

# STRATA<sup>TM</sup> VIDEOShop

*The Easy-To-Use  
Digital Video Editor*

**version 3.0**  
MACINTOSH

## User Manual

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**First Printing**  
*July 1996*

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S T R A T A



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## **SPECIAL CREDITS**

- Thanks to Rob Scott for his musical composition “Nina’s Eyes.”
- Thanks to Ed Stauff for his musical composition “On the Moor.”
- Thanks to Rob Gonsalves for his musical composition “Classical.”



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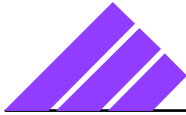
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# USER GUIDE

## INTRODUCTION

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### INTRODUCTION

The *VideoShop User's Guide* takes you step-by-step through the process of making a movie with VideoShop. The chapters are presented in roughly the same sequence you would follow in making a movie.

Of course, everyone has individual working styles, so if you are an experienced movie maker, you may want to skip around. Still, we recommend that you first read Chapters 1-3 to make sure you understand some basic concepts so that you can use VideoShop effectively.

If you are new to VideoShop or to movie-making, we recommend you follow the lessons in the *VideoShop Tutorial* before reading the *VideoShop User's Guide*. Feel free to experiment with the menus, tools, and buttons as you follow the instructions.

### WELCOME TO STRATA VIDEOSHOP

Welcome to Strata VideoShop®. With VideoShop, you can mix video, text, graphics, effects, CD-quality audio, and pictures to create high-quality videotapes and digital movies. Strata VideoShop is the perfect tool for business communicators, educators, and media professionals who need to create compelling messages.

This guide is designed to help you master VideoShop quickly and easily. If you are not familiar with the basics of operating a Macintosh computer, please refer to your Macintosh manual.

This book is divided into the following parts:

**The Table of Contents** provides a roadmap for the information in this manual.

**The Introduction** details how to get started with VideoShop, introduces VideoShop, and outlines the key steps for creating a digital movie.

**Chapters 1 through 12**, the bulk of the *User's Guide*, take you step-by-step through detailed procedures used to create, edit, view, save, and manage digital movies in VideoShop.

**Appendix A**, Memory Management, discusses how to operate VideoShop under different memory constraints and gives information on allocating memory.

**Appendix B**, File Formats, lists file formats that are compatible with VideoShop and describes how to import graphics, audio, and text created in other applications into your VideoShop movie.

**Appendix C**, Finding and Organizing Clips with Catalogs, discusses how to use a database to manage clip information.

**Appendix D**, Troubleshooting Guide, offers suggestions for what to do if you encounter difficulties when using VideoShop. The Strata Technical Support Staff has found that users can solve many problems readily by checking the settings listed in this appendix.

**Appendix E**, Tips and Techniques, shares some secrets that may help you use VideoShop more effectively.

**The Index** helps you locate information discussed in this manual.

## Getting Started

Follow these steps to ensure that you have VideoShop set up and ready to go:

- Check that you have all VideoShop materials
- Configure your Macintosh
- Make a backup copy of your disks
- Install VideoShop
- Register for technical support

### *Check for All VideoShop Materials*

Your VideoShop box should contain the following materials:

- VideoShop registration card
- *VideoShop Getting Started*
- *VideoShop User Manual* (Electronic)
- *VideoShop Reference Manual* (Electronic)
- *VideoShop Quick Reference Card*
- VideoShop CD (or diskettes)

If any of the above items are missing, please contact Strata Customer Support at (800) STRATA3D, or contact your local distributor.

### *Configure Your Macintosh*

We recommend the following system configuration:

- **Computer:** Quadra or Power Macintosh.
- **Memory:** Minimum of 5 MB of RAM. For optimal performance, we recommend at least 8 MB of RAM.
- **Storage:** Minimum of 40 MB of hard disk storage. We also recommend a removable storage system.
- **System software:** System 7.0.1 or later.
- **System extensions:** QuickTime 2.0 or later and Sound Manager 3.0 (included).

Depending on your use of VideoShop, hardware requirements may vary. The following table gives you an idea of the general hardware requirements. If you are installing boards or devices, please refer to the installation manual that came with your hardware.

Goal	Hardware Requirement
Play and work with clips from a CD-ROM.	CD-ROM drive.
Record your own video and/or audio to hard disk.	QuickTime-compatible video digitizing board and audio board/device. Fast hard drive for optimal performance.
Create and view full-screen, full-motion video.	Fast hard drive for optimal performance. QuickTime-compatible video compression/decompression board; decompression board must be compatible with the board used to record and compress video. (Normally, the same board will provide both compression and decompression.)
Print your movie to videotape.	Video-out board (capability included in some video digitizing boards).

<b>Goal</b>	<b>Hardware Requirement</b>
Archive your video library.	Mass storage devices, such as magneto-optical drives, hard disks, and removable cartridges.
Improve performance of movie recording and playback.	Accelerator board, compression/decompression board.
Create a network environment for sharing movies.	Accelerator board, compression/decompression board. Network: Ethernet or faster for reasonable performance.

	<b>Required</b>	<b>Recommended</b>
<b>CPU:</b>	Mac II or better	Quadra or Power Macintosh
<b>Memory:</b>	5 MB	8-20 MB depending on movie size and complexity
<b>Storage:</b>	40 MB	100 MB or more
<b>System Software:</b>	7.0.1 and tuner	7.1 or later
<b>System Extensions:</b>	QuickTime 2.0 Sound Manager 3.0	Hardware System Update 3.0 QuickTime 2.0 Sound Manager 3.0 MIDI Manager (to use external synthesizers)

### *Backup Your Disks*

Your license agreement authorizes you to make one backup copy of the VideoShop software. To back up your software, you need to copy each of the folders labeled “Install Disk” onto a different double-sided, *high-density* disk. Make sure that you name each copy identi-



cally to the original folder or disk. If you need additional instructions about how to make copies of disks, see your Macintosh manual.

### *Install VideoShop*


The VideoShop installer automatically copies the VideoShop 3.0 software, the VideoShop Config file, and the QuickTime INIT onto your hard disk (or onto any other disk you specify). Installing VideoShop requires a minimum of 5 MB of free disk space. During installation the VideoShop installer:

- Creates a new folder called **Strata VideoShop® 3.0**.
- Copies the VideoShop software into the **Strata VideoShop® 3.0** folder.
- Creates a folder in the **Strata VideoShop® 3.0** folder called **Recording Folder** and sets it as the default recording folder. Newly recorded clips are automatically placed in this folder unless you designate another recording folder. (Please refer to Chapter 11 for more information on the recording folder.)
- Creates a folder in the **Strata VideoShop® 3.0** folder called **Plug-Ins** and sets it as the default plug-ins folder. Filter and transition effects are then copied into this folder. (See Chapter 7 for information on plug-ins folders.)
- Copies **QuickTime 2.0** and the **Strata VideoShop 3.0 Config** file into your computer's System folder.

#### **To install VideoShop on your hard disk:**

1. Insert **VideoShop Installer Disk** into the internal drive of your Macintosh.
2. Double-click the **Strata VideoShop 3.0 Installer** icon.
3. Click **Install**.

Strata VideoShop and the tutorial files are placed on the startup disk.

 **NOTE:** If you choose **Custom Install**, remember VideoShop requires QuickTime 2.0 and Sound Manager 3.0 Extensions in your System Extensions folder on your startup disk. If you are using older versions of these extensions or do not have these extensions, check the QuickTime 2.0 and Sound Manager 3.0 checkboxes at the end of the **Custom Install**

*options list.*



**TIP:** If you are planning to use VideoShop to control video equipment that use the ViSCA protocol, copy the **ViSCA Control Panel** from the **ViSCA™ Driver 1.2 folder** to the **Control Panels folder** in your **System Folder** on your startup disk.

## Register for Technical Support

Be sure to fill out and send in your product registration card in order to receive user service, contest information, free maintenance revisions, technical support, and notification of future upgrades to VideoShop.

## When You Contact Technical Support

So that Strata's Technical Support staff can better help you, please have the following information available when you call:

- Registration number
- Version number of VideoShop software
- Macintosh model
- Version number of Macintosh system software
- Version number of QuickTime software

You can reach the Strata Technical Support staff in a variety of ways:

- Voice telephone: (508) 640-3070 between the hours of 9:00 A.M. and 7:00 P.M. (EST)
- AppleLink: StrataNewMedia (Attn.: Technical Support)
- CompuServe: 71333,3020
- America Online: StrataNewMed
- eWorld: StrataNewMedia
- Fax: (508) 640-9486

## INTRODUCTION TO VIDEOSHOP

VideoShop movies are a wonderful medium for creating storyboards, producing dazzling videotape presentations, and developing powerful interactive training and educational materials. Regardless of the application or project, VideoShop enhances the expression of your ideas.

In 1991, Apple Computer introduced QuickTime, a system software architecture for integrating media on the Macintosh. QuickTime revolutionized the capabilities of the Macintosh by bringing motion images and sound to *every* color Macintosh. Strata VideoShop is designed to let you take full advantage of QuickTime.

VideoShop provides everything you need to create and present QuickTime movies quickly, easily, and intuitively. With VideoShop, you can:

- Record video from a VCR or camcorder to your hard disk
- Archive and search for video material
- Storyboard your creative concepts
- Edit movies with cut, copy, and paste simplicity
- Apply filter and transition effects
- Layer and composite multiple movies on the screen
- Add titles and overlay graphics
- Compose a presentation that combines video, text, graphics, music, voice overlay, and animation

VideoShop simplifies the creation of high-quality digital movies and videotapes. With the ease of cut, copy, and paste, you can compose dramatic movies that combine video, graphics, PhotoCD pictures, text, and audio.

To give you a better understanding of how to use VideoShop, let's outline the framework for creating a digital movie:

- Recording
- Movie composition
- Delivery
- The VideoShop windows

## Recording

To create a movie, you first capture the video and audio using recording devices you are familiar with, such as a camcorder. Using VideoShop, you then transfer the video and audio clips electronically to the hard drive on your Macintosh, where the data is stored in a digital format. This is known as **digitizing** video. The VideoShop software lets you edit and manipulate the digitized video clips.

### *Digitizing*

VideoShop's built-in recording module works in conjunction with any QuickTime-compatible digitizing board. The recording module allows you to record video and audio to your hard drive from a camcorder, VCR, videodisk, or any other video source. (Requires additional hardware.) Please refer to Chapter 11 for more information.

Depending on the kind of hardware digitizing board you are using, the quality of your video may vary. Some digitizing cards have compression capabilities built in. Other cards capture full video frames without compressing them. It is then up to the computer to compress the images before they are transferred to the hard disk drive. Some boards let you record and play "full screen" video, while others let you make movies that fill only one-quarter of the screen. (For more information on compression, please see the *VideoShop Reference Guide*.) The VideoShop recording module supports all the different types of digitizing cards.

## Movie Composition

VideoShop lets you create movies on your Macintosh intuitively and easily. You start by storyboarding the movie to build the general flow of images and sound. You can edit your movie with VideoShop's dazzling array of special effects, filters, and titles, and you can add multiple tracks of video and audio to create layers of video and mix multiple audio tracks.

### *Storyboarding*

VideoShop provides you with easy-to-use tools for sequencing video, audio, still images, text, graphics, and animation clips. To create a movie, simply drag and drop media elements into the storyboard. Change the movie sequence by rearranging video clips, again simply by dragging and dropping.

## *Editing and Special Effects*

Once the storyboard is set, you switch to time view for an accurate, frame-by-frame view of your clips. In time view, you edit your movie using VideoShop's cut, copy, and paste features, which let you edit precisely to the single frame level. VideoShop's **trimming** feature lets you make edits that you can "undo" or change. You can also apply filters and special effects to video frames just as easily as you apply bold and italic styles to letters in a word processor. Simply select frames of video and choose the desired effect from a menu.

## *Movie Layout*

VideoShop's unique layering and layout features allow you to size, position, and composite an unlimited number of media elements. An intuitive canvas interface lets you position video and text clips, resize them to any shape, and define motion control to "fly" the clips across a path. With multi-layered motion control and digital filters, you can create truly stunning effects right on your desktop.

## **Delivery**

After you have recorded and edited your movie, you can deliver it in a format ready to play on a computer monitor, projection screen, or videotape.

## *Screen Playout*

You can project the VideoShop movie from your Macintosh onto a projection screen or computer monitor for high-impact movie presentations. Since all movies are saved in the QuickTime format, you can easily incorporate your finished movie into other Macintosh or PC training and presentation packages that support QuickTime.

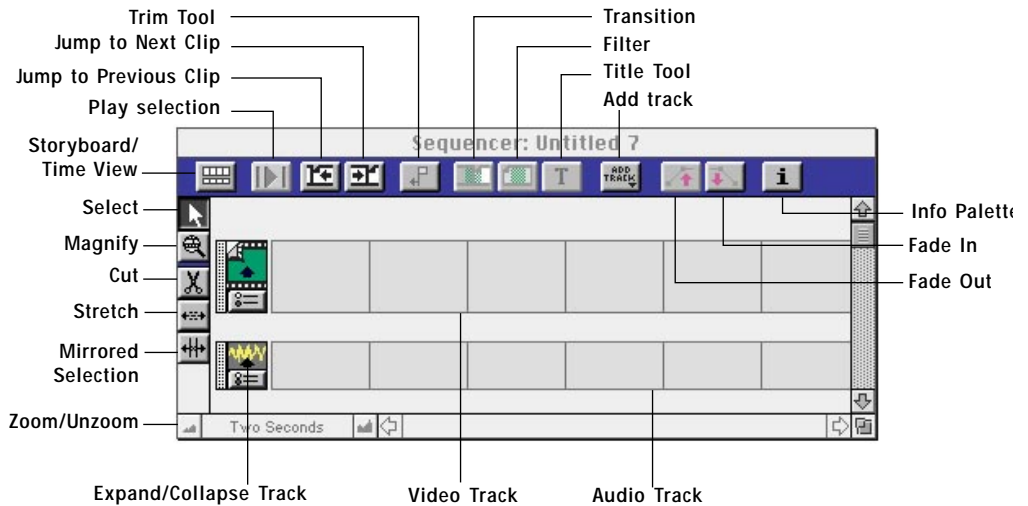
## *Print-to-Tape*

VideoShop's built-in print module allows you to print to videotape with any video-out hardware card. Videotapes let you reach a broad audience because they do not depend on computers: anyone with a VCR can watch your VideoShop movie on a videotape. Compose dynamic motion presentations with VideoShop and print them to videotape for mass distribution.

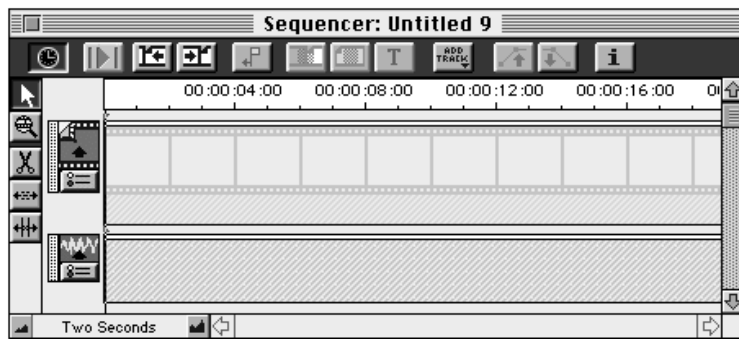
## VideoShop Windows

All activity in VideoShop is performed through a collection of VideoShop windows. Key windows include the sequencer window (which has two views), the canvas window, the clip window, the folder window, the recording window, the info palette, and the titling window. The VideoShop logger enhances the functionality of the recording window and adds two new windows to VideoShop, the device control window and the logging window. Samples of these VideoShop windows are displayed on the following pages.

