If you do not see Export on the File menu, choose Switch To Long Menus on the Special menu.

The Export Format dialog box appears.

3. Select one of the following options:
 - QuickTime Video and Audio: Select this option if, for example, you are using an entire clip or sequence in a multimedia project.
 - QuickTime Video Only: Select this option if, for example, you are adding effects in a third-party application.
 - QuickTime Audio Only: Select this option if, for example, you are using or enhancing audio in a third-party application.
 - Export Full Frame: Select this option if you are exporting any of the two-field resolutions (AVR 70 to AVR 77, or AVR 12). This option exports both video fields for higher resolution.

Export Format:

Avid Log Exchange

Tab Delimited

PICT

PICT Sequence

QuickTime Video & Audio

QuickTime Video Only

QuickTime Audio Only

Export Full Frame

OMFI Compositions Only

SD2 Format Audio

OMFI Video & Audio and Composition

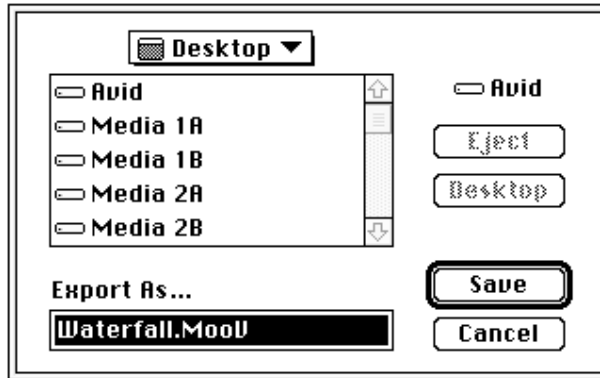
OMFI Video & Composition

OMFI Audio & Composition

Export as

4. Click OK.

The File Save dialog box appears.



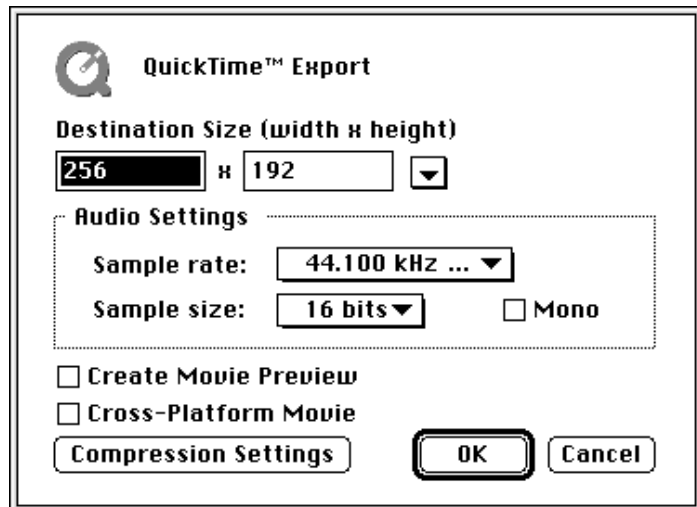
5. A default filename appears in the Export As text box with the following default file name:

sequence_name.MooV

You can change the filename.

6. Select the destination folder for the file and click Save.

A dialog box appears.





This same sequence of dialog boxes appears in many QuickTime applications. Use the following information to prepare QuickTime files for export into Film Composer.

7. Select additional options for the export as follows:

- To create a QuickTime poster for your movie, select the Create Movie Preview option (this option slows the export process).
- Select alternative audio settings, when appropriate:
 - a. Choose a new sample rate, when appropriate, from the pop-up menu.

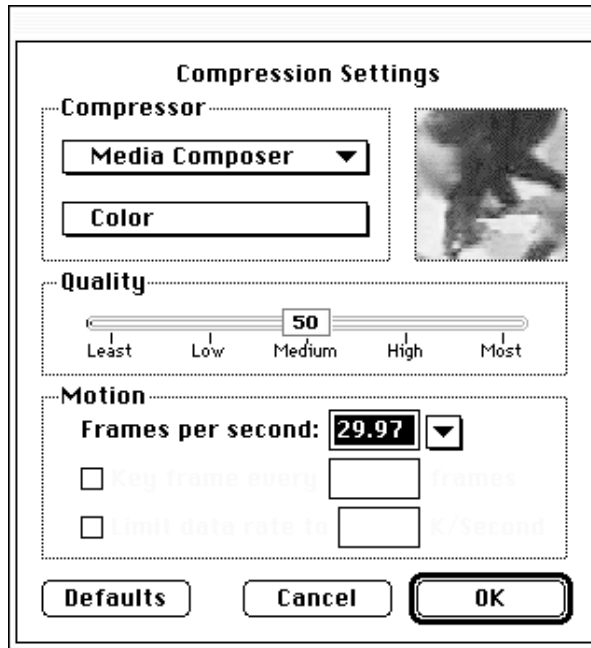
Sample rate:



The options include the native rate of the chosen media plus half and quarter rates for standard Macintosh models (22.254 and 11.127 kHz) and AV Macintosh models (22.050 and 11.025 kHz).

✓ 8 bits
16 bits

- b. Choose a new Sample size (16 bit or 8 bit), when appropriate, from the pop-up menu.
 - c. Change the default audio export from stereo to mono, when appropriate, by selecting the Mono option.
- To create a single-fork, cross-platform compatible movie (one that can be opened on both the Macintosh and the PC for use in cross-platform multimedia development), select the Cross-Platform Movie option.
8. Click the Compression Settings button to open the Compression Settings dialog box.