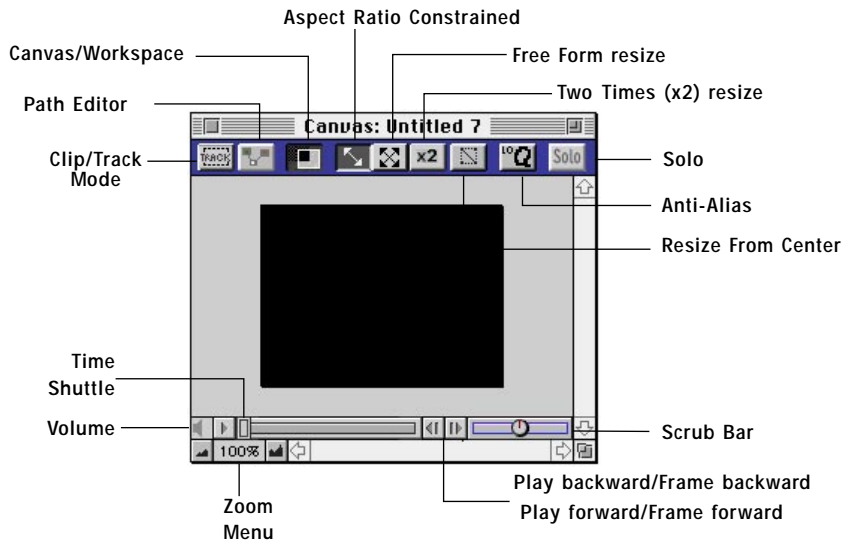
## Sequencer Window (storyboard view)



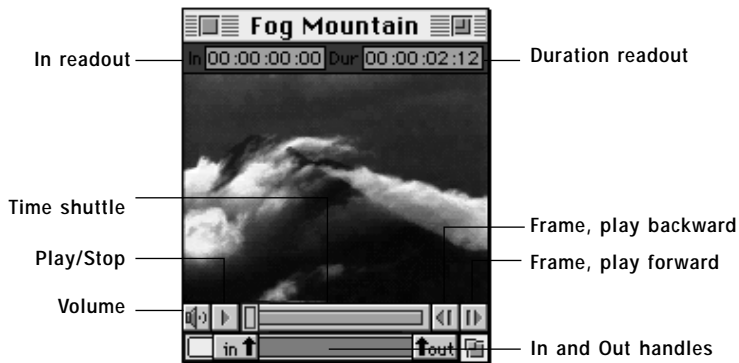
## Sequencer Window (time view)



## Canvas Window

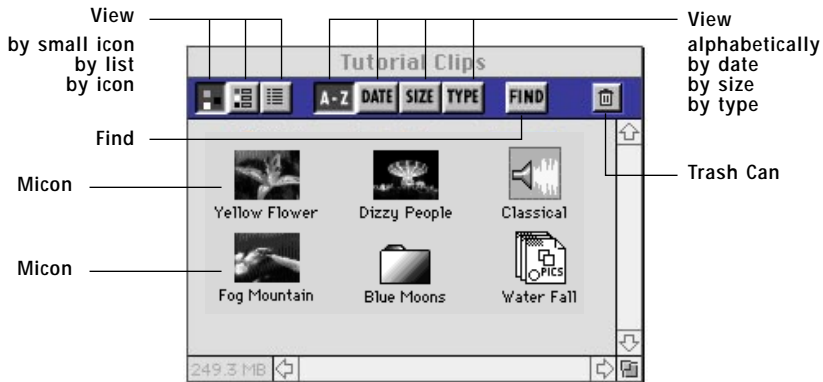


## Clip Window

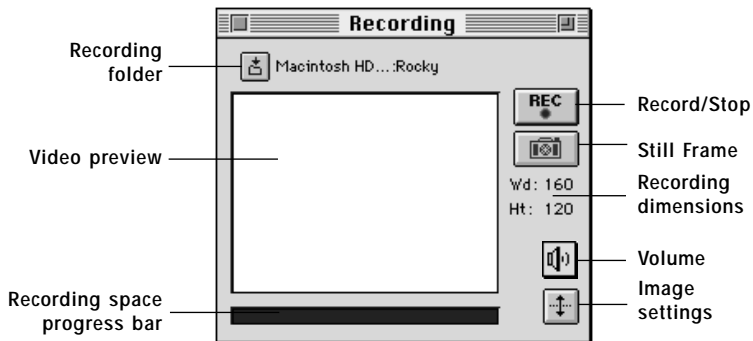




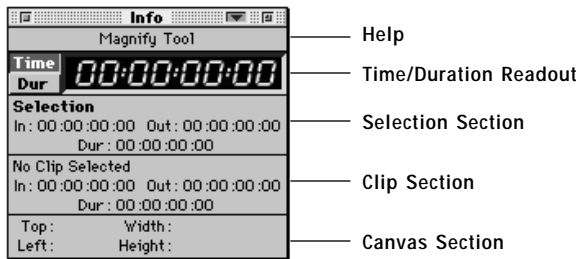
## Desktop Window



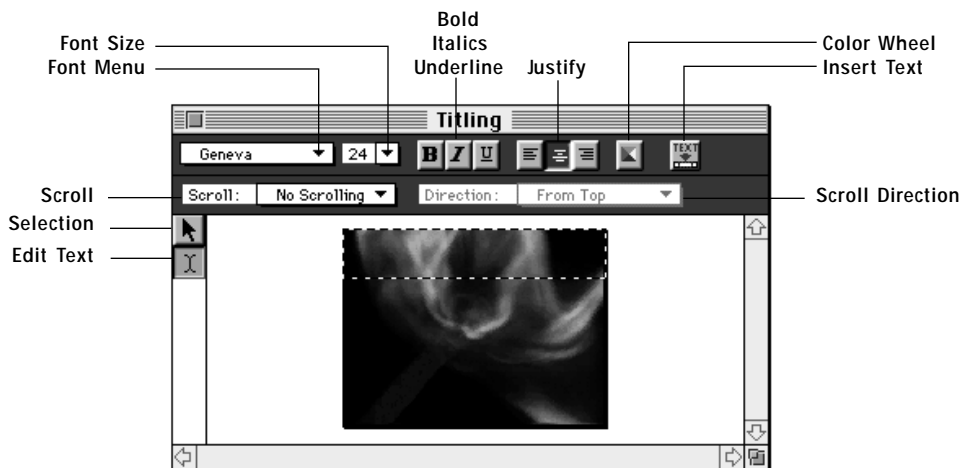
## Recording Window



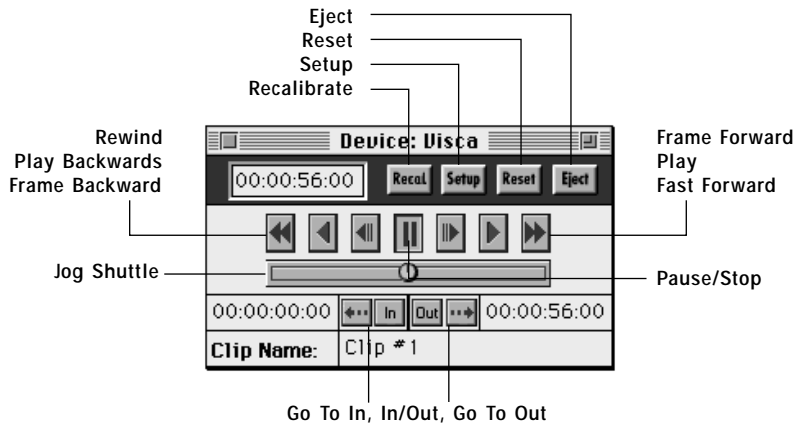
## Info Palette



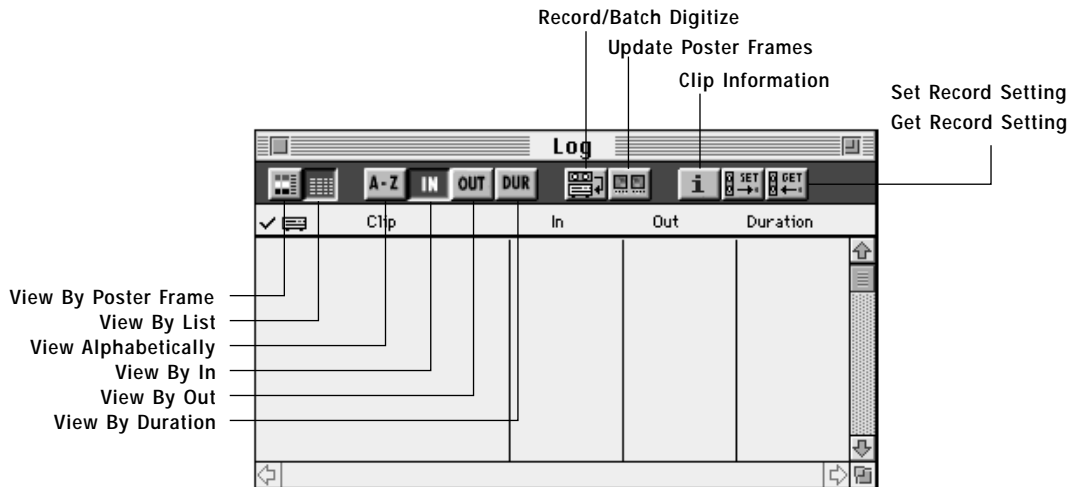
## Titling Window

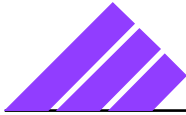


## The Device Control Window



## The Logging Window





# CHAPTER 1

## **MANAGING MEDIA**

---

### INTRODUCTION

Macintosh users are familiar with the Macintosh Finder and its ability to display and organize files in folders. VideoShop builds on this knowledge and provides powerful means for managing media files.

QuickTime video and audio files differ greatly from the word processing, graphics, and spreadsheet files that most people are familiar with. With QuickTime files in particular, simple names do not adequately distinguish one file from another. That is why VideoShop uses **Micons**, movie icons—thumbnails of QuickTime movie files—which let you quickly preview a selected portion of the movie. The duration of a Micon is normally 3-5 seconds.

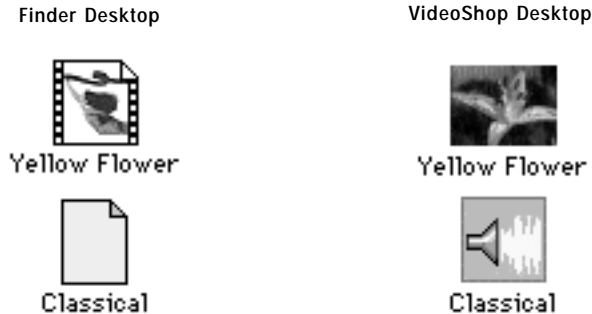
VideoShop provides a desktop of its own, called the **VideoShop desktop** (“the desktop” in this book).

This chapter explains how the enhanced VideoShop desktop works and how to use it to quickly find and organize your movie files. This chapter covers the following topics:

- Understanding the VideoShop desktop
- Working with folders and files
- Playing movies
- Adding Micons to QuickTime movies
- Finding media clips
- Using the **Find** command

## UNDERSTANDING THE VIDEOSHOP DESKTOP

The VideoShop desktop replaces the Macintosh Finder whenever VideoShop is the active application.

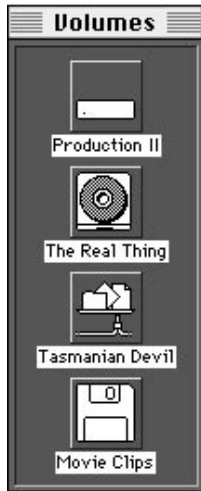


Whenever you work in VideoShop, the desktop displays only QuickTime and media-related files. Word processing, spreadsheet, and other application files are hidden and the same files in the Finder take on a new appearance.

Two parts of the VideoShop desktop are displayed immediately whenever you launch VideoShop: the volumes window and the desktop window. These components let you organize the VideoShop desktop and access media files stored on disk.

### The Volumes Window

The Volumes window has a heavy border and appears in the upper right corner of the desktop. It provides access to the disk drives (volumes) currently available on your Macintosh.



Volumes window

**To open a volume:**

- ☐ Click the volume's icon once.

The desktop window of that volume appears.

**To close a volume:**

- ☐ Click the volume's icon once again.

The desktop window of that volume closes.

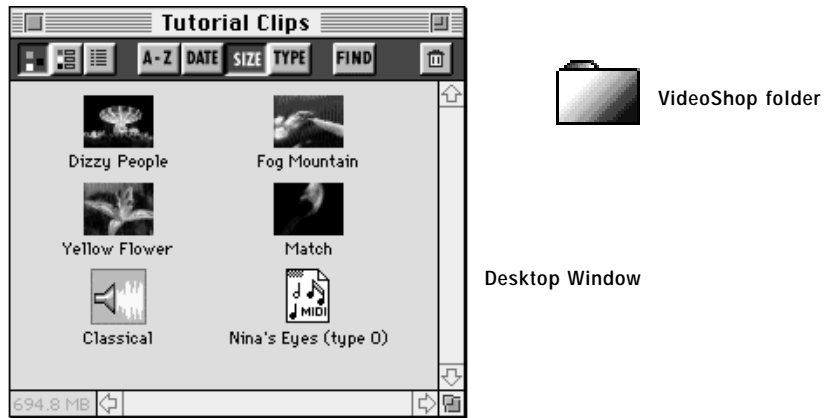
## Desktop Windows

Desktop windows contain all media elements needed to create QuickTime movies, such as video and audio clips, sequencers, and graphics files.

Remember, in the desktop windows, the non-graphics and non-QuickTime files are hidden.

## WORKING WITH FOLDERS AND FILES

A folder on the VideoShop desktop behaves like a folder in the Finder, except desktop windows in VideoShop have a toolbar at the top.



With VideoShop's commands and toolbar buttons, you can:

- Arrange files according to name, file type, date last saved, or file size
- Create, name, and delete folders and media files
- Copy and delete media elements
- Display particular file icons to quickly identify the different types of files in folders
- View file information, such as file size, last modification date, media duration, media types in file, and other information

**To switch between VideoShop and your other applications:**

- ☐ Use the Macintosh's Application menu, in the upper right corner of your screen.

*or*

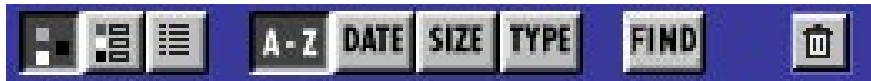
- ☐ Click anywhere outside a VideoShop window.

## How Desktop Windows Differ from Finder Folders

Desktop windows behave similarly to Finder folders. You can select files within a desktop window in the same way, drag files, select all files (⌘-A), and double-click to open folders.

There are five significant ways in which desktop windows differ from Finder folders:

- A VideoShop toolbar across the top of each desktop window helps you organize folder contents.



Desktop window toolbar

- You cannot drag files from a desktop window onto the Finder desktop. Instead, files can only be dragged from one desktop window to another or into a sequencer.
- You cannot drag files into the Finder's trash can. Delete selected files by clicking the Trash button, the upper right button in every desktop window's toolbar.
- The desktop window displays each selected file's size in bytes in the file size readout, in the lower left corner of each desktop window. (This is very useful when you need to find the size of large video and audio clips.)
- Choose **Get Catalog Info** from VideoShop's **File** menu when you need data about QuickTime clips and other files. This command invokes the VideoShop catalog, or whatever database you have selected. Appendix C describes how to select a catalog.

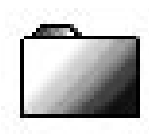
## Media Files Displayed in Desktop Windows

VideoShop displays only movie-related files in desktop windows. All other types of files are hidden.

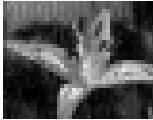
The following table shows those files that are displayed and ways to access each, beyond the standard Macintosh method of selecting the file and choosing **Open** from the **File** menu (⌘-O).



## Media Files



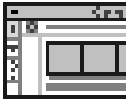
**VideoShop Folders** contain media files for making Quick-Time movies. Double-click or open from the **Desktop** menu.



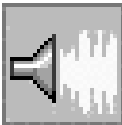
**Micons** are moving video files. Click once to select and run the Micon. Double-click to open and view in a clip window.



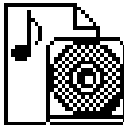
The **Hand & Scissors** icon is the default icon for a moving video file when a Micon has not yet been created for it. Double-click to open and view in a clip window.



The **Sequencer** icon is a saved sequencer file. Double-click to open.



**Audio** icons are sound files in SND standard file format. Double-click to playout audio. Click once to stop playout.

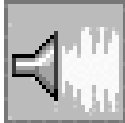


**Audio CD** icons are tracks of CDs which can be included in sequencers. Double-click to playout or drop into a sequencer to establish compression settings.

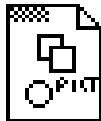
## Media Files (continued)



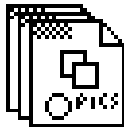
**MIDI (Musical Instrument Digital Interface)** files are music files which can be incorporated into music tracks of VideoShop sequencers. Drag and drop these files into the music track of the sequencer to display a dialog box from which these files can be edited.



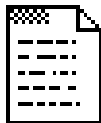
**AIFF (Audio Interchange File Format)** files are a type of audio file. Double-click to open a clip window. Hold down the **Option** key to change the Double Arrow Hand tool visible in the clip window to the Hand to grab the file and drag it into the sequencer.



**Picture (PICT)** icons represent still images. View these files by dropping them into VideoShop.



**Animation (PICS)** icons represent animated files. View these files by dropping them into VideoShop.



**Text** icons represent unformatted text files, as well as all the file types that the desktop knows about through QuickTime's importing capabilities (including CD and audio, for example). View these files by dropping them into a sequencer.



Recording Folder

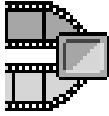
The **Recording Folder** is the target folder for newly recorded video clips. Double-click or open from the **Desktop** menu.



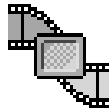
Plug-Ins

The **Plug-Ins Folder** contains VideoShop effects and filters. Double-click to open.

## Media Files (continued)



**Transition Effect** icons represent video (or audio) transition effects applied between clips. These cannot be opened. Apply transitions with the **Transition** command on the **Sequencer** menu.



**VideoShop Filters** are applied to a selected frame or frames. These cannot be opened. Apply filters with the **Apply Filter** command on the **Sequencer** menu.



Desktop Folder

The **Desktop Folder** lets you access items on the Finder desktop.



Trash

The **Trash Folder** holds those files and folders placed into the Finder Trash Can.

## Creating New VideoShop Folders

In the Finder, you create new folders by choosing **New Folder** from the **File** menu. In the VideoShop desktop, you create new folders by choosing **New Folder** from the **Desktop** menu.

### To create a new folder:

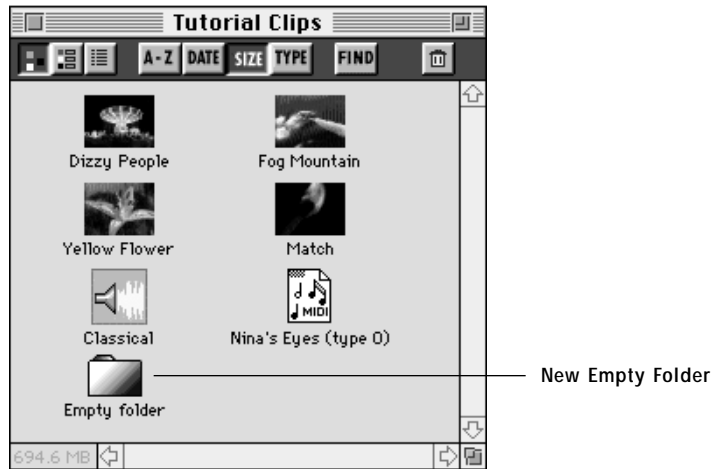
1. Open or click to select a desktop window.

VideoShop requires that at least one folder be open. New folders are created within this folder.

2. Choose **New Folder** from the **Desktop** menu.

A folder icon titled “Empty folder” appears inside the desktop

window.

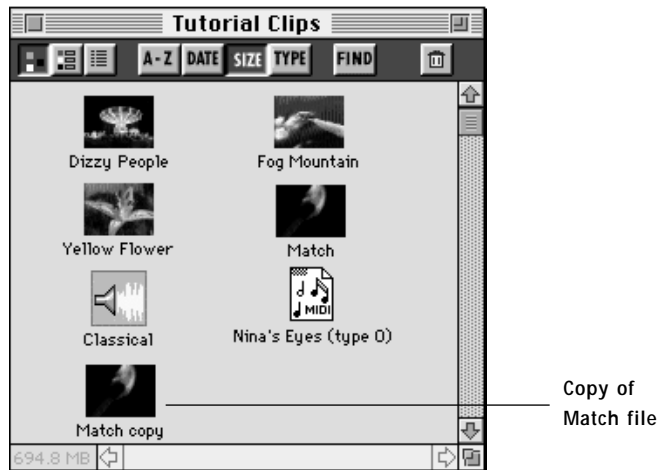


## Copying and Renaming Files

To create a new copy of media files:

1. In the desktop window, select the files you want to copy.
2. Choose **Duplicate** from the **Edit** menu, or press E-D.

The files are copied.




It is currently not possible to duplicate a folder with all of its con-

tents.

#### To rename files and folders:

1. Click once to select the file or folder you want to rename.  
The name field is outlined. Click the name field with the Selection tool. The Selection tool changes to a text insertion cursor.
2. Type a new name for the folder.
3. Press **Return** or click the mouse anywhere outside the folder to accept the new name.

### Deleting a Folder or File

 **NOTE:** *Be careful when deleting folders or files because the delete operation cannot be undone. If you accidentally delete a file or folder, you may be able to recover it with a utility program that retrieves deleted files—but full recovery is not guaranteed, even with use of such a utility.*

#### To delete a folder or file:

1. Select the folder or file to delete.
2. Click the **Trash** button in the folder's toolbar.



*or*

Select **Delete** from the **Edit** menu or press E-K.

VideoShop asks if you are sure you want to delete the folder or file.

### Creating Folder “Shortcuts”

When you are working on a project, the folders you need to access may be deeply nested. You can make finding and opening frequently used folders easier by creating folder shortcuts.

#### To create folder shortcuts:

1. Choose **Folder Access** from the **Desktop** menu.
2. Choose **Add Folder to This Menu** from the submenu. In the dia-

log box, select the desired folder. You may need to navigate up or down the directory list to locate the folder.

**To open a folder that is not displayed:**

1. Choose **Folder Access** from the **Desktop** menu and drag the cursor to the submenu.

The top part of the submenu lists the currently available drives or disks (also called **volumes**). Choosing a volume from this list opens that drive.

The middle section of the submenu lists folders that have been added to the menu for easy retrieval.

2. Double-click on the desired folder to open it.

The desktop window opens on the desktop.

## Special Commands for Managing Folders

The bottom portion of the **Folder Access** submenu lists the following commands for managing the list of folders:

**Open Recording Folder.** Opens the folder designated to contain recorded video files.

**Add Folder To This Menu.** Adds the name of a selected folder to the submenu's list or, if one is not selected in the current desktop window, prompts you to select a folder to add.

**Remove Folder From This Menu.** Removes the name of a folder from the submenu's list.

**Unmount Volume.** Closes the selected disk or hard drive and removes it from the desktop. If you unmount a removable drive, such as a floppy disk or cartridge, VideoShop ejects it.

## Managing the List of Often-Used Folders

Folder names can be added or removed from the list in the **Folder Access** submenu. If you search for a folder often, it's a good idea to add its name to this list. You can always remove folders from the list to make room for other folders.

**To add the name of a folder to the folder access submenu:**

1. Choose **Add Folder To This Menu** from the **Folder Access** submenu.
2. Click to select the folder that you want to add.
3. Click **Select Folder**.

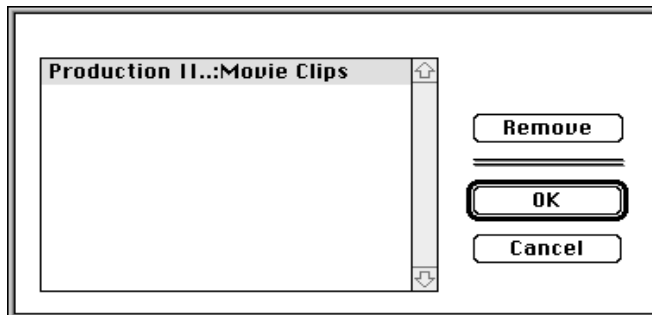
The folder's name appears in the submenu until you remove it.



**To remove the name of a folder from the folder access submenu:**

1. Choose **Remove Folder From This Menu** from the **Folder Access** submenu.

A dialog box displays the names of the currently listed folders.



2. Select the name of the folder you wish to remove.
3. Click **Remove**.

The folder name is removed from the submenu.

4. Click **OK**.

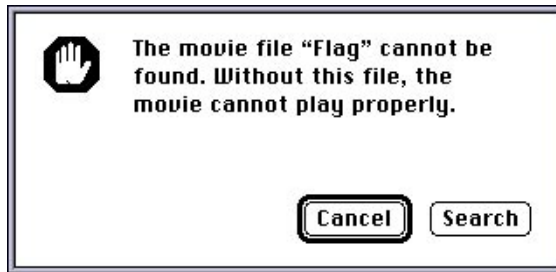
## PLAYING MOVIES

**To play a movie:**

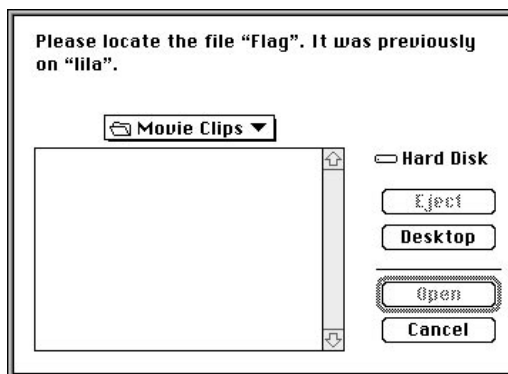
- ☐ Double-click the movie's icon.

Depending on how the person who made the movie chose to save it, VideoShop may need additional files to play the movie. (These files hold the video and audio clips used in the movie.) The movie-maker is supposed to copy these onto the same disk as the movie itself, but mistakes happen. Or, if the files were moved to a different folder or renamed, VideoShop will need help locating them.

When VideoShop cannot find a file it needs, it displays a dialog box:



You have two options: **Cancel** or **Search**. If you choose **Search**, another dialog box appears:



After locating the movie, you can play it.

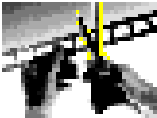


If you still cannot find the files, contact the person who gave you the movie and request the missing files.

## ADDING MICONS TO QUICKTIME MOVIES

When you save a sequence as a movie, or when you record your own video clip, the resulting file appears in desktop windows with VideoShop's default Hand & Scissors icon. You can assign a Micon to the movie to more easily identify movie media. Note that the **Save As Movie** command (on the **File** menu) offers the option of automatically creating a Micon when a sequence is saved.

### To add a Micon to a movie:



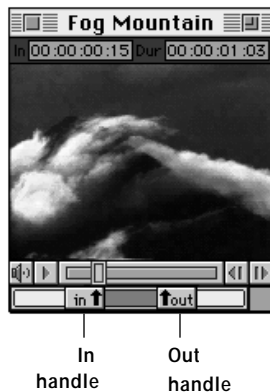
1. Select the movie's Hand & Scissors icon.
2. Choose **Add Micon To Selected Clip** from the **Desktop** menu.

The Micon takes the place of the former icon. The Micon's default preview is the first 60 frames of the movie, but you can change both the portion and the length of the preview.

### To customize the portion to be used as a Micon:

1. Double-click the Micon in the VideoShop desktop.

The movie's clip window is displayed.



2. Use the In and Out handles to select a portion of your movie. The selection indicates which portion of the movie is used for the pre-

view.

3. Choose **Define Movie Preview** from the **Edit** menu.
4. Close the clip window.

A dialog box appears

5. Click **OK** or press **Return**.

You can watch the new preview by selecting the movie's Micon.

## FINDING MEDIA CLIPS

Sifting through large numbers of files on a computer to retrieve your desired files is made easier with VideoShop. VideoShop finds and retrieves files using three methods:

**By name.** Use VideoShop's **Find** command and the **Find** button on each desktop window toolbar, to quickly retrieve and display a stored clip, file, or folder by name. VideoShop's **Find** command works like the Finder's **Find** command.

**By catalog.** To find files by their characteristics (size, date last modified, keywords, file type) open the Strata Cataloger by choosing the **Get Catalog Info** command from the **File** menu.

**By preview.** Use the **Open** command to locate and open files. The **Open** command works like the **Open** command in most other applications with a few notable differences. When a clip is selected, a still preview of the image appears. This preview helps to identify and differentiate between clips. The **Open** command also lets you search by name, just as with the **Find** command.

VideoShop allows you to access external databases to organize and keep track of your movies. VideoShop includes a tool called the Strata Cataloger, a HyperCard-based database that helps you organize, annotate, and find your many movie-related files. You can also replace the Strata Cataloger with other catalog or database applications. For more information about catalogs, see Appendix C.

## USING THE FIND COMMAND

If you know the name of a folder, video clip, audio clip, movie, or sequencer that you need to display, you can locate it quickly with the **Find** command.

Although all *folders* on your system are located through VideoShop's **Find** command, non-movie files within those folders (such as text or spreadsheet documents) are neither found nor displayed.

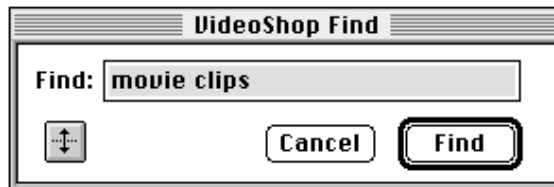
**To find a media file:**

1. Click the **Find** button on the desktop toolstrip.

*or*

- ☐ Select **Find** from the **File** menu or press E-F.

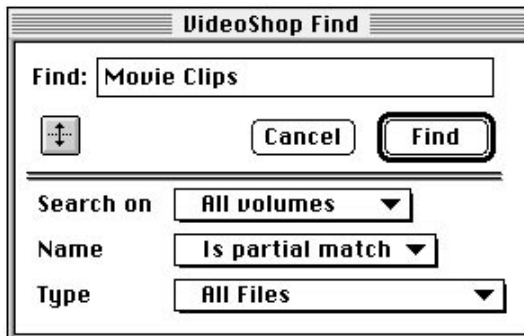
A dialog box appears.



2. Type the name of the file into the text field. Don't worry about capitalization; the search function is not case sensitive.



Click the Extra Options button to extend the dialog box. These additional settings allow you to restrict the search, which makes the process faster.



**Search On.** Allows you to search specific volumes, or to search all the drives on your system. Restricting searches to particular drives can save time.

**Name.** Offers two choices, **Partial Match** and **Exact Match**. If you know the exact full name of the file, choose **Exact Match**. If you know part of the name, choose **Partial Match** (the default choice). VideoShop displays the file with the name that most closely matches your entry. VideoShop alerts you to the existence of more than one matching name.

**Type.** Allows you to restrict your search to file type, such as **Video**, **Audio**, **PICT**, **Movies**, **Sequencers**. For example, if your file is a video clip, choose **Video** as the type. (The file types that are listed depend on the files on your system.) The default setting is search **All File** types.

**3. Click **Find** or press **Return**.**

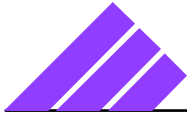
When VideoShop locates the first file or folder that matches the specified name and constraints, it displays the file or folder in a desktop window, with its icon selected.

**To find a file again:**

- 1. Select **Find Again** from the **File** menu or press E-G, to locate the next matching file or folder.**

If VideoShop cannot find the file's name on your system, it sounds an error alert.





## CHAPTER 2

### *EDITING MOVIES*

---

#### INTRODUCTION

You can think of VideoShop's sequencer as a blank VideoShop document where you assemble the various parts of your movie. The sequencer in **storyboard view** gives an overview of your project, where you can conceptualize and rearrange the components of your movie. The sequencer in **time view** allows for fine-tuning and more in-depth editing. This chapter covers the different editing options possible in storyboard and time view:

#### **Storyboard View:**

- Dropping clips into the sequencer
- Deleting clips from a sequence
- Using the clip window
- Making a selection in the clip window
- Adding only the video or audio portion of a movie clip with synchronized video and audio
- Playing a sequence
- Rearranging clips in the sequencer

**Time View:**

- The info palette
- Setting an insertion point
- Making selections
- Basic editing
- Using undo
- Splicing a clip
- Using the Stretch tool
- Trimming
- Editing audio

## STORYBOARD VIEW

Storyboard view lets you quickly arrange and rearrange media elements to create a movie. Storyboard view displays the clips arranged in the sequencer in the order in which they play. There is no timing information displayed in this view.



### To create a new sequencer:

- ☐ Choose **New** (E-N) from the **File** menu.

The sequencer opens in storyboard view. If you would prefer new sequencers to open in time view, change the **Sequencer Preferences** from the **File** menu's **Preferences** submenu.

### To switch a sequencer to storyboard view:

You must have a sequencer open to perform this action.

- ☐ Click the Storyboard/Time View button on the sequencer.

or

- ☐ Choose **Storyboard View** from the **Sequence** menu.





## Dropping Clips into the Sequencer

To bring media into the sequencer, drag video clips from a desktop window into the video track and drag audio clip, AIFF file, and SND file icons into an audio track. Drag MIDI files into a MIDI track, drag PICT and PICS files into video tracks, and drop text files into title tracks. PICT, PICS, and Text files are automatically converted into movie format as they are brought into the sequencer. For more information on these file types, see Appendix B. All files occupy a single box in the track, regardless of their duration.

### To drop clips into the sequencer:

1. Open the VideoShop folder containing the clips you want to use.
2. Drag the first video clip for your movie from the desktop window into the video track of the sequencer.

You need not be concerned with precise placement of the clip; regardless of where it is released within the track, it is placed in the first available position at the left side of the track.

The first frame of the selected clip appears in the canvas window. If you place a movie clip that contains both video and audio into storyboard view, the audio and video clips appear in their respective tracks, aligned vertically.