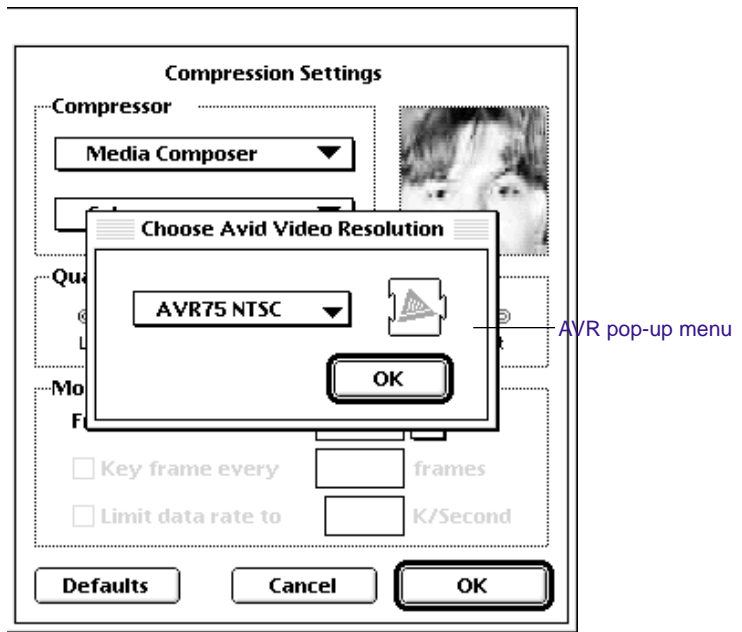
9. Choose a codec from the Compressor pop-up menu. See [“Before You Begin” on page 486](#).
10. Choose a color compression from the Color pop-up menu.



Use the Color default if you are using the Media Composer QuickTime codec.

11. Choose the desired frame rate from the pop-up menu. Choose 30 to maintain full-motion video/animation.
12. Drag the Quality slider to a new position if necessary.

If you are using the Media Composer QuickTime codec, the AVR Selection dialog box appears.



Because the Media Composer codec uses the AVR of your original source files, it ignores what you choose in the AVR pop-up menu. However, if you are exporting from a third-party application, select an AVR and click OK to return to the Compression Settings dialog box.

13. Click OK.

The material will be exported with the chosen compression parameters and saved in the destination folder you selected in the File Save dialog box.

Now you can transfer the file or files.

If a power failure or mishap occurs during the export process, the entire file is unusable. You need to repeat the export process.



The maximum file size that the Macintosh system allows is approximately 2 gigabytes. If you exceed this limit the system displays an error and the file is unusable.



Media Composer QuickTime files can be quite large, depending on the AVR, and require adequate storage and transfer capacities. Also, if you are having trouble opening or playing the export in a third-party application, increase the memory allocated to the program.

Using the Media Composer QuickTime Codec from QuickTime Applications

You can speed the process of importing QuickTime files by installing the Media Composer QuickTime codec in other (third-party) QuickTime applications and using it to export QuickTime files.

Installing the Codec in QuickTime Applications

After installing Media Composer Release 6.0 or later on your system, the new codec is automatically installed in the Extensions Folder inside the System Folder. You can copy this extension and install it at other workstations where you are using QuickTime compatible applications. Once the Media Composer codec is installed on the workstation, you can export files from either the Composer system or from the third-party application for reimport into the Composer system.

You can install the codec on either a Power Macintosh® or non-Power Macintosh system. To install the Media Composer codec on the system where the third-party application resides:

1. Drag the copy of the extension labeled Avid Codec onto the System Folder and release the mouse button.

A dialog box asks if you would like to install the file in the Extensions folder.

2. Click OK.
3. Restart your system.

The codec is installed.

Exporting from a QuickTime Application

Exporting from a third-party QuickTime application using the Media Composer QuickTime codec and the default Composer system frame size allows you to speed the process of importing back into the Composer system to approximately three to four times real time (video only).

To export Media Composer files from a QuickTime-compatible application for import (or reimport) into the Composer system, do the following:

1. Make sure the Media Composer codec is installed in the System Folder's Extensions folder.
2. Conduct the export procedure according to the manual included with the particular software. In the standard QuickTime Create a Movie dialog box, select NTSC (640 x 480 square pixels or 720 x 486 non-square pixels) as the frame size (768 x 576 square or 720 x 576 non-square for PAL).



If you select another frame size, the Composer system will not import the file quickly using the Media Composer codec.

3. In the Create a Movie dialog box, click Options. The standard QuickTime Compression Settings dialog box appears.
4. Complete steps 7 through 13 in the section [“How to Export QuickTime Files” on page 487](#). In step 9, choose Media Composer from the Compressor pop-up menu.

Exporting OMF Files

The following sections describe Open Media Framework (OMF) Interchange and provide a procedure for transferring any OMF file.

- For specific information on transferring files to AudioVision, see [“Transferring OMF Files from Film Composer to AudioVision” on page 503.](#)
- For specific information on transferring files to Digidesign Pro Tools, see [“Transferring OMF Files to Pro Tools” on page 511.](#)
- For information on transferring files to non-Avid digital audio workstations, follow one of the methods described in [“Transferring OMF Files to Pro Tools” on page 511](#) and see the digital audio workstation’s documentation.

About OMF Interchange

OMF Interchange is a platform-independent file format that stores both the digital media (video, audio, graphics, animation) and the “recipe” describing how the media “ingredients” are edited together to form a final sequence. This editing information, also called a composition, is the OMF representation of a Film Composer sequence. The OMF Interchange format is the result of cooperative efforts of many industry and standards partners and Avid Technology, Inc.