3. If you are editing more than one clip, drag additional clips from the desktop window to the video track.

Once again, no matter where it is released, the clip moves to the

next available position on the track.

4. Repeat with all desired clips.

Drop audio clips into the sequencer in the same way.

## Deleting Clips from a Sequence

To delete only a portion of the clip, you must switch to time view. For more information on editing individual frames, refer to “Basic Editing” later in this chapter.

### To delete an entire clip from a sequence:

Make sure you are in storyboard view.

1. Click to select the clip in the sequencer that you want to delete.
2. Press **Delete**.

*or*

Select **Delete** from the **Edit** menu or press E-K.

The entire clip is deleted from the sequence.

You can select multiple clips in the sequencer by holding down the **Shift** key while making your selections.

### To restore the deleted clip:

- ☐ Choose **Undo Delete** (E-Z) from the **Edit** menu.



**TIP:** To undo the delete operation, you must undo immediately.

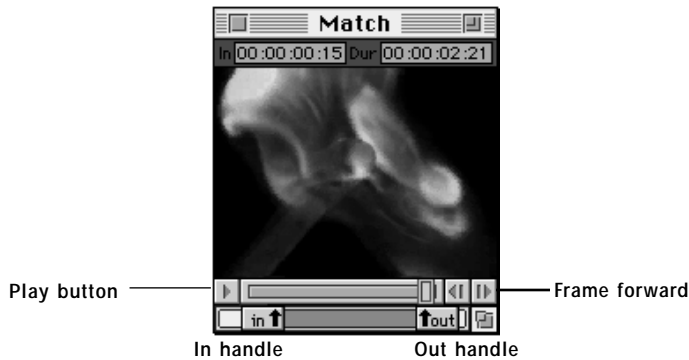
## Using the Clip Window

The **clip window** is where you view a clip in its entirety. Whenever you double-click a Micon, a corresponding clip window opens. This window lets you view the clip, advance forward or backward by frame, as well as define a portion of a clip to use in your sequencer.

**To play a clip in the clip window:**

1. Double-click a Micon.

A clip window opens.



2. Press the Play button.

*or*

Press the **Space Bar**.

*or*

Click the Frame Forward button to advance a frame at a time (or hold down the button to play forward).

*or*

Choose **Play Forward** from the **Play** menu.

## Making a Selection in the Clip Window

There may be times when you do not want to use an entire clip in a sequencer. In the clip window, you can set In and Out points to select any part of the clip.

**To make a selection in an open clip window:**

1. Move the In handle until the desired frame is displayed and the desired time is shown in the In readout.

*or*

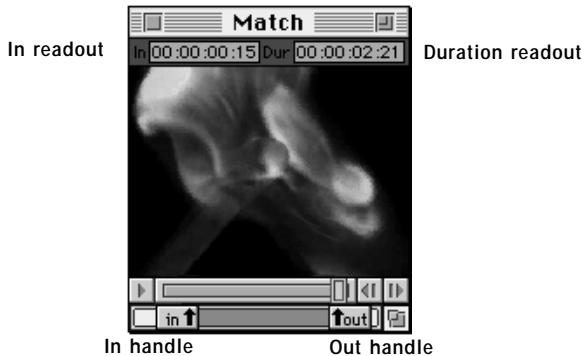
- ☐ Press **I** on the keyboard to set the In point.

2. Move the Out handle until the desired frame is displayed in the window and until the desired length of the selection is shown in the Duration readout.

or

- ☐ Press **O** on the keyboard to set the Out point.

The portion of the clip between the In and Out points you defined is now selected.



3. Click in the window and drag the defined portion of the clip into an open sequencer.



**TIP:** To adjust the In and Out points while preserving the duration of your selection, use the Double Arrow Hand tool. To see the Double Arrow Hand tool, move the Selection tool to the space between the In and Out handles. The Selection tool turns into a Double Arrow Hand tool. Use this tool to slide the selection between the In and Out handles with the Double Arrow Hand tool to another area of media in the clip.

AIFF (Audio Interchange File Format) files, when double-clicked, open clip windows. Selections are made in these audio clip windows the same way as in video clip windows, with the In and Out handles. To insert AIFF files into the sequencer from the clip window, hold the **Option** key. This turns the Double Arrow Hand tool into the Hand tool, with which you can grab and drag the clip.



## Adding Only the Video or Audio Portion of a Movie Clip with Synchronized Video and Audio

Some movie files contain multiple media types, such as video and audio, but you want to add only one media type from that file to your movie. For example, you may want to drop the video portion in without the sound. This is called a **constrained drop** because you are using only one of the available tracks.

### To perform a constrained drop:

- ☐ Press E while dragging the movie file (containing both video and audio) into a video track, an audio track, or text track.

Depending on the type of track, the appropriate element takes its position in the sequencer. The other media are not added.

## Playing a Sequence

Once your clips are arranged in the sequencer, you are ready to view the material put together. Playout takes place in the canvas window.

### To play a sequence:



- ☐ Click the Play button on the canvas window.

*or*

- ☐ Press the **Space Bar**.

The Play button changes to a **Pause** button. The movie is played in the canvas window.

### To stop at any point:



- ☐ Click the **Pause** button in the canvas window.

*or*

- ☐ Press the **Space Bar**.

Resume playout by pressing the **Space Bar** again.

### To view frame by frame:

- ☐ Press the **Left** or **Right Arrow** keys on the keyboard.

*or*



- ☐ Click the Frame Forward/Frame Backward buttons in the canvas window.

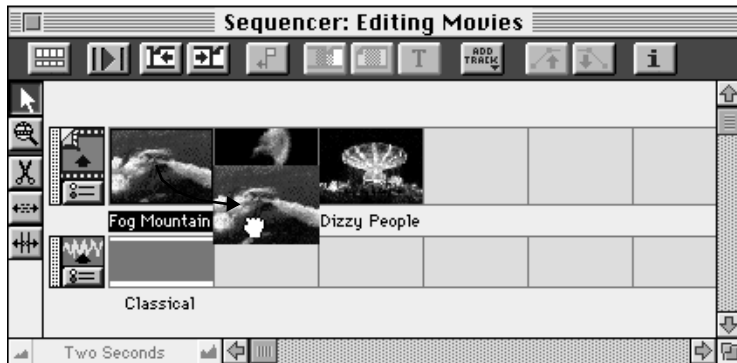
You can control playback speed and direction with the controller on the bottom of the canvas window. For more information concerning the controls of the canvas window, see Chapter 3.

## Rearranging Clips in the Sequencer

After seeing your movie, you may want to rearrange the order of the clips in some way.

### To rearrange the order of two clips in the sequencer:

- ☐ Click and drag any clip to the desired location.



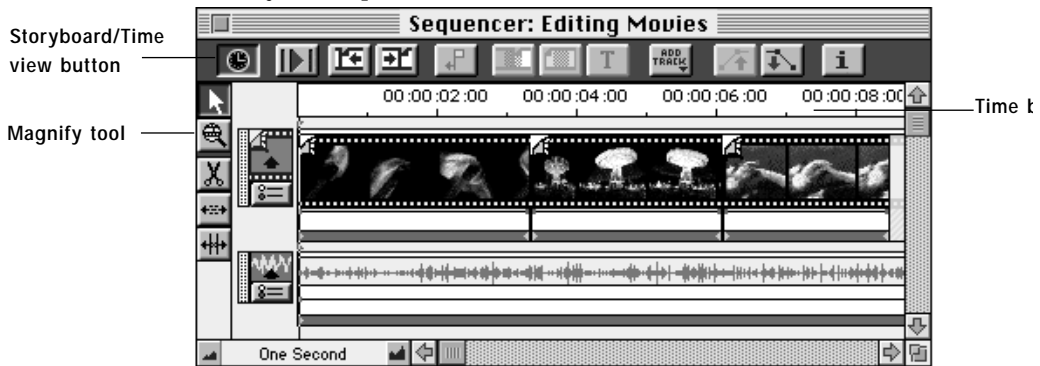
The clip is inserted into the chosen slot; all subsequent clips are pushed to the box(es) on the right.

If audio and video (and text) for a clip are synchronized, moving any one of the synchronized portions also moves the corresponding synchronized clips.

## TIME VIEW

Time view is where you edit, cut, copy, clear, paste, trim selected frames, delete frames, and apply filter and transition effects to

selected areas. You perform these edits as simply as you apply italics to selected text in a word processor. You can also synchronize audio and video clips in time view. These are the means by which you fine-tune your sequences.



**To switch from storyboard view to time view:**



- ☐ Click the Storyboard/Time View button at the top of the sequencer.

*or*



- ☐ Select the **Magnify** tool and double-click a clip in the sequencer.

*or*

- ☐ Choose **Time View** from the **Sequence** menu.

A **time bar** at the top of the sequencer indicates your point in the sequence. The numbers represent hours, minutes, seconds, and frames (00:01:18:03, for example, represents 1 minute, 18 seconds, and 3 frames).

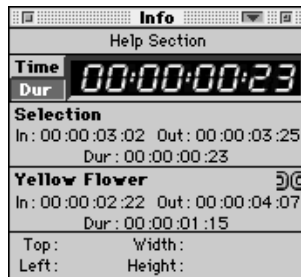
## The Info Palette

When working in time view, the info palette provides invaluable information. The info palette is comprised of five sections:

- Help
- Time/Duration
- Selection
- Clip
- Canvas

The help section provides a continuous readout of information about VideoShop. As the Selection tool moves over certain buttons and window elements in the titling, desktop, clip, canvas and sequencer windows, functional information about the element is provided. Even if a button is inactive, information about it is still presented.

The time/duration section of the info palette displays the current time position (the playout point) in the sequencer or it displays the duration of a selection. It defaults to the time readout.



### To show the duration readout:

- ☐ Press the **Duration** button to the left of the readout

Once depressed, the button is red.

Press the **Time** button above the Duration button to show the current time readout.

You may also toggle the color of the readout from yellow to blue.



**To change the readout color:**

- ☐ Click once on the readout.

The color changes. Click again to toggle back to yellow.

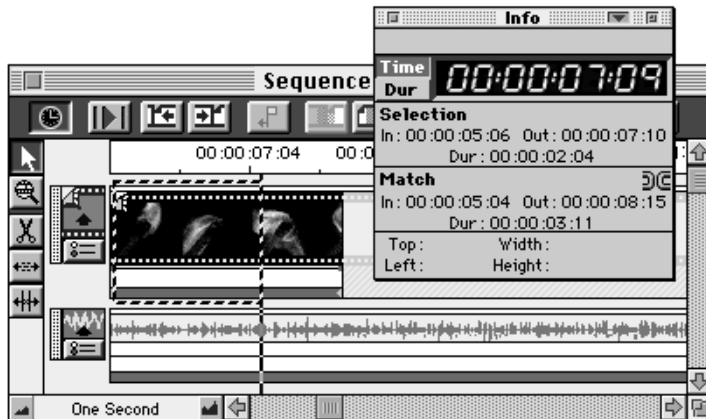


The selection section of the info palette displays statistical information about any selection made in the sequencer in time view. It displays the time of the In and Out points, and the Duration of the selection. At an insertion point, the sequencer selection displays the same time at the In and the Out readouts relative to the rest of the movie. All the information provided in the selection section of the info palette is in reference to the movie as a whole.

The clip section provides statistical information about the clip selected in the sequencer. *The In, Out, and Duration readouts refer to the position of a selection relative to the entire clip.*

The clip section displays the In, Out, and Duration of the clip that is contained within the selection. If the selection spans more than one clip, no specific information is displayed in the clip section.

For example, the following selection in the sequencer is presented in the info palette as follows:



The In point shown in the selection section reads 00:00:05:06. The Out point reads 00:00:07:10. The Duration of the selection reads 00:00:02:04. *These time readings are relative to the beginning of the sequencer, 00:00:00:00.*

In the clip section, the same selection reads out differently. The In point, relative to the beginning of the Match clip, reads 00:00:05:04. The Out point reads 00:00:08:15. The Duration readout always remains constant, 00:00:03:11, as it expresses the length of the clip in the sequencer.



The clip section also supplies information about synchronization. If a synchronized clip is selected in the sequencer, the **sync icon** appears in the upper right corner of the section.



If an unsynchronized clip is selected in the sequencer, the **unsync icon** appears in the upper right corner of the info palette clip section.

The canvas section provides information about the position and size of the clip selected in the canvas window. The Top and Left readouts display the pixel position of the clip relative to the canvas. The Width and Height readouts display the size of the selected clip in pixels.



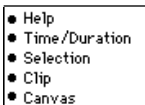
The upper right corner of the section also displays information about motion control. If motion has been added to the selected clip, the **motion control icon** appears.



If no motion has been added to the selected clip, the **no motion control icon** appears in the upper right of the section.

The info palette can be customized, to allow you to see only the sections you deem important to your particular task.

#### To customize the info palette:



1. Click and hold the pop-up menu on the upper right of the info palette window.
2. Unmark the section name to hide that section from the info palette.

Mark any section name from the menu to restore that section to the info palette.

#### To view only the time /duration section of the info palette:

- ☐ Click the zoom box in the upper right of the info palette window.

All other sections are hidden, only the time/duration section

remains visible.

**To hide the info palette:**

- ☐ Click the close box in the upper left of the info palette window.

*or*

- ☐ Press the **Info Palette** button on the sequencer toolbar.

The info palette is hidden.

**To show the info palette:**



- ☐ Press the **Info Palette** button on the sequencer toolbar.

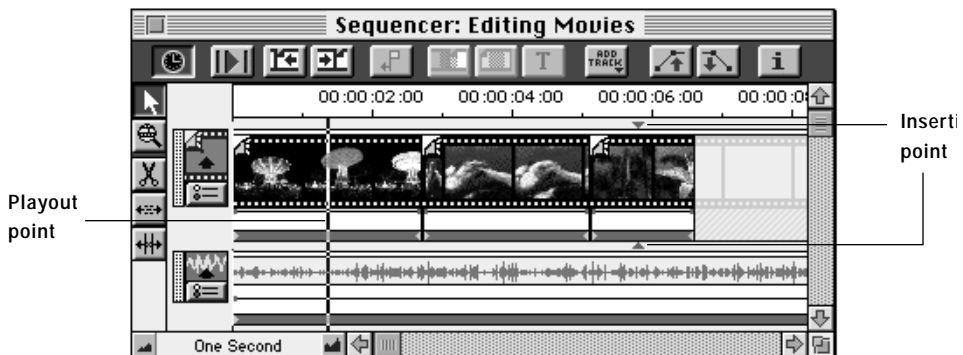
*or*

- ☐ Select **Info Palette** from the **Windows** menu.

The info palette is visible again.

## Setting an Insertion Point

The **playout point** is a single vertical line that travels along all tracks. It indicates where you are in the sequence at any time. The video frame that the playout point passes or rests on is displayed in the canvas window. Clicking in a track moves the playout point to that position and displays the corresponding frame in the canvas window.





**TIP:** *The playout point is immediately before the frame being displayed in the canvas window.*

The **insertion point** indicates where your next editing operation will occur. As in a word processor or spreadsheet program, the insertion point marks where new media is inserted or pasted. The insertion point in a sequencer is indicated by two small red triangles.

An insertion point can straddle one or more tracks and can be placed anywhere in time, across all audio and video tracks, or across only a single track. By default, an insertion point affects only one track.



**TIP:** *You can set the insertion point to the current playout point of your movie by pressing **Enter**, not **Return**. If the playout point is beyond view in the sequencer, pressing **Enter** both sets an insertion point and scrolls the track in the sequencer window into view.*

### **To constrain an insertion point to a single track:**

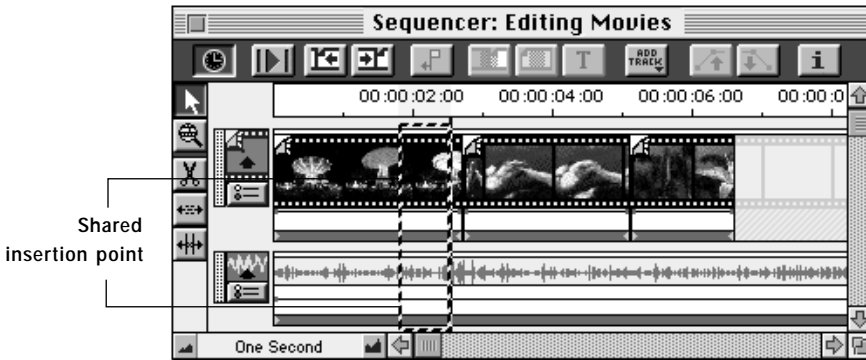
- ☐ Click any track at the desired point in the sequence.

The insertion point (and playout point) is moved to the point you clicked. It is constrained to the track you selected.

**To set an insertion point on multiple tracks:**

1. Click the track that is to share the insertion point.
2. Drag vertically over all other tracks.

The tracks have a shared insertion point.



*or*

1. Click on a track to create an insertion point.
2. Hold down the **Shift** key and press the **Up Arrow** key on the keyboard.

This extends the insertion point to the above track.

3. Hold down the **Shift** key and press the **Down Arrow** key on the keyboard to extend the insertion point to include the track below.

**To set an insertion point across all tracks:**

- ☐ Repeat the steps for setting an insertion point on multiple tracks for every track.

*or*

- ☐ Click at a point on the time bar.

The insertion point is set across all tracks in the sequence.

### To move the insertion point up or down one track:

- ☐ Use the **Up Arrow** key on the keyboard to move the insertion point up one track.

*or*

- ☐ Use the **Down Arrow** key on the keyboard to move the insertion point down one track.



**TIP:** *The beginning of a new clip in time view is indicated by a dog-eared upper left corner.*

## Making Selections

Selecting material in VideoShop is much like selecting items in a spreadsheet or text in a word processor. You click and drag across the range of media (video or audio) you want to select. Once the selection is surrounded by a marquee, you can perform editing operations. You can make a selection across all tracks, or constrain the selection to a single track.



**TIP:** *Once you make a selection, there is no longer an insertion point. The first frame of the selection is designated as the **In point**, the last frame of the selection is the **Out point**. You can **Go to In** (E-3) or **Go to Out** (E-4) from the **Play** menu. To play a selection, choose **Play Selection** from the **Play** menu, or press the **Play Selection** button on the sequencer, or press **Return**.*

### To make a selection across one or more tracks:



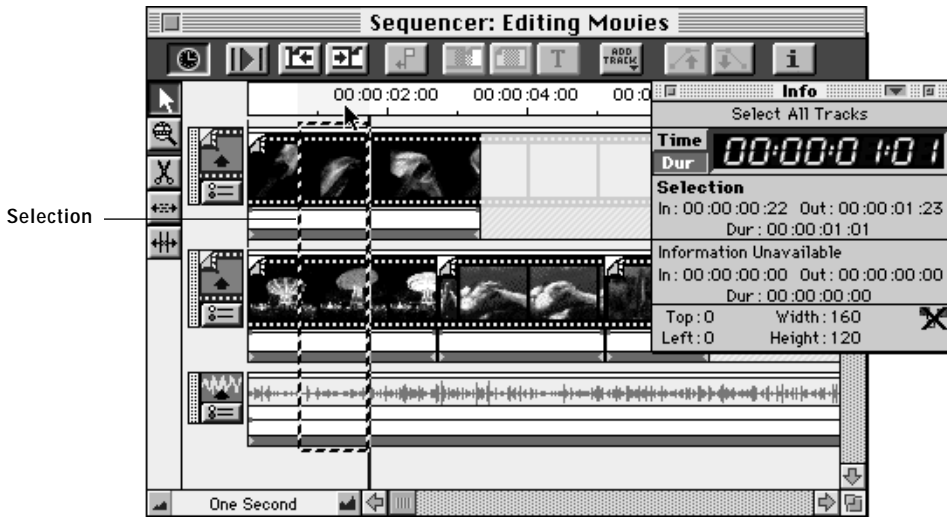
Make sure the Selection tool is active.

1. Click and drag on any track.

If you drag horizontally across a particular track, the marquee is restricted to that track. Dragging across and downward selects the tracks below as well.

The length of your selection is indicated on the info palette.

2. Release the mouse button when the selection is complete.



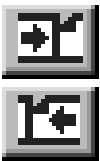
 **TIP:** When making a selection, it is helpful to watch the canvas window. It displays the frames as you select them.

#### To select an entire clip:

- ☐ Double-click a clip in the sequencer.

*or*

1. Click on the clip to create an insertion point.
2. Hold down the **Shift** key.
3. Press the **Jump to Next** and then the **Jump to Previous** button in the sequencer's toolbar.



The entire clip is selected. The selection data is displayed on the info palette.

#### To extend a selection up or down one track:

1. Make a selection.
2. Hold down the **Shift** key.
3. Press the **Up Arrow** key on the keyboard to extend the selection

up.

*or*

Press the **Down Arrow** key on the keyboard to extend the selection down.

The selection now spans more than one track.

**To move a selection up or down one track:**

1. Make a selection.
2. Press the **Up Arrow** key on the keyboard to move the selection up one track.

*or*

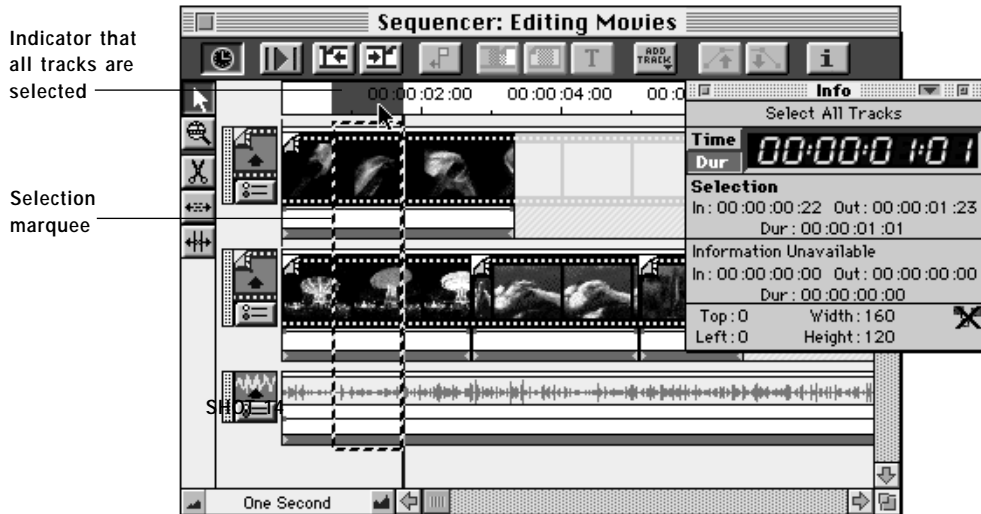
Press the **Down Arrow** key on the keyboard to move the selection down one track.



### To make a selection across all tracks:

- ☐ Click and drag the time bar above all the tracks.

The time bar changes color in the selected area to show that all tracks are selected.



### To make a selection from the keyboard:

1. Set an insertion point—press **Enter** to set the selection to the current time in the movie.
2. Hold down the **Shift** key.
3. Press the **Right Arrow** key on the keyboard to extend the selection.
4. Press the **Up** or **Down Arrow** keys on the keyboard to include multiple tracks in the selection.
5. Press **Return** to play the selection.

When making any selection, it is helpful to watch the canvas window. It displays the frame *following* the last frame of the selection.

### To make a selection while the movie is playing:

1. Play the movie.
2. Press **Enter** (or the **I** key on the keyboard) to set an insertion point.

The insertion point becomes the In point.

The **Enter** and **I** keys on the keyboard are all used to mark In points. The **Shift-Enter** and **O** keys are used to mark Out points. Pressing these keys, however, pauses the video. You can restart playback by pressing the **Space Bar** or the Play button on the canvas window.

3. Press the **Space Bar** to resume play.
4. Hold down the **Shift** key.
5. Press **Enter** again (or the **O** key on the keyboard) to set the Out point.
6. Stop the playback of the movie.



You can now play from the In to Out points by pressing the Play Selection button or **Return**. The **Go to In** (E-3) and **Go to Out** (E-4) menu items on the **Play** menu move the playback point to the first and last frame of your selection.

## Basic Editing

You will often want to cut, copy, paste, clear, or delete individual frames, a series of frames, or an entire movie. You perform these edits in VideoShop similar to the way you perform the same functions in a word processing or spreadsheet program. These functions are accomplished most precisely in time view.

**Cut** (E-X) removes the selection and places it on the **clipboard**. The clipboard is a temporary memory source, where elements are kept only until replaced by another selection. The clipboard stores only the most recently cut or copied material. Selected media on the clipboard is *not* stored indefinitely, but only until the next function that copies or cuts to the clipboard is performed. Once the selection is on the clipboard, you can paste it elsewhere. Cutting material shortens the duration of your movie, as media to the right of the cut material slide to the left to fill the empty frames. You can undo the cut operation by choosing **Undo Cut** (E-Z) from the **Edit** menu before another operation is selected.

**Copy** (E-C) places a duplicate of the selected material on the clipboard. Once the selection is on the clipboard, it can be pasted at an insertion point. The duration of the movie is unchanged.

**Clear** removes selected media but does not place it on the clipboard. The duration of the movie remains the same, as blank space replaces the cleared material. Choosing **Clear** from the **Edit** menu is equivalent to choosing **Delete** from the **Edit** menu. You can undo the clear operation by choosing **Undo Clear** (E-Z) from the **Edit** menu before another operation is selected.

**Delete** (E-K) removes the selection from the media but does not place it on the clipboard. You cannot paste the deleted material, but you can restore the deleted material by choosing **Undo Delete** (E-Z) from the **Edit** menu before another operation is selected. Like the **Cut** command, **Delete** shortens the duration of your movie, and media to the right of the selection slide automatically to the left to fill the empty frames.

#### To cut, copy, clear, or delete within the sequencer:

Make sure you are in time view.



1. Select the frame or frames you want to edit by placing the Selection tool where you want to begin, then drag the marquee to the desired end of the edit.
2. Choose **Cut**, **Copy**, **Clear**, or **Delete** from the **Edit** menu, or type their keyboard equivalents.

The selected frames are cut or copied to the clipboard, or cleared from the sequencer.

There are several ways to paste in VideoShop: **Paste**, **Paste Overwrite**, **Paste Scale**, and **Paste Truncate**. Refer to the section on the **Edit** menu in the *VideoShop Reference Guide* Chapter 10 for details.

#### To paste the segment within the sequencer:

1. Make sure you have media on the clipboard. To get media on the clipboard, make a selection and choose **Cut** or **Copy** from the **Edit** menu.
2. Click to establish the desired insertion point in the sequencer.

Note the playout point also moves to that location.

3. Choose **Paste** (E-V) from the **Edit** menu.

The material from the clipboard is pasted at the insertion point. Material after the insertion point shifts over automatically, changing the duration of your movie.

## Using Undo

Undo enables you to restore the way the sequencer looked before your last edit operation. VideoShop provides one level of undo. *This means you are able to undo only your last operation.*

### To undo an operation:

- ☐ Choose **Undo** from the **Edit** menu.

*or*

- ☐ Press E-Z.

Once you have performed an undo operation, you can redo the undo by choosing Edit Redo from the Edit menu, or by pressing E-Z.

## Splicing a Clip

A useful tool in editing is the Cut tool, available from the **tool palette** on the sequencer. The Cut tool is used to cut video clips into smaller clips. Making a cut creates a **transition point**, indicated in time view by a frame with a dog-eared corner. Cut segments of a clip are treated independently.

### To snip one clip in two:



1. Select the Cut tool.
2. Click and drag the clip while watching the canvas.
3. When you reach the frame where you want to snip, release the

mouse button.

*or*

1. Click in the sequencer to set an insertion point.
2. Double-click the Cut tool in the sequencer tool palette.

The clip is snipped into two clips.

#### To snip across all clips in the sequencer:



1. Select the Cut tool.
2. Click at the point you want snipped.

All clips in the sequencer are snipped.

## Using the Stretch Tool

The Stretch tool, available from the tool palette on the sequencer, either elongates or shortens the duration of a clip. It performs the same action as the **Scale Selection** command on the **Edit** menu.

When the Stretch tool changes the duration of a clip, it also changes the timing; a stretched clip plays back in slow motion relative to the amount it is lengthened. Likewise, a clip shortened with the Stretch tool plays back faster, relative to the amount it is condensed.



**TIP:** The Stretch tool neither removes nor inserts frames; rather it allows you to view the same number of frames over a different period of time. It is particularly useful with PICT files. The duration of the static image in a PICT file can be altered to fit any length of time. For more information on changing clip duration, refer to Chapter 4. For more information about using still images and importing other file types, see Appendix B.

#### To change the duration of a clip:



1. Select the Stretch tool.
2. Move the Selection tool to the edge of either end of the clip (the In or Out point of the clip).

The Selection tool changes to the Stretch tool.

3. Click and drag to make the clip longer or shorter.

#### To return a clip to its original duration:

If you dislike the edits performed with the Stretch tool, you can restore the clip's original duration.

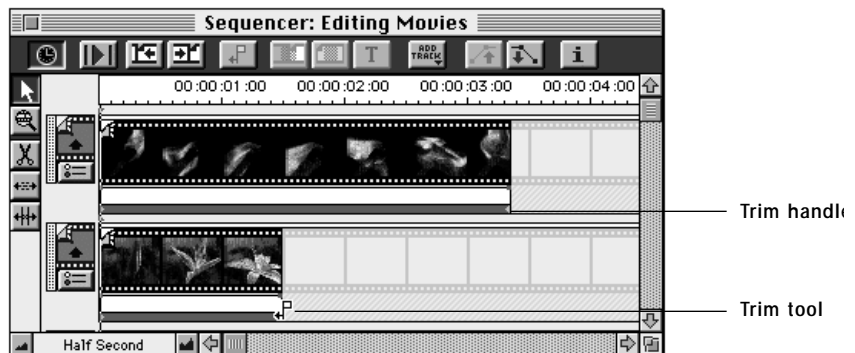
1. Select a clip in the sequencer.
2. Choose **Scale Selection** from the **Edit** menu.

A dialog box appears.

3. Set the **x Scale** in the dialog box to 1.
4. Click **OK**.

## Trimming

In addition to cut, copy, and paste, VideoShop offers a trim editing tool. A clip can be trimmed only at its beginning (In) and end (Out) points. The In and Out points of a clip can be trimmed by grabbing and dragging the green triangles (trim handles). Once a clip has been trimmed, the trim handles turn yellow, indicating that there are additional media not in view.



Trimming is one of two basic methods for synchronizing clips in separate tracks. Another method is to slide one clip along its track to synchronize it with another. When the Selection tool is positioned over the orange bar, it turns into the Hand tool with which you can click and grab to slide a clip along its track. Sliding and trimming are the

basic techniques used for synchronizing clips. (For more information on synchronization, see Chapter 4.)

When positioned over the green triangular trim handles of a clip in time view, the Trim tool appears. Dragging the trim handle with the trim tool changes the In or Out point of the clip. The trim handles turn yellow to identify that the clip has been trimmed (that is, one or more frames have been hidden, not cut).

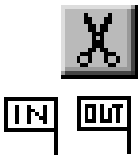
To restore frames that have been trimmed, use the trim tool to drag the yellow trim handles back to their original position. When all the trimmed frames are revealed again, the trim handles revert back to green.

#### To trim a clip from the ends:



1. Place the Selection tool over the trim handle at the end of a clip.  
The Selection tool changes to a **Trim** tool, indicating that you can trim the clip.
2. Click and drag to trim or untrim the clip.

#### To trim a clip from any point:



1. Select the Cut tool from the sequencer's tool palette.
2. Press the E and **Shift** keys to change the Cut tool to the In flag, or the E key to change the Cut tool to the Out flag.
3. Click the appropriate flag to both create an In or Out point and trim the media to that point.

Trimming is also used to fine tune transitions between two clips. When two clips abut, it is best to use the **Trim Dialog**. The Trim Dialog can be activated when a selection is made which spans two adjacent clips.

#### To open the Trim Dialog:



1. Use the Selection tool or the **Mirrored Selection** tool to make a selection in the sequencer of an edit point which covers two adjacent clips.

The **Trim Dialog** button on the sequencer is active.



2. Click the Trim Dialog button.

or

Select **Trim Selected Clips** from the **Sequence** menu.

The Trim Dialog appears.



The Trim Dialog shows both selected clips. Note that while you selected only a portion of the two clips in the sequencer, the clips in their entirety are represented in the Trim Dialog. The **Clip A duration** and the **Clip B duration** readouts display the duration of the entire clips.

In the Trim Dialog, move the **Clip A Out Point** and **Clip B In Point** sliders until the readouts show your desired duration, or until you see the proper frame.

Press the **Tab** key to move from **Clip A Out Point** to **Clip B In Point** to **Rolling Trim** to the **Movie Controller** fields. Click the **Up** and **Down Arrows** (or use the **Up** and **Down Arrows** or the **Right** and **Left Arrows** on the keyboard) to adjust the frames and seconds to be trimmed.

The **Enter Time Code** field allows you to manually enter numbers for the seconds and frames to trim in an active field.



**To trim one second and twenty frames from Clip A:**

1. Press the **Tab** key until the Clip A Out Point field is activated.
2. Type 120 in the Enter Time Code field.

The **Accept** button is highlighted.