OMF files can be understood by any other program that supports OMF, even if the program resides on a different computer platform. As a result, OMF lets you transfer among different applications on different platforms, without worrying about cross-platform translations. This can be very effective for importing animations or audio that have been created on proprietary platforms.

Film Composer Release 6.5 supports import and export of both OMF 1.0 and OMF 2.0 files. Film Composer continues to support OMF 1.0 files for use when you are interchanging with an application that supports only OMF 1.0.

Release 6.5 support for OMF 2.0 includes:

- OMF effects for some of the video effects (dissolves, wipes, freeze-frame, film pulldown, slow motion, and fade to black)

- Pan and Volume audio effects and audio dissolves
- TIFF (AVR) media in OMF 2.0 files.

Additional effects will be supported in future releases. See the *Avid Media Composer and Film Composer Release Notes* for current details.

See the *Avid Media Composer Products Reference* for an appendix that lists applications that currently support the OMF Interchange. For the latest information, see the Avid OMF web site:

<http://www.avid.com/omf>

Methods for Exporting

OMF Interchange, as implemented in Film Composer, provides two basic methods for exporting Film Composer files:

- **OMF compositions:** Film Composer exports an OMF file that contains only the editing information about a selected master clip or sequence. It includes references to the source media, but does not include the media itself. You then need to transfer both the OMF file and the media files, or redigitize the media on the other system. After you have transferred the media once, you can transfer revised composition-only files (unless you have consolidated media — see [“Consolidating Media” on page 184](#)).
- **OMF compositions and media:** Film Composer exports an OMF file that contains all the edit information for the selected master clip or sequence as well as the media for that master clip or sequence. You then transfer only one file. However, this file can be quite large.

The method you choose depends on the reason for the export and the amount of media involved. For specific options and more information about them, see [“How to Export OMF Files” on page 498](#).

Before You Begin

Before you export the OMF file, complete the following actions to reduce the size of the file and cut down the transfer time.

- Consider mixing down additional tracks in advance, as described in [“Using Video Mixdown” on page 478](#) and [“Mixing Down Audio Tracks” on page 360](#).
- Check and adjust all pan and audio levels in advance, as described in [“Using the Audio Mix Tool” on page 327](#). All current pan and level settings in the sequence are carried through to the exported media.
- Consider consolidating to save time and disk space, or to place all media on a single drive for easier transfer. If you do not need to transfer all the source media, consolidating is an efficient way to transfer only what your edited sequence uses. See [“Consolidating Media” on page 184](#).
- OMF files that contain audio media, video media, or both, can be very large. Make sure you have enough room on an external disk to store a large file.
- OMF files with very complex sequences can fail during import into some applications, due to memory limitations. Try one of the following solutions:
 - Break the sequence into smaller sequences and export the new sequences.
 - Add more memory to the application.
 - Add more physical memory.

How to Export OMF Files

Use the following procedure for transferring any OMF file.

- For specific information on transferring files to AudioVision, see [“Transferring OMF Files from Film Composer to AudioVision” on page 503](#).
- For specific information on transferring files to Digidesign Pro Tools, see [“Transferring OMF Files to Pro Tools” on page 511](#).
- For information on transferring files to non-Avid digital audio workstations, follow one of the methods described in [“Transferring OMF Files to Pro Tools” on page 511](#) and see the digital audio workstation’s documentation.

To export clips or sequences as OMF files:

To export multiple clips in a single OMF file, select all the clips, option-drag them to a new sequence, and export the sequence.

1. In a bin, select the clips or sequences you want to export.

You do not need to export both the clips and the sequence that contains them. The file for the sequence contains all information for the referenced clips.

2. Choose Export from the File menu.



If you do not see Export on the File menu, choose Switch To Long Menus on the Special menu.

The Export Format dialog box appears.

3. Select one of the following options:
 - **OMFI Compositions Only:** Select this option to export only the information about the clip or sequence, without the corresponding media. For example, transfer a composition to a digital audio workstation such as AudioVision that already has the media for the sequence.
 - **SD2 Format Audio:** Select this option only if you want to keep the audio media in Sound Designer II format and create a private SD II descriptor that points to the SD II file. Use this option if you are going to use the file with OMF Tool in Pro Tools® or in another application that can read Film Composer SD II audio files. See [“Transferring OMF Files to Pro Tools” on page 511](#).



You do not need to select the SD2 option to have AudioVision read the original Film Composer SD II audio media.

- **OMFI Video and Audio and Composition:** Select this option if you are using an entire clip or sequence in an OMFI-compatible editing or graphics enhancement system. This option creates a file that includes both editing information (for sequences) and the media itself.
- **OMFI Video and Composition:** Select this option if you are adding video or film effects in an OMFI-compatible application. The exported file includes both editing information and video media.
- **OMFI Audio and Composition:** Select this option if you are using or enhancing audio in an OMFI-compatible application. The file includes both editing information and audio media.
- **Export As:** From the pop-up menu, choose the OMFI version that is supported by the application to which you are exporting. If you are not sure, choose 1.0.

OMFI version
pop-up menu



OMF 2.0 files can only be imported by applications that support OMFI 2.0.