3. Once you have established the amount of media to be trimmed, click **Accept**.

In addition, you can perform a **rolling trim**. A rolling trim essentially trims both clips at once. It moves the edit point; the Clip A Out Point is moved in one direction the same amount as the Clip B In Point is moved in the other direction.

**To quickly trim other cuts in the sequencer:**



1. Click the **Next Cut** and **Previous Cut** buttons in the Trim Dialog.  
The appropriate cut is displayed in the Trim Dialog.
2. Use the techniques described above to quickly trim other cuts in

the sequencer.

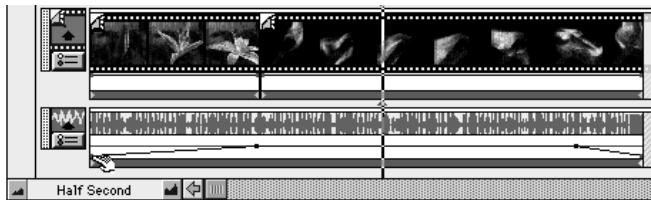
## Editing Audio

VideoShop allows you to adjust the volume level of audio clips.

To change playback volume globally, adjust the volume control located at the lower left corner of the canvas window. This volume control operates relative to the overall volume level. The maximum volume level is defined in the Apple Control Panel. The minimum level is zero. Changes made to the playback volume in this way are *not saved* with your movie. Each movie's volume is controlled independently by its own speaker icon.

It is possible, however, to make and save fine adjustments to individual audio tracks. If, for example, you are adding narration at some point in your movie, you might want to lower the music to an acceptable background level, then raise it again when the narration has finished. Or at the beginning of a clip, you might want to raise the volume, gradually, to fade in.

Fine-tuning the volume level of an audio track is accomplished with the rubberband located at the bottom of each audio clip in the sequencer.



### To adjust the audio:



1. Position the Selection tool over the rubberband until it turns into the Pointed Finger tool.
2. Click and drag with the Pointed Finger to adjust the rubberband in as many ways and at as many different locations as you want. The farther down it is pulled, the lower the volume.

Position the Pointed Finger tool over the **rubberband handle**. At the beginning of a clip, the rubberband handle is a green square. At the end of a clip, the rubberband handle is a red square. You can click at any point on the rubberband in the track and create

**auxiliary rubberband handles**, which are black squares.

3. Click and drag downward, then release.

The maximum volume level is determined by your source audio.  
The minimum is zero.

**To remove an auxiliary rubberband handle:**

1. Position the Selection tool over the rubberband in the video track.  
The Selection tool changes to a Pointed Finger tool.

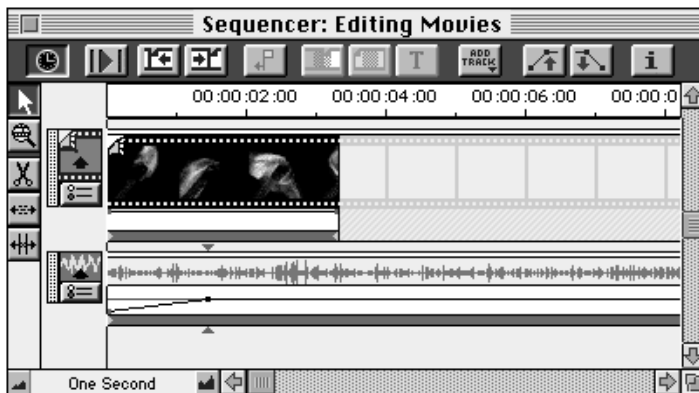
2. Click and drag the black rubberband handle either up or down off the rubberband with the Pointed Finger tool.

The auxiliary rubberband handle is removed.

**To fade with the Fade In button:**

1. Click to set an insertion point towards the beginning of the video clip, at the point you want the video to be completely faded in.
2. Click to press the **Fade In** button.

The rubberband automatically adjusts to fade in from the beginning of the clip to the point you specified; the green handle moves to the base, an auxiliary rubberband handle is created at the insertion point.

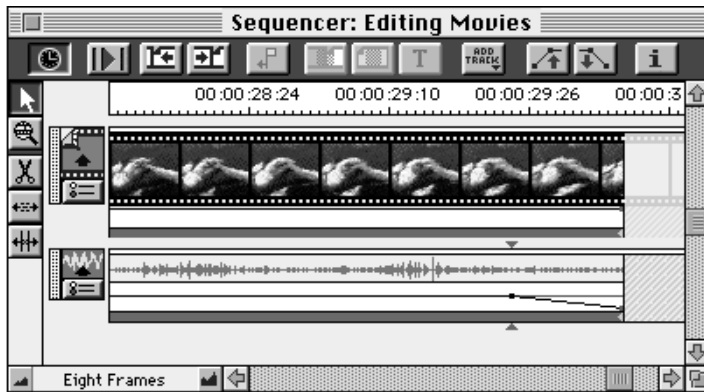


**To fade with the Fade Out button:**

1. Mark the point at which you want the video to begin fading out with an insertion point.
2. Click to press the **Fade Out** button.



The rubberband automatically adjusts to fade out from the insertion point to the end of the video clip; the red handle moves to the base, an auxiliary rubberband handle is created at the insertion point.



The Fade In and Fade Out buttons can be used on MIDI (Musical Instrument Digital Interface) music, audio, and video tracks.



A VideoShop sequencer can play standard MIDI files by importing them as QuickTime movie files, and playing them through QuickTime's internal synthesizer. A sample MIDI file, *Nina's Eyes*, has been included in the VideoShop Tutorial Clips folder for your experimentation. MIDI files are dropped into a **MIDI Track**.

Once in the MIDI track of a sequencer, they can be cut, copied, pasted, stretched, and rubberbanded like any other VideoShop audio track. Because MIDI music files represent music as a series of messages to the internal synthesizer instead of an actual waveform, these files use much less disk space than an AIFF or SND audio file.

**To edit MIDI files:**

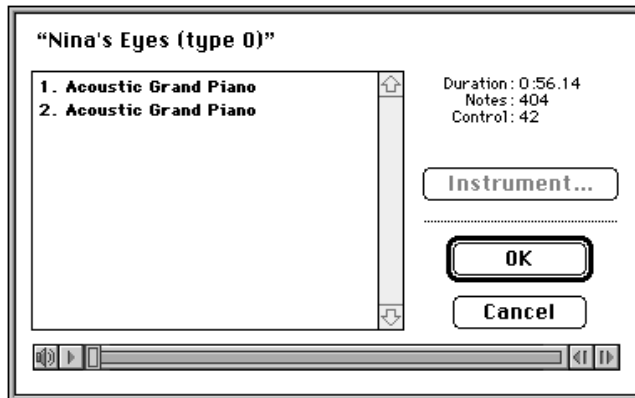


1. Press the Add Track button on the sequencer toolbar.
2. Select **MIDI Track** from the pop-up menu.

A MIDI track is added to the sequencer.

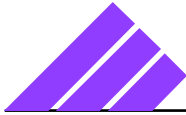
3. Drag and drop a MIDI file from a desktop window to the sequencer.

A dialog box appears. There may be a slight delay in the display of the dialog box, while QuickTime processes the file.



Here you can preview the music and assign different instruments to the music tracks (up to 16).

4. Click **OK** to load the file into the track of the sequencer.



## CHAPTER 3

### *CANVAS AND MOVIE LAYOUT*

---

#### INTRODUCTION

Chapter 2 described how to perform basic edits in the VideoShop sequencer. The VideoShop **canvas window** is where you can view a movie during editing. It is also where all screen position editing takes place, such as cross screen motion control, compositing, and layering.

The metaphors in this window are similar to those in a paint package or drawing program, in which you are able to position, resize, and layer media elements. The canvas window is where all spatial editing takes place; you can layout media elements and define motion to make clips “fly” along a path.

This chapter covers the following topics:

- Controlling playback
- Setting the canvas background
- Working in canvas and workspace views
- Working in clip/track mode
- Using the bounding box
- Positioning clips in the canvas window
- Resizing clips
- Zooming in and out of the canvas
- Using transparent clips

## USING THE CANVAS WINDOW

The canvas window is where you watch the movie as it is composed. The canvas window is a companion to the sequencer. Whenever you open a new or previously saved sequencer, a related canvas window is displayed.



## CONTROLLING PLAYOUT

Movie playout begins from the **playout point**—the vertical line that cuts through tracks in the sequencer. To move the playout point to the beginning of a sequence, choose **Go To Beginning** from the **Play** menu, or press E-1.

**To play out a sequence:**



- ☐ Click the Play button in the canvas window.

*or*

- ☐ Press the **Space Bar**.

*or*

- ☐ Choose **Play Forward** from the **Play** menu.

**To pause a sequence:**



- ☐ Click the Pause button in the canvas window.

*or*

- ☐ Press the **Space Bar**.

**To view a specific frame in the canvas window:**

- ☐ In time view, click the desired frame in the sequencer until the frame you want is displayed on the canvas.

*or*



- ☐ Drag the **time shuttle** in the canvas window until the frame you want appears on the canvas.

*or*



- ☐ Grab the horizontal scroll handle in the sequencer and slide it until the frame you want appears in the canvas window.

*or*

- ☐ Use the **Left** and **Right Arrow** keys on the keyboard to advance or reverse one frame at a time.

**To slow down or speed up playback (while listening to audio):**

By default, VideoShop plays out a movie at normal speed, but you can speed up or slow down playback dramatically. Both the video and the audio play at the rate you choose.



- ☐ Drag the **scrub bar** to the right for forward playback. The farther right, the faster the movie plays. Dragging the scrub bar left will produce the same effect while playing backwards.



After you drop a video clip into the sequencer, the canvas window displays the first frame of the clip. Press the Play button in the window to playback the sequence.



**To move quickly to any point in the sequence in time view:**

- ☐ Click the point to which you want to move on a track in the sequencer.

The canvas window displays the frame currently at the playout point.

**To play a movie in reverse:**



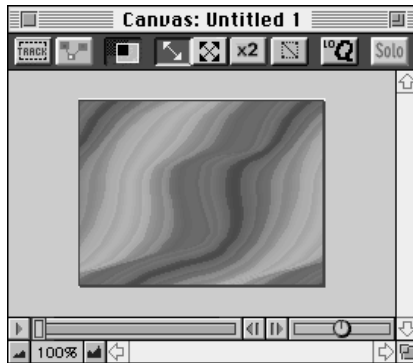
- ☐ To quickly reverse, drag the canvas window's time shuttle to the left.

*or*

- ☐ Select **Play Reverse** from the **Play** menu.

## SETTING THE CANVAS BACKGROUND

You can set the canvas background to any color or pattern to increase the visual impact of your movie. Backgrounds are used predominantly when the video size is smaller than the canvas size; where the canvas extends beyond the video is where the canvas background is exposed.



**To choose a pattern for the canvas:**

1. Choose **Canvas Background** from the **Canvas** menu.  
A dialog box with a list of background pattern names appears.
2. Choose one of the textures from the **Canvas Background** menu in

the dialog box.

3. Click **OK**, or press **Return** to use the currently chosen pattern as the backdrop for your movie.

**To choose a color for the canvas:**

1. Choose **Canvas Background** from the **Canvas** menu.
2. Click **Solid Color**.

A color wheel appears.

3. Choose a color and click **OK**, or press **Return** to accept this color for the canvas background.

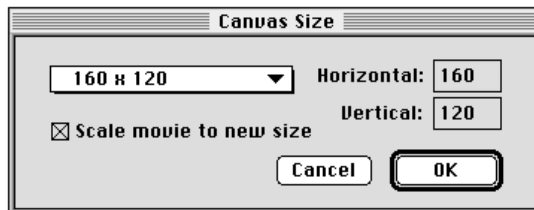


**TIP:** *Canvas backgrounds are not saved with the movie unless the Mixdown Movie option is selected when you Save As Movie. For more information, refer to Chapter 9.*

**To modify the size of the canvas:**

1. Choose the **Canvas Size** command from the **Canvas** menu.

A dialog box appears.



VideoShop's default canvas size is 160 horizontal pixels by 120 vertical pixels (about 1/8 the size of a 12-inch monitor). You can change the default canvas size with the **Sequencer Preferences** command under the **Preferences** command on the **File** menu.

2. Choose from a number of fixed sizes, or enter your own.
3. Check **Scale Movies To New Size** to enlarge or shrink all video clips to the canvas's new dimensions. This is very useful when you know the final size of your movie and want all clips to con-

form to this size.

 **NOTE:** *Scaling clips larger than their original sizes can adversely affect image quality.*

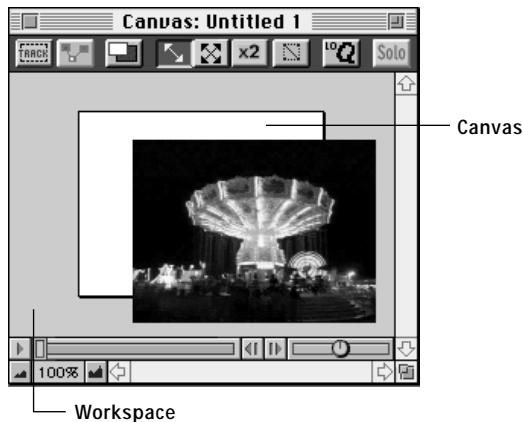
The size of your canvas determines the size of your final movie. To determine which movie size you want, refer to Chapter 9.

## WORKING IN CANVAS AND WORKSPACE VIEWS

In the canvas window, there is extra “workspace” around the canvas. Clips in this workspace are not a part of the final movie. If a clip is partially in the canvas and partially in the workspace, it is cropped in the final movie—only the portion on the canvas is shown.

When you move clips around in the canvas window, remember that only those portions of clips that lie directly over the canvas are visible in the final movie. VideoShop’s default view hides the portions of clips that lie on the workspace.

You can hide and reveal the contents of the workspace with the canvas window’s **Canvas/Workspace** toggle button. VideoShop defaults to canvas view.



### To change from canvas view to workspace view:



- ☐ Click the Canvas/Workspace button on the canvas window’s toolbar.

or

- ☐ Choose **Show Canvas Only** or **Show Workspace** from the **Canvas** menu.

## WORKING IN CLIP/TRACK MODE

VideoShop's canvas is similar to a painting or drawing program's canvas, with one important difference: clips in a VideoShop canvas also include the element of time.

Each track is made up of multiple clips. For each clip you select in the canvas window, there are probably clips before and after it in its track (in the domain of time). Therefore, when you select a clip in the canvas for layout, resizing, positioning, or layering, you must determine whether you also want to manipulate the other elements in that track (those that occur before or after in time). You set this option with the Clip/Track Mode button.

You can control selections made in the canvas window with the Clip/Track Mode button, which toggles between two settings: track mode and clip mode.



**Track mode** lets you select an entire track in the canvas window—all clips on the track are moved in unison. If clips are positioned differently, they maintain their spatial orientation relative to one another. If the track has clips in different locations, the bounding box surrounds all those locations. Any size or scale changes applied to the track are applied to all the clips on the track.



**Clip mode** lets you select individual clips in the canvas window. When a clip is selected in this mode, the bounding box pertains *only to that particular clip*. Moving or resizing clips in this view has no effect on other clips on the same track.

## USING THE BOUNDING BOX

If clips in a track have been resized and positioned in clip mode, you can still manipulate the entire track. Since the clips in a track can have various sizes and positions, you define the size of the track by the **bounding box** around all of its clips.



**TIP:** *Each clip in the sequencer has its own clip location in the canvas window.*

A video track in the sequencer often contains more than a single clip. When a sequence is played out, the playout point passes over each

separate clip in the track, and as it does so, the canvas window displays the frames of that clip.

In VideoShop, a video clip is assigned its own location and size in the canvas window. In fact, every clip on the track can be assigned a different location, even though all are part of the same movie sequence. As the playout point reaches a clip in a sequence, the clip is played in its assigned location in the canvas window. When the playout point passes to another clip, that clip plays in its assigned location. If the clips are not assigned different locations and sizes, the entire track simply plays out within one location and size.

#### To select an entire track:

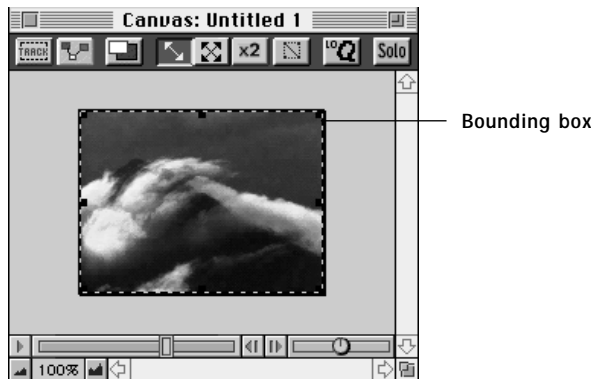


1. Click the canvas window's Clip/Track Mode button to display track mode.

Track mode is the default setting.

2. In the canvas window, click to select a clip on the track.

The track's bounding box is displayed. This bounding box defines the boundaries of all the clips on the active track.



#### To select clips in a track:



1. Click the Clip/Track Mode button on the canvas window toolbar to display clip mode.
2. Click the clip in the canvas.

The clip's bounding box is displayed. This bounding box defines

the boundaries of only the selected clip.

## POSITIONING CLIPS IN THE CANVAS WINDOW

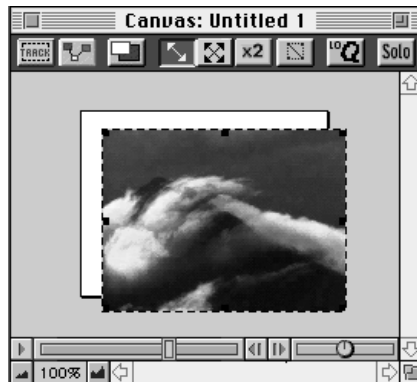


Use the Selection tool to drag selected clips around in the canvas window.

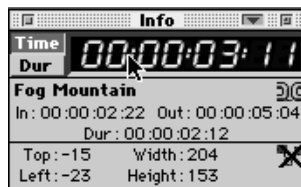
**To drag a clip:**

1. Select the clip in the canvas by clicking anywhere on it.

The bounding box appears.



A readout of the top left position of the clip appears in the canvas readout section of the info palette.



2. Drag the clip to any point within the canvas window.



**TIP:** If you find it difficult to place the clip precisely where you want it on the canvas, try adjusting the grid with the commands on the **Constraints** submenu of the **Canvas** menu. For information on the **Constraints** submenu commands, refer to the VideoShop Reference Guide.

**To select all clips in the canvas window:**

1. Click anywhere on the canvas window to select it.
2. Choose **Select All** from the **Edit** menu, or press E-A.

All clips are selected in the canvas window.

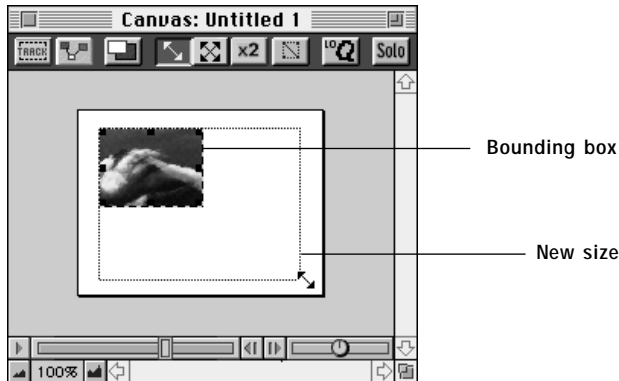
## RESIZING CLIPS

To select clips in the canvas window, click anywhere on the image in the canvas with the Selection tool. After a clip is selected, a bounding box appears around it. A special Double Arrow tool appears with which you can alter the bounding box to resize the clip. If you need precise dimensions, you can enter new dimensions with the **Clip Size** command on the **Canvas** menu.

**To resize a clip in the canvas window:**

1. Select the clip in the canvas window.

A bounding box appears around its borders. (In track mode, the bounding box of the entire track appears.)



2. Move the cursor over the lower right corner of the bounding box.



The Selection tool changes to a **Double Arrow** tool.

3. Drag the Double Arrow tool to change the dimensions of the bounding box.

When you release the mouse, the video clip scales to fit the bounding box at its new size.

As you resize the bounding box, the canvas readout in the info



palette displays the dimensions of the box in pixels.

4. By using the **Resize** buttons, you can constrain clip size for different resizing options.

For more information, see “Options for Resizing Clips” later in this chapter.

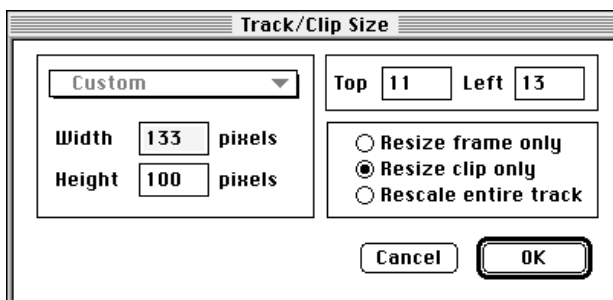
#### To resize a clip from the menu:

1. Select the clip in the canvas window.

The clip’s bounding box appears around its borders.

2. Choose **Clip Size** from the **Canvas** menu.

This displays a submenu with several dimension choices.



If you want to enter precise numeric dimensions, choose **Set Size** from the **Canvas** menu to display the Clip Size dialog box and a new set of choices. This dialog box lets you change the size of the clip, the frame, or the entire track.

- **Resize clip** changes the size of the selected clip only, leaving other clips on the track unchanged.
  - **Resize entire track** changes the size of all the clips on the active track.
  - **Resize frame only** changes the size of the single frame selected. (See Chapter 6.)
3. Type in horizontal and vertical clip dimensions, or choose a size



from the menu.

4. Press **OK** to accept your changes.

## Options for Resizing Clips

You can resize selected clips from any resizing handle (the small dark boxes) on a bounding box. You can control the sizing and scaling of clips in the canvas window with the Resize buttons in the canvas window.



The **Aspect Ratio Constrained** button maintains the ratio of the clip's dimensions (height to width) to each other (the aspect ratio) as you enlarge or shrink the clip.



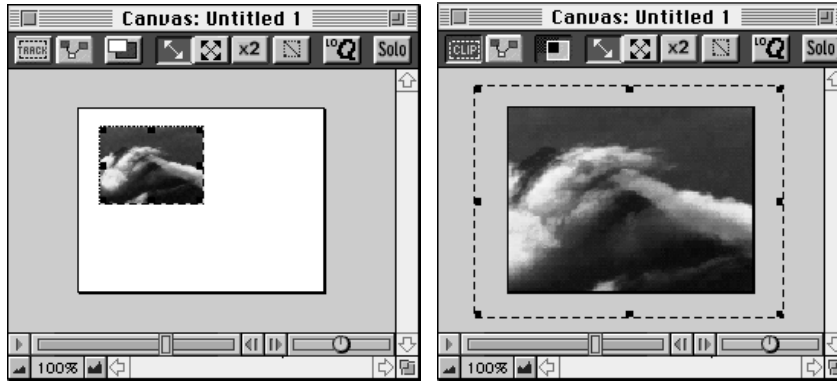
The **Freeform** button lets you reshape the clip without any constraints, as if the bounding box were a rubberband. This helps you achieve compressed (thinner) or expanded (fatter) appearances. You can, however, distort the dimensions and lose the original aspect ratio of the clip.



The **x2** button maintains the clip's aspect ratio but snaps the clip larger or smaller in 2x increments (twice as large, four times, one half the size, one quarter, and so on).




The **Resize From Center** button can be used with all the above buttons. This button maintains the position of the center of the clip through any method of resizing.



Clip smaller than canvas

Clip larger than canvas

 **NOTE:** *In track mode, scale changes to the bounding box also scale each clip on the track proportionately. In clip mode, only the selected clip is affected.*

## Clip Size and Playback Quality

The benefit of making a clip larger is that you and your audience can see the video more clearly. On the other hand, the larger a clip is, the more processing power and time it takes for your Macintosh to display. Playback can be affected adversely if the clips get too large.

Computers (such as fast Quadras) won't be as affected by larger clips as much as slower machines (such as LCs). Playback on slower computers may be choppy if you resize clips.

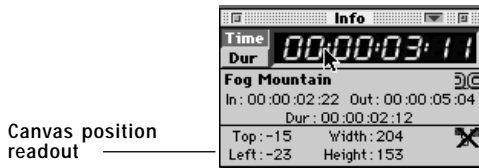
To get the best performance possible from slower computers:

- Don't go beyond twice (2x) the original size. This consumes a great deal of computer power to display, and the image quality is generally degraded.
- Avoid intermediate sizes. The scales of 25%, 50%, 100%, and 200% work very well for movie playout. Intermediate sizes (such as 65%) can cause problems.

## Reading Clip Size and Position Information

Whenever you want to know information about a clip in the canvas window, select the clip and look in info palette. The time of the selected frame appears in the time readout section. (For example,

00:00:03:11 means the movie is displaying the frame at 0 hours, 0 minutes, 3 seconds and 11 frames.)



The info palette's canvas readout displays the clip's height (H) and width (W) in pixels. (The same information is also available through the **Clip Size** command on the **Canvas** menu.)

The canvas readout on the info palette constantly displays information about the distance of the clip's upper left corner from the *top and left side of the canvas*.

In other words, the reference point for clip position is the upper left corner of the canvas—not the canvas window workspace. Remember that only clips that lie over the canvas are visible in a final movie.

## ZOOMING IN OR OUT OF THE CANVAS

It's often useful to zoom to see detailed areas when working on small movies, or to shrink down to allow you to work on full screen movies on a single monitor.

**To zoom in or zoom out on your canvas:**



- ☐ Click the **Zoom** (mountain) buttons in the canvas window.

Clicking the large mountain button zooms in the canvas in 2x increments; clicking the small mountain button zooms out by half.

*or*

1. Click and drag on the percentage menu between the Zoom but-

tons.

2. Choose a new percentage.

The movie zooms to the new dimension.



**NOTE:** *The Zoom buttons do not affect actual movie size; they are simply a way to view movies in the canvas window. Your final movie clips do not show the new scale. The zoom affects all clips in the canvas window—until you change the zoom again.*

## USING TRANSPARENT CLIPS

Transparency and shape effects are used most often for their aesthetic value; in VideoShop they are important in multi-track movies. The percentage of transparency of a clip in the canvas window determines how visible clips beneath (or lower in the layering order) the transparent clip become. At a transparency setting of 0% a clip is opaque—nothing behind it shows through. But, if you assign a transparency level of 50%, the clip takes on a washed out look, permitting the clip(s) behind to peek through. At 100%, the clip is entirely transparent and reveals all lower clips.



**TIP:** *Changing a clip's transparency or shape may degrade playout performance. Mixdown after changing these levels. Refer to Chapter 9 for more information on mixdown.*

There are three ways to change the opacity of clips:

- with the **Video Transparency** dialog
- with the video track rubberbands
- with the **Fade In** and **Fade Out** buttons on the sequencer.

The Video Transparency dialog lets you adjust an entire clip at once, as well as adjust the shape and appearance of the edges of the clip. The video rubberbands let you adjust the level of a portion of a clip, or the clip in its entirety. The **Fade In** button lets you mark a point and quickly fade the clip from transparent to opaque. The **Fade Out** button is used to quickly fade from opaque to transparent from a marked point.

### To use the video rubberbands:

Video track rubberbands default to full opacity, or 0% transparency. You can adjust this default with the **Peak Transparency slider** in the Video Transparency dialog box.



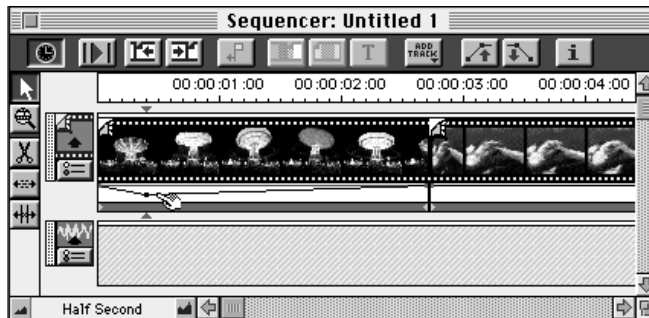
1. Position the Selection tool over the rubberband in the video track.

The Selection tool changes to a Pointed Finger tool.

Position the Pointed Finger tool over the **rubberband handle**. At the beginning of a clip, the rubberband handle is a green square. At the end of a clip, the rubberband handle is a red square. You can click at any point on the rubberband in the track and create auxiliary rubberband handles, which are black squares.

2. Click and drag downward, then release.

Pulling downward increases transparency (decreases opacity). Pulling the rubberband handle upward decreases opacity (increases transparency).



#### To remove an auxiliary rubberband handle:

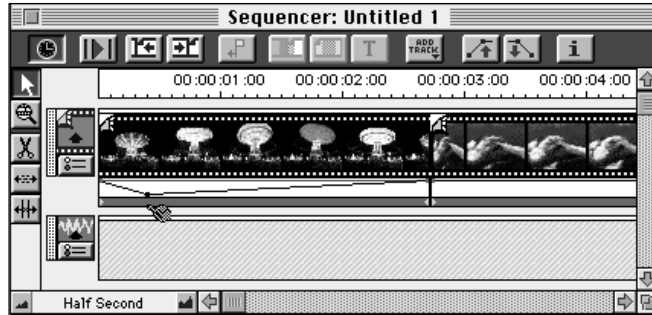


1. Position the Selection tool over the rubberband in the video track.

The Selection tool changes to a Pointed Finger tool.

2. Click and drag the black rubberband handle either up or down off the rubberband with the Pointed Finger tool.

The auxiliary rubberband handle is removed.

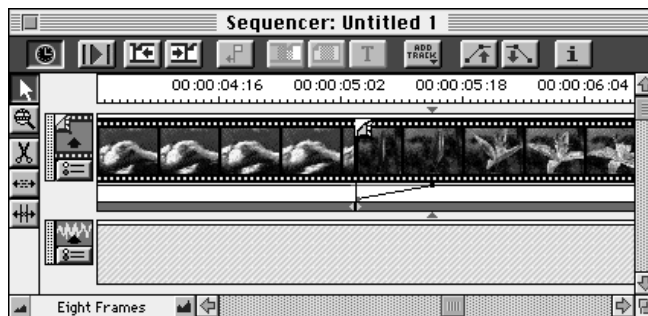


### To fade with the Fade In button:

1. Click to set an insertion point towards the beginning of the video clip, at the point you want the video to be completely faded in.
2. Click to press the Fade In button.



The rubberband automatically adjusts to fade in from the beginning of the clip to the point you specified; the green handle moves to the base, an auxiliary rubberband handle is created at the insertion point.



### To fade with the Fade Out button:

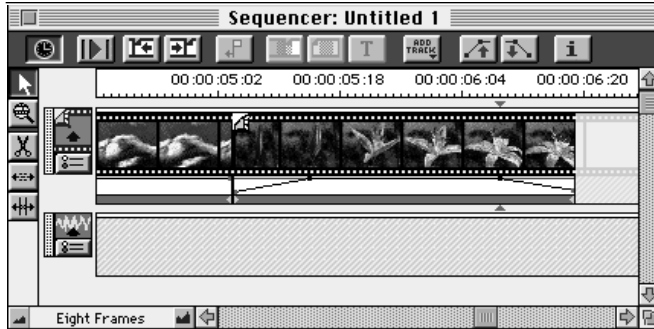
1. Mark the point at which you want the video to begin fading out with an insertion point.
2. Click to press the Fade Out button.



The rubberband automatically adjusts to fade out from the inser-

tion point to the end of the video clip; the red handle moves to the base, an auxiliary rubberband handle is created at the insertion point.

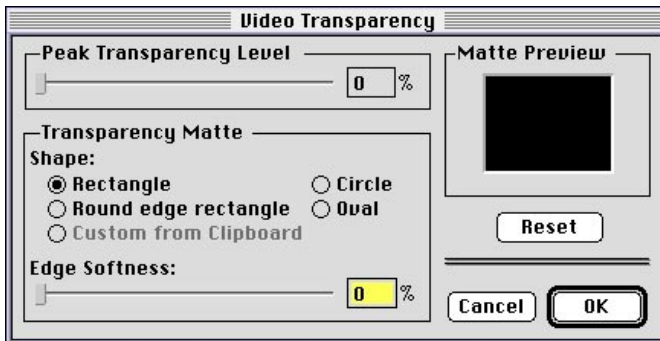
The Fade In and Fade Out buttons can be used on MIDI, audio, and video tracks.



**To set an entire clip's transparency level:**

1. In the canvas window, select the clip to be effected.
2. Choose **Video Transparency** from the **Canvas** menu.

The Video Transparency dialog box is displayed. In this dialog box are transparency controls—a transparency bar and percent-age field.



Sliding the shuttle left or right decreases or increases the transparency. A preview of the effect on the clip is displayed in the

canvas window.