Export Format:

Avid Log Exchange

Tab Delimited

PICT

PICT Sequence

QuickTime Video & Audio

QuickTime Video Only

QuickTime Audio Only

Export Full Frame

OMFI Compositions Only

SD2 Format Audio

OMFI Video & Audio and Composition

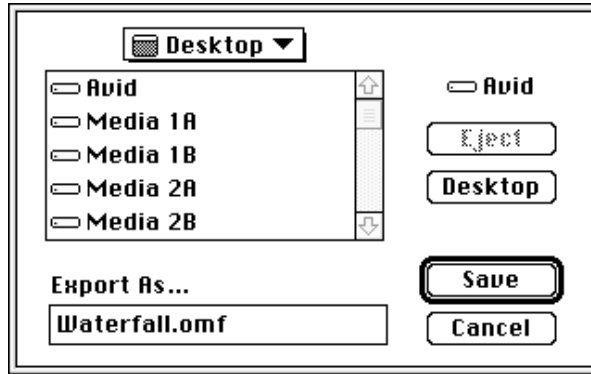
OMFI Video & Composition

OMFI Audio & Composition

Export as

4. Click OK.

The File Save dialog box appears.



5. A default filename appears in the Export As text box with an extension that indicates the type of file format. For OMF files the extension is *sequence_name.omf*. Enter a filename of your choice. Avoid names that include spaces or special characters. Avid recommends that you use the .omf extension.
6. Select the destination folder for the file and click Save.

If you are exporting a file that includes media, make sure there is adequate space on the disk you are exporting to. If possible, avoid exporting to the system (root) disk.

The Film Composer system creates an OMF file in the folder that you selected.

If the sequence contains effects that are not supported by OMFI 2.0, you see a dialog box asking you if you want to continue.

Next, transfer the OMF file and media, if applicable, to the system where the additional editing will be done. See [“Transferring Projects and Media Files Between Systems” on page 521](#).



Do not select SD2 Format Audio for projects you are transferring to Audio-Vision. AudioVision can read Film Composer audio files without the SD2 option. Other audio applications such as Pro Tools require the SD2 option or OMFI Audio and Composition.

Export Format:

Avid Log Exchange

Tab Delimited

PICT

PICT Sequence

QuickTime Video & Audio

QuickTime Video Only

QuickTime Audio Only

Export Full Frame

OMFI Compositions Only

SD2 Format Audio

OMFI Video & Audio and
Composition

OMFI Video & Composition

OMFI Audio & Composition

Export as

Transferring OMF Files from Film Composer to AudioVision

After editing in Film Composer, you can export and transfer your sequence and media to AudioVision for audio sweetening, using OMF Interchange from Film Composer Release 5.11 and later. These instructions apply to AudioVision Release 3.6 or earlier and OMFI 1.0.

You can transfer the video from Film Composer to AudioVision by making a digital cut of the video, digitizing it into AudioVision, and playing the video remotely in AudioStation.

The instructions for transferring are divided into the following sections:

- Before you begin
- Step 1: Making a digital cut to tape of the edited picture
- Step 2: Consolidating the media files in Film Composer
- Step 3: Exporting the OMF Interchange composition from Film Composer
- Step 4: Relocating the media
- Step 5: Importing the composition

Before You Begin

To avoid problems, follow these guidelines when exporting from Film Composer:

- Set the pull-down switch on the Video Slave Driver to 1.00.
- Add a head and tail SMPTE (countdown) leader to your Film Composer sequence before exporting it, so you have some extra material at the head and the tail.
- Make sure there is an obvious sync point (such as a beep) so you will be able to line up picture and sound in AudioVision.
- The audio sampling rate of the sequence must be 44.1 kHz or 48 kHz. All audio clips in the sequence need to be the same sample rate.
- Do not modify the start or end timecodes of master clips, and do not convert the frame rates.

- Make sure that the sequence contains video digitized at a single AVR level. AudioVision does not display video for sequences that contain mixed AVR levels.



AudioVision 3.6 or earlier does not display video for sequences exported from Film Composer Release 6.0 or later.

- If you are transferring a PAL sequence from Film Composer, you must bring the sequence into Film Composer using Method 2 described in the “Planning a Film Project” appendix of the *Avid Film Composer Getting Started Guide*. Method 2 is summarized below:
 - Transfer the film picture alone to PAL video at a rate of 25 fps, then use Film Composer to digitize the picture at 25 fps.
 - Digitize the sound separately, either directly from the original audiotapes or from DAT transfer tapes, at the rate at which the sound was originally recorded. After digitizing, use Film Composer’s AutoSync command to join each picture master clip with its corresponding sync sound master clip.
 - Play and edit the captured picture at 24 fps and the audio at the sync sound rate or the rate at which it was captured.
- Occasionally, AudioVision stops importing and an “Out-of-memory” error message appears. This is because the OMF Interchange composition is too large, and needs to be exported from Film Composer in smaller sections. Divide the sequence into smaller segments by duplicating the sequence (perhaps several times), and deleting portions of each copy, and export and import each segment individually. After the segments are imported, you can edit them together easily and accurately.

The size of the OMF Interchange composition is not determined by the length of the sequence, but by its complexity. For example, a short sequence with many edits and tracks may be larger when exported as an OMF Interchange composition than a long sequence with only a few edits and only a few tracks of audio and video.

Step 1: Making a Digital Cut to Tape of the Edited Picture

1. Start the Film Composer system.
2. Open the bin containing the sequence you want to export.
3. Select the sequence and place it in the Record monitor.
4. Set the pull-down switch on the Video Slave Driver to 1.00, if it isn't already set to this. You must do this to synchronize the video and audio successfully in AudioVision.
5. If you are making a digital cut from a PAL sequence, select the Film Rate option to play back at 24 fps in the Digital Cut Settings window.
6. If possible, match the timecode on the tape to the sequence timecode, so the digital cut will place the video onto the tape at the proper timecode location. You can do this by striping the videotape with appropriate timecode before the transfer. If the digital cut has the same timecode as the imported audio sequence, synchronizing video and audio in AudioVision will be much easier.
7. Make a digital cut of the sequence to tape. (You only need to record the picture onto the tape, because you will be consolidating the audio separately.)