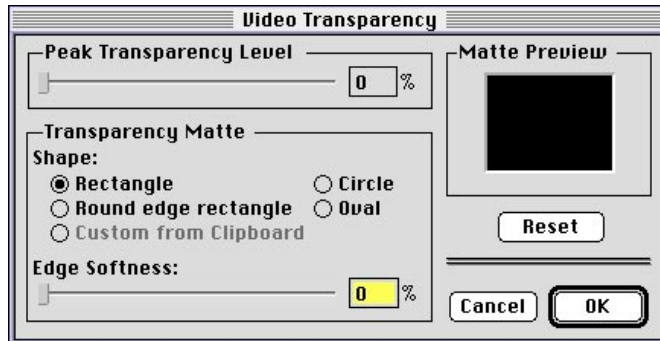
3. Adjust the transparency of the clip with the shuttle, or type a percentage into the field.
4. Click **OK**, or press **Return** to accept the new transparency level.

Any change to the transparency level made with the Video Transparency dialog is applied to an entire clip, not just a selection of frames within the clip. To change the transparency or shape of only a *portion* of the clip, use the Cut tool from the sequencer tool palette to cut the clip into smaller sections. These sections are then recognized as individual clips, whose transparency settings can be adjusted.

**To change a clip's shape and edge quality:**

1. In the canvas window, select the desired clip.
2. Choose **Video Transparency** from the **Canvas** menu.

The Video Transparency dialog box is displayed. In this dialog box are shape controls for softening a clip's edges and changing its shape.



3. Adjust the edge sharpness and shape of the clip.

Slide the shuttle across the **Edge Softness** bar to the left or right to blur or sharpen a clip's edges. You can also type in a precise

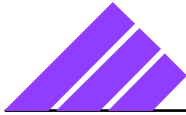


value—sharp edges are lower numbers, blurred edges, higher.

Setting changes are reflected in the canvas window.

4. Click **OK**, or press **Return** to accept the new values.

Any change to the edges or shape made with the Video Transparency dialog is applied to an entire clip, not just a selection of frames within the clip. To change the shape of only a *portion* of the clip, use the Cut tool from the sequencer's tool palette to cut the clip into smaller sections. These sections are then recognized as individual clips, whose edges and shape settings can be adjusted.



## CHAPTER 4

### ***SYNCHRONIZING CLIPS***

---

#### INTRODUCTION

Because movies are usually constructed from dozens of video and audio clips, precise editing of the beginning and end points of clips on the video and audio tracks is vital. You may want a flower to bloom at a particular point to coincide with the sound track. A cut to a clip of people walking on a beach has a greater impact when synchronized with a change in audio. These are examples of why you need to be able to position and synchronize audio and video clips, whether in a simple two-track movie or in an elaborate multi-track production.

Synchronizing is a matter of changing the location and the beginning or end point of clips in the sequencer's time view.

This chapter covers the following methods for synchronizing clips:

- Sliding clips on a track
- Precise synchronization
- Locking synchronization
- Editing clips with the trim tool
- Changing a clip's duration
- Inserting and removing blank time

## SLIDING CLIPS ON A TRACK

You can easily adjust synchronization by sliding clips in a sequencer to the right or left in time view. Sliding to the left causes the clip to play earlier in the sequence; sliding to the right causes the clip to play later. Clips have an orange bar along the bottom, which lets you slide clips right or left. By moving clips, you can align them with clips on other tracks.

If a clip containing both video and audio (or text) is dropped into a sequencer, the audio and video portions of the clip are locked together. We say that this clip has **synchronized** audio and video. When you slide one track of a synchronized clip, all media elements of the clip are moved.



**TIP:** You must be in time view to slide clips. Press the Storyboard/Time View button on the sequencer toolbar to change views.

For easier manipulation of clips in the sequencer, adjust the sequencer's Zoom Menu so that you can see more time in the sequencer at once. The entire length of clips are in view and easier to manipulate.

### To slide a clip:



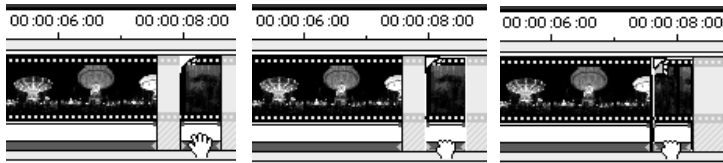
1. In the sequencer, position the Selection tool over the orange slide bar beneath a clip.



The Selection tool changes to a Hand tool that grabs around the orange slide bar when clicked.

2. Drag the orange slide bar to the left or right until the clip is positioned where you want it.

A rectangular outline of the clip helps you position it on the track. Position the outline in relation to other clips in the movie, or in relation to the **time readout**. (For example, if you want the beginning of the clip at exactly 4 seconds, look for 00:00:04:00 in the time readout on the info palette.)



Place the Hand Tool over the orange bar to slide the clip.



**TIP:** Press the **Control** key to turn the Selection tool to a Hand tool anywhere in the sequencer. When clips in the sequencer are so short or so compressed that you cannot fit the Selection tool over the orange slide bar, press the **Control** key to get the Hand tool.



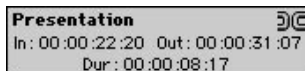
**NOTE:** It may appear that a clip cannot be pushed any further when it butts up against another clip. If you continue to push for a second, however, the media to the right of the clip begins to slide.

#### To slide video or audio alone:

The following method lets you move only one track of a synchronized video and audio clip, without moving the other track.

1. Select across both synchronized tracks.
2. Choose **Unsync Selected Clips** from the Sequence menu.

When you click on the clip you want to move, you will notice the marker in the sequencer section of the info palette has changed from the synced clip icon to the unsynced clip icon.



3. Drag the clip by the orange slide bar to the left or right until the clip's outline is positioned where you want it.

Only the grabbed track slides. Any associated synchronized video or audio is left in place.

#### To temporarily unsync clips to slide video or audio alone:

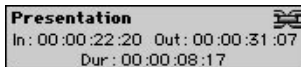
The following method allows you to temporarily unsynchronize tracks so that one of the tracks (video or audio) can be moved independently of the second track.

1. Position the Hand tool over the orange slide bar.
2. Hold down the **Shift** key.
3. Drag the clip by the orange slide bar to the left or right until the clip's outline is positioned where you want it.



Only the grabbed track slides. Any associated synchronized video or audio is left in place.

When you click on the clip you want to move, you will notice the marker in the sequencer section of the info palette remains the synced clip icon.



When the **Shift** key is released, the clips are still synchronized. If you grab a track now, *without* pressing the **Shift** key, the clips on both tracks move together.

## PRECISE SYNCHRONIZATION

Sometimes you need more precise alignment than you can accomplish by aligning clips visually. For example, you may need the end point of a video clip to occur precisely at the 00:00:09:00 (9 second) point of the time bar, and you may need the beginning point of another video clip, on another track, to be at that same point.

There are three ways to obtain this more precise control over clip positions and synchronization.

### To gain more precise control:



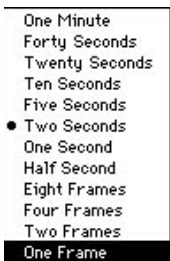
- ☐ Select the Magnify tool from the sequencer tool palette and click the sequencer until the readout indicates **One Frame**.

*or*

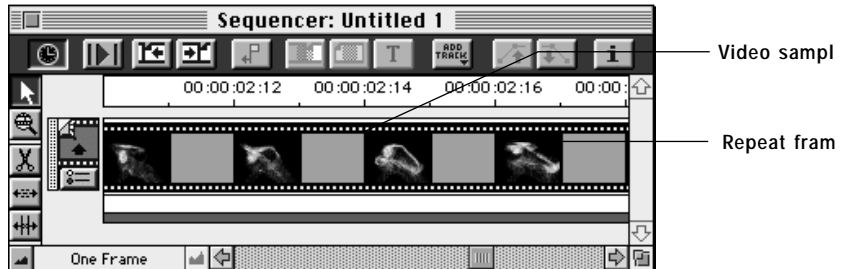
- ☐ Click the Zoom In button on the sequencer with the Selection tool until the readout indicates One Frame.

*or*

- ☐ Click the Zoom Menu readout to display a pop-up menu of view selection and choose One Frame.



At the One Frame scale, all the frames per second of a video clip are displayed in the sequencer. (The number of frames per second depends on the VideoShop's frame rate, which is set with the **Preferences** command on the **File** menu.) This gives you very fine control of individual frames in a clip, so it is easier to manipulate the beginning and end points of clips. At a scale of one frame, individual video frames snap easily into precise frame positions and times on the track.



### To align clips with sticky sliding:



1. In the sequencer, position the Selection tool over the orange slide bar beneath a clip.

The Selection tool changes to a Hand tool that grabs around the orange slide bar when clicked.

2. Drag the orange slide bar to the left or right slowly towards the area where you see the clip on the track above or below.

The outline, denoting the placement of the clip, sticks as it meets the clip on the other track. This is called **sticky sliding**.

3. Release the clip at the stick point for precise alignment.

For more information on synchronization methods, see Appendix E, "Tips and Techniques."

## LOCKING SYNCHRONIZATION

Aside from track-to-track synchronization of audio and video clips, synchronization has a more traditional movie meaning, in the sense of a sound track being in-sync with the pictures, where the audio is locked to the video.

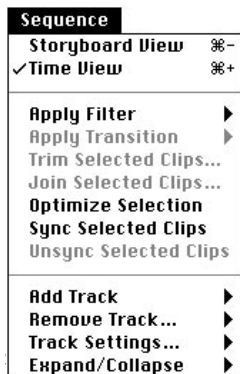
If a movie clip has synchronized video and audio tracks, VideoShop allows you to either move both tracks together to maintain synchronization, or to move each track independently.

Generally, synchronization is a track-to-track action: you synchronize an audio clip on an audio track to a video clip on a video track. Or, you synchronize the end of a video clip on one track with the beginning of another video clip on another track. In any case, you are always synchronizing *clips*.

Clips referred to in this section are video and audio clips; the same procedures and methods are applicable to both.

#### To lock synchronization of audio and video clips:

1. Position the video and audio clips to be synchronized so they line up appropriately.
2. Play the sequence out to ensure the audio and video are synchronized accurately. (Press the Play button on the canvas window or press the **Space Bar**.)
3. Make a selection across the two tracks with the Selection tool.
4. Choose the **Sync Selected Clips** command from the **Sequence** menu.



This command locks the selected media from two or more tracks in their positions relative to each other.

5. The clips on the tracks now move as one unit.
6. Synchronized clips, when selected, show the **sync symbol** in the



clip section of the info palette.

#### To unlock synchronized clips:



1. Make a selection across the synchronized clips with the Selection tool.
2. Choose **Unsync Selected Clips** from the **Sequence** menu.



Unsynchronized clips show the **unsync symbol** in the info palette.

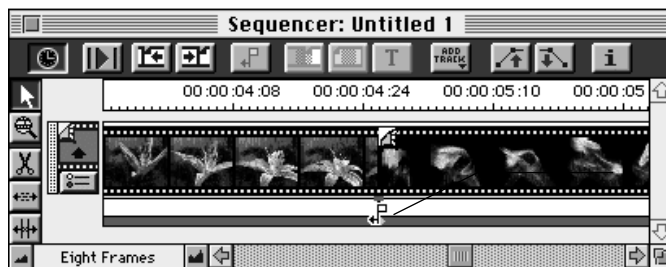


**TIP:** *Trimming a clip that has been lock-synchronized to another trims both clips together. Hold down the **Shift** key to temporarily release the other clips, allowing you to trim only one clip. The clips are still locked.*

## EDITING CLIPS WITH THE TRIM TOOL

In addition to synchronizing clips to each other by physically moving or sliding them along their tracks, you can move the trim handles of clips (the green triangles at the beginning and end of a clip) to display more or fewer frames. When a clip has been trimmed, the green trim handles turn yellow. The end of one clip can be made to coincide with the beginning of another clip.

When you trim in the sequencer, you can hide or reveal frames without losing them. The Selection tool turns into a **Trim** tool when you position it over the green and yellow triangular trim handles of a clip in the sequencer.



The Selection tool turns to the Trim tool when on top of the triangular trim handle.

The Trim tool works something like pull-down shades on a house window. You can hide or reveal frames on a track. As you click and drag the Trim tool over frames on a track, the frames are hidden, though still present; this is called a **non-destructive trim**.



Clicking and dragging the Trim tool back to its original position on the track reveals all of the previously hidden frames.

Adjustments with the Trim tool reveal as much or as little of a clip as you wish. Frames that are hidden do not play in the canvas window and are not saved with the movie.

The trim handles at the beginning and end of a clip serve three purposes:

- To indicate the beginning (In) and end (Out) points of a clip.
- To act as handles for the Trim tool to grab.
- To indicate when frames have been trimmed; the green trim points change to yellow when frames have been hidden.

#### To synchronize clips by trimming:

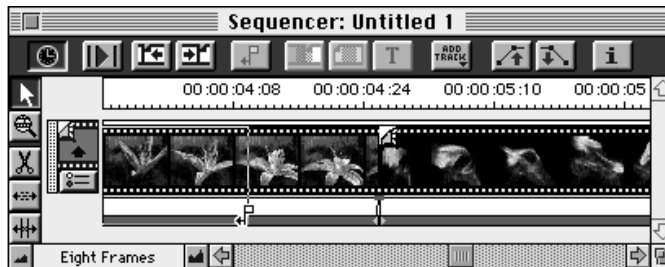
1. In the sequencer, position the Selection tool over a trim point.



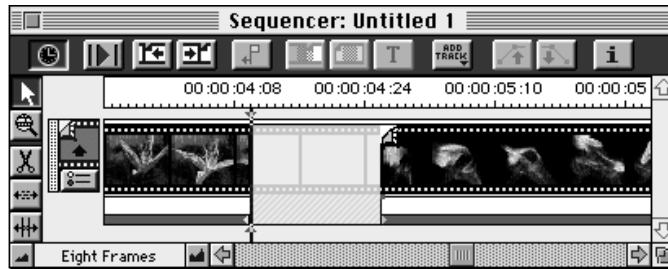
When the Selection tool is over the trim handle, it changes to the Trim tool.

2. Click and drag the Trim tool back over the clip's frames.

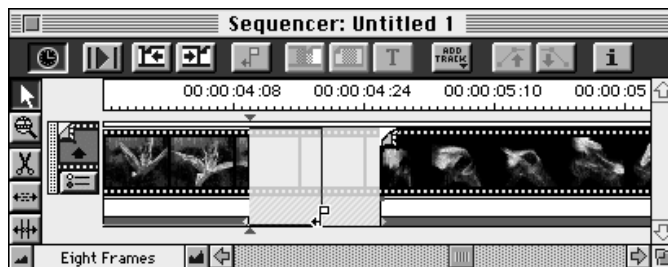
As you drag the Trim tool, the time/duration readout on the info palette indicates the tool's point in time. When you release the mouse, the range of trimmed frames appears blank.



Notice that after you have trimmed frames, that trim point changes color from green to yellow. This indicates that some frames have been hidden and can be revealed again later.



3. To reveal trimmed frames, click and drag the Trim tool back.



The Trim Dialog is another means of trimming clips for synchronization.

#### To access the Trim Dialog:



1. Make a selection across two abutting video clips either with the Selection tool or the Mirrored Selection Tool.
2. Press the **Trim Dialog** button.



The Trim Dialog opens.




**TIP:** The Trim Dialog shows the selected clips in their entirety, not just the frames selected in the sequencer.



3. Move the Clip A Out Point and Clip B In Point or Rolling Trim sliders and up and down arrows until the appropriate frames appear.
4. Click **OK** or press **Return**.

The frames are trimmed in the sequencer; the trim handles turn yellow to signify material has been trimmed.

When using the Trim Dialog on two clips with synchronized audio and video, the corresponding audio clip is trimmed as well; the synchronization remains locked.

 **NOTE:** Using the Trim Dialog on an unsynchronized video-only clip and a clip with synchronized video and audio, the corresponding audio is not trimmed. Only using the Trim Dialog on two synchronized video and audio clips trims audio.

For more information about trimming, see Chapter 2.

## CHANGING A CLIP'S DURATION

Often it is convenient to expand or contract the duration of a clip. For example, if an audio clip is 10 seconds in duration, but a video clip is 11 seconds long, you can scale down the video clip by speeding its playback until it, too, is 10 seconds long. The two clips can then be aligned on two different tracks and locked into sync.

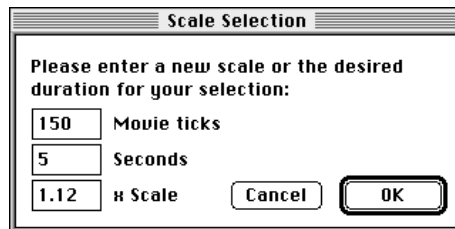
If you scale up or down only slightly, you will change the playback quality of the selection only slightly. Naturally, if you make a considerable change in the clip's duration, you will hear or see a difference in playback. A clip