Step 2: Consolidating the Media Files in Film Composer

You consolidate the media to reduce the size of the media that must be transferred. When Film Composer consolidates, it creates a copy of the media, eliminating any sections of media not used in the sequence. Consolidation also lets you copy the consolidated media on to a single drive, for easier transfer. If you plan to consolidate, you must consolidate before exporting the OMF Interchange composition. For complete information on consolidating, see [“Consolidating Media” on page 184](#).

To consolidate media:

1. Select the sequence you want to export.

2. Duplicate the sequence, and place the copy in a new bin. (This preserves the links from your original sequence to the original media disk or disks.)
3. Remove the video track from the copy.
4. Select the copy of the sequence.
5. Choose Consolidate from the Clip menu. The Consolidate dialog box appears.

Consolidate

Delete original media files when done.

Skip media files already on the target disk

Relink selected clips to target disk before skipping

Target Disk:

0 Clip(s) selected

1 sequence(s) selected.

Handle Length: frames

Consolidate all clips in a group edit.

- Do not select “Delete original media files when done” unless you want to delete media files from your Film Composer drive after consolidating.



If you delete original media files, you will not be able to retrieve them, even from the original sequence.

- Choose a target disk with enough storage space to hold all the consolidated media files. (See [“Storage Devices for Transferring Media” on page 522](#) for more information about storage devices.)
- Type an adequate handle length. The handle length is the number of frames the system includes at the ends of the media files beyond what is used in the sequence. These frames are needed when you do trimming, dissolves, and crossfades.

6. Click OK.

Film Composer copies the media files to the selected target drive.

Step 3: Exporting the OMF Interchange Composition

1. Select the sequence you just consolidated.
2. Choose Export from the File menu.

The Export Format dialog box appears.



If you do not see Export on the File menu, choose Switch To Long Menus on the Special menu.

3. Select OMFI Compositions Only. Select OMFI 1.0 from the pop-up menu.

Export Format:

Avid Log Exchange

Tab Delimited

PICT

PICT Sequence

QuickTime Video & Audio

QuickTime Video Only

QuickTime Audio Only

Export Full Frame

OMFI Compositions Only

SD2 Format Audio

OMFI Video & Audio and
Composition

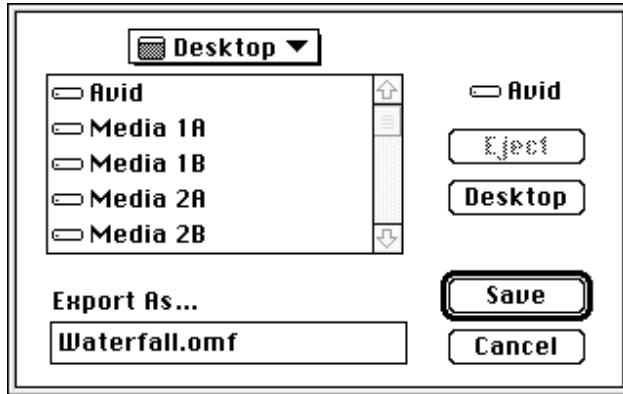
OMFI Video & Composition

OMFI Audio & Composition

Export as

4. Click OK.

The File Save dialog box appears.



5. Move to the disk and folder where you want to save the OMF Interchange composition. (The best place to save the file is on the same storage device on which you saved the media files.)
6. Enter a file name for the OMF Interchange composition, and click Save. The Sequence is exported.

Step 4: Relocating the Media

If you are transferring media on hard drives or RMAGs:

1. Quit the Film Composer and shut down your system.
2. Remove the disk or drives that contain the OMF Interchange composition and the consolidated audio media files from the Film Composer system. (For more information about storage devices, see [“Storage Devices for Transferring Media” on page 522.](#))



For information on the correct procedures for disconnecting and connecting drives, see the appropriate hardware guide.

3. With the AudioVision system turned off, connect the hard drives or RMAGs you removed from the Film Composer system.

Step 5: Importing the Composition

For information on importing the OMF Interchange composition into AudioVision, see the *Avid AudioVision User's Guide*.



Occasionally, AudioVision stops importing and an “Out-of-memory” error message appears. This is because the OMF Interchange composition is too large, and needs to be exported from Film Composer in smaller sections. For more information see [“Before You Begin” on page 504](#).

Transferring OMF Files to Pro Tools

Follow these basic steps to transfer files from Film Composer to Pro Tools:

1. Export from Film Composer (Release 5.2.1 or later) to an OMFI file.
2. Use OMF Tool to convert the exported OMFI file to a Pro Tools Session.



You can download OMF Tool from the Avid OMF Web site <http://www.avid.com/omf>.

3. Open and save the Pro Tools Session in Pro Tools.

These steps are described in the following sections. For more information, see the Pro Tools documentation.

Choosing How to Export the Sequence

There are two methods for converting a Film Composer sequence into a Pro Tools session. The difference between the two is how the media (audio) files are managed during the transfer.

- **Method 1: OMFI Compositions Only (with SD II locators):** Film Composer creates an OMFI file that contains all the editing information, but leaves the original audio files where they are. After translating the sequence with OMF Tool, Pro Tools will be able to reference these original audio files (created in Sound Designer II format) from the Film Composer's 5.x or 6.x MediaFiles folder.
- **Method 2: OMFI Audio and Composition:** Film Composer creates an OMFI file that contains all the editing information for the selected sequence as well as all of the audio files, in essence duplicating the audio files in a new format (AIFC).

Choose OMFI Composition Only if you want Pro Tools to reference the original Film Composer (Sound Designer II) audio files, and if you want to avoid duplicating the audio media in the OMF file, and then in SD II files on Pro Tools system. (You will need to transfer or copy the audio files from the Film Composer system to the Pro Tools system.) See [“Method 1: Using the OMFI Compositions Only Option” on page 515.](#)

Choose OMFI Audio and Composition if you want to simplify the file management and transfer required by having just one OMFI file containing edit and audio information. This method duplicates audio media and, therefore, requires more disk space. See [“Method 2: Using the OMFI Audio and Composition Option” on page 518.](#)

Choosing Whether to Consolidate Your Media Files

Before you export the sequence, you need to decide whether or not to consolidate your media files.

If you are running Pro Tools and Film Composer on the same computer: You do not need to consolidate your files. You can simply shut down and reconnect the hard drive with the audio files from the Avid SCSI bus to the Macintosh SCSI bus. Then start up and open the Pro Tools Session. Pro Tools looks for the associated audio files in the Film Composer's 5.x or 6.x MediaFiles folder. With this method, at no time

does any media get copied or converted in any way. The disadvantage to this method is that you must move the hard drive from one bus to another.



Pro Tools will only be able to play back audio files from drives connected to the Macintosh computer's SCSI bus.

If you are running Pro Tools and Film Composer on different computers: You have two options for handling the media that is referenced in the sequence that you are converting.

- Use Film Composer's Consolidate feature to consolidate your media files.
- Copy the media files manually from one hard disk to another.

The next sections describe the advantages and disadvantages of these two methods and tell you how to use either one.

Consolidating Your Media Files

The Film Composer system's Consolidate feature allows you to create copies of the sequence's media files to a selected hard disk. This makes it relatively simple to move your source files with you when you move to a different system. Using the Consolidate feature has the advantage of copying only the amount of media necessary. For example, it won't copy an entire 1-hour audio file in order to consolidate a single 10-second clip.

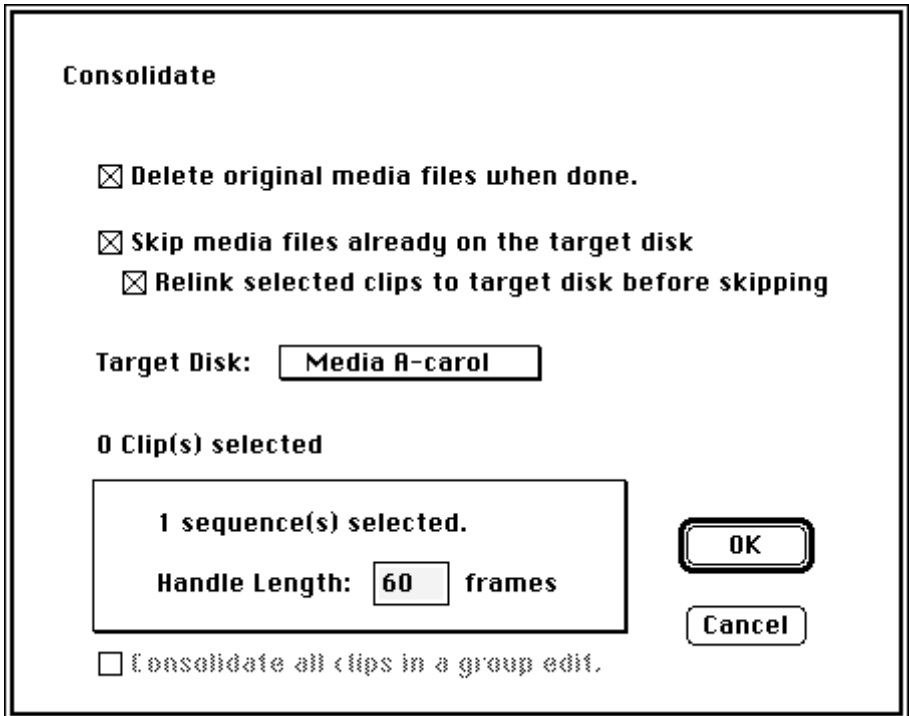
For more information on consolidation, see ["Consolidating Media" on page 184.](#)

To consolidate your media files:

1. Select the sequence you want to export.
2. Duplicate the sequence, and place the copy in a new bin. (This preserves the links from your original sequence to the original media disk.)

3. Remove the video track from the copy.
4. Select the copy of the sequence.

Choose Consolidate from the Clip menu. The Consolidate dialog box appears.



- Do not select “Delete original media files when done” unless you want to delete media files from your Film Composer drive after consolidating.



If you delete original media files, you will not be able to retrieve them, even from the original sequence.

- Choose a target disk with enough storage space to hold all the consolidated media files.

- Type an adequate handle length. The handle length is the number of frames the system adds to the ends of the media files beyond what is used in the sequence. These frames are needed when you do trimming, dissolves, and crossfades.

5. Click OK.

Film Composer copies the media files to the selected target drive.

Copying Media Files Manually

Some users do not like to use the Consolidate feature because it changes the way they manage media files. Instead, they like to simply export the sequence (using Film Composer's OMFI Compositions Only export option with the SD2 Format Audio box checked), and then transfer the associated media. This will work fine, with the following differences:

- The user is responsible for determining which media is associated with the sequence
- Either OMF Tool or Pro Tools may present a Where Is dialog box to locate the media (by file name) after it has been copied. Note also that using this method means that ALL the audio is copied (not just the 10-second clip from the 1-hour audio file, but the entire 1-hour audio file).

See ["Transferring OMF Files to Pro Tools" on page 511.](#)

Method 1: Using the OMFI Compositions Only Option

Using this export method for a selected sequence will create an OMFI file that contains all of the edit information in the sequence and includes Sound Designer II locators that reference the media (audio) files in the Film Composer's 5.x or 6.x MediaFiles folder. You then use OMF Tool to convert this OMFI file into a Pro Tools Session that references the same media files. This is possible because both Film Composer and Pro Tools use Sound Designer II as their native audio file

format. This type of conversion is the fastest, and it uses the least amount of hard disk space.

How to Transfer a Sequence to Pro Tools Using OMFI Compositions Only

To transfer a sequence from Film Composer to Pro Tools using OMFI Compositions Only:

1. If desired, consolidate your Film Composer media files (see [“Choosing Whether to Consolidate Your Media Files” on page 512](#)).
2. In Film Composer, choose Export from the File menu.
The Export Format dialog box appears.
3. Select OMFI Compositions Only, SD2 Format Audio, and OMFI 1.0.

These options create an OMFI file with the sequence’s edit data only. The file includes Sound Designer II locators that refer to the original 6.x media files.



Other audio applications may also be able to read original media files with the SD2 Format Audio option, or they may require a combined composition and media file ([“Method 2: Using the OMFI Audio and Composition Option” on page 518](#)). See the documentation for the particular application.

Export Format:

Avid Log Exchange

Tab Delimited

PICT

PICT Sequence

QuickTime Video & Audio

QuickTime Video Only

QuickTime Audio Only

Export Full Frame

DMFI Compositions Only

SD2 Format Audio

DMFI Video & Audio and Composition

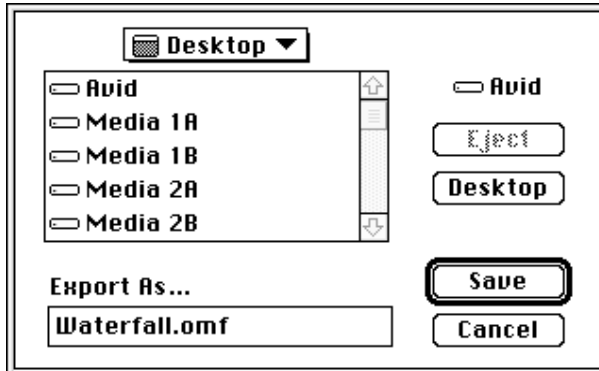
DMFI Video & Composition

DMFI Audio & Composition

Export as

4. Click OK

The File Save dialog box appears.



5. Select the destination folder, supply a file name, and click Save.

The files are converted and stored in the destination folder.

6. Copy the file from the Film Composer system to the Pro Tools system. Then refer to the Pro Tools OMF documentation for information on converting the OMF files to Pro Tools/SD II.
7. Transfer the media. See [“Transferring Projects and Media Files Between Systems” on page 521.](#)

Method 2: Using the OMFI Audio and Composition Option

This method produces a single OMFI file that contains all the edit information for the selected sequence, as well as all of the audio files. The audio is exported in the form of AIFC data within the OMFI file. The OMF Tool can then be used to convert this OMFI file into a Pro Tools Session.

Note, however, that using this method produces a total of three copies of the referenced media:

- The original in the Film Composer’s 5.x or 6.x MediaFiles folder.
- The converted version in the OMFI file

- The resultant Sound Designer II files in the Audio Files folder of the Pro Tools Session.

You can discard the intermediate OMFI file once the transfer is complete.

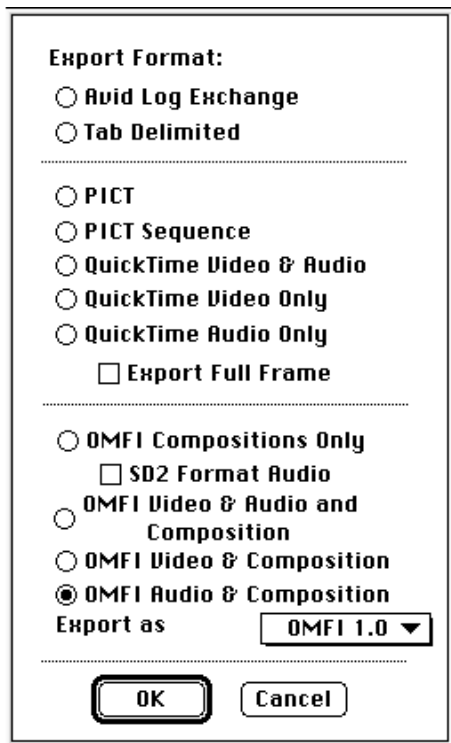
This method could take considerably longer as it has to translate the files from Film Composer to OMFI to Pro Tools. In addition, it requires three times as much disk space. It does have an advantage in that all of the edit information and media is contained in a single easily managed file, as opposed to an OMFI file and a collection of separate media files, as in Method 1. It also has the advantage of being more portable to other OMF-compatible applications that may not be able to read the Sound Designer II file format (using instead the more universally supported AIFC format).

How to Transfer a Sequence to Pro Tools Using OMFI Audio and Composition

To transfer a project from Film Composer to Pro Tools using OMFI Audio and Composition:

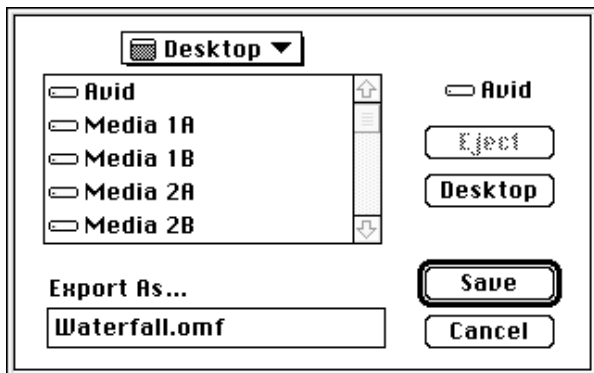
1. If desired, consolidate your Film Composer media files (see [“Choosing Whether to Consolidate Your Media Files” on page 512](#)).
2. In Film Composer, choose Export from the File menu.
The Export Format dialog box appears.
3. Select OMFI Audio and Composition. Select OMFI 1.0 from the pop-up menu.

This option creates a single file with all of the sequence’s edit data and the audio data, in AIFC format.



4. Click OK.

The File Save dialog box appears.



5. Select the destination folder, supply a file name, and click Save.

The files are converted and stored in the destination folder.

6. Copy the file from the Film Composer system to the Pro Tools system. Then refer to the Pro Tools OMF documentation for information on converting the OMF files to Pro Tools/SD II.

With this method there is no need to transfer media files.

Transferring Projects and Media Files Between Systems

This section provides information for transferring project files and digital media files among systems. Circumstances that require the transfer of projects and media files include the following:

- Transferring a work in progress for editing at another Film Composer site without redigitizing the media. This process is described in [“Transferring a Project to Another Film Composer System” on page 523.](#)
- Sharing media between networked systems using AvidNet™. This process is described in [“Using AvidNet” on page 524.](#)
- Adding effects or other enhancements in an OMF-compatible application. This process is described in [“Exporting OMF Files” on page 495.](#)
- Transferring a sequence to AudioVision for audio sweetening. This process is described in [“Transferring OMF Files from Film Composer to AudioVision” on page 503.](#)
- Transferring a project to Digidesign Pro Tools for audio sweetening. See [“Transferring OMF Files to Pro Tools” on page 511.](#)
- Transferring a project to other digital audio workstations. See [“Transferring OMF Files to Pro Tools” on page 511](#) and the documentation for the audio digital workstation.

Other methods of media transfer include:

- **AppleShare®:** You can transfer files between Macintosh systems by using Macintosh file sharing or an AppleShare server. See your Macintosh documentation for more information.

From UNIX® systems to Macintosh systems, you can use programs such as Xinet® K-AShare™ to mount UNIX volumes on a Macintosh desktop.

- **Internet File Transfer Protocol (FTP):** You can transfer files between networked systems using TCP/IP and FTP, including transfer from UNIX, PC, or other platforms. For transferring from Silicon Graphics systems to Media Composer systems using Fetch, see the Avid Technical note, “Using Fetch to Transfer OMF Files,” available through customer service.

Storage Devices for Transferring Media

When you transfer media from Film Composer, in most cases you consolidate the material onto a storage device, as described in [“Consolidating Media” on page 184](#).

The following is a list of storage devices, and related restrictions, to consider for the transfer of media files:

- **Removable hard drive (4 GB and 9 GB):** Both the Film Composer system and the target system must have compatible RMAG XL or MediaDock™ chassis. Both systems should be running the same version (latest) of the *AVIDdrive* Utility.
- **Fixed hard drive (4 GB and 9 GB):** Both the Film Composer system and the target system must have compatible device drivers. Both systems should be running the same version (latest) of the *AVIDdrive* Utility.
- **Avid DLT (digital linear tape) device:** Both the Film Composer system and the target system must have compatible versions of ARCserve® DLT software.



If you are transferring media from striped drives, make sure the other system supports striped drives. Check the Extensions folder for the AVIDstripe™ extension.

Transferring a Project to Another Film Composer System

When you transfer a project to another Film Composer system, make sure that:

- The memory allocation of Film Composer is similar in both systems.
- The AVRs are compatible between systems.
- The release of Film Composer on each system is compatible. See the *Avid Media Composer and Film Composer Release Notes* for a complete description of compatibility issues between releases.

To transfer a work in progress and associated media to another Film Composer system:

1. Consolidate the media for the project onto an appropriate drive for transfer to the other system, as described in [“Consolidating Media” on page 184](#).



Do not rename the folders named 5.x MediaFiles or 6.x MediaFiles located on the media drive. The target Film Composer system uses the folder names to locate the media files.

2. Copy the project folder and any settings files you would like to maintain at the new location onto a 3.5-inch diskette, as described in the *Avid Film Composer Getting Started Guide*.
3. Close the Film Composer application and shut down your system.
4. Remove the drives containing the consolidated media, and take these and the 3.5-inch diskette to the new location.
5. With the system turned off at the new location, insert or connect the drives and boot the system.

6. In the Finder, copy the Project folder and any settings to the Avid drive, as described in the *Avid Film Composer Getting Started Guide*.
7. Start the Film Composer application, open the project, and resume work.



Film Composer will reconstruct the MediaFiles database the first time you launch the application to incorporate the new media into the system's internal directory.

Using AvidNet

If your facility is equipped with AvidNet, you can simplify and speed the exchange of media between workstations by sending your material over a network using the AvidNet Transfer Tool and the Media Inbox located in the Tools menu.



*For more information on AvidNet, see the *AvidNet Peer-to-Peer Setup and User's Guide*. If you would like to purchase AvidNet, contact your Avid sales representative.*



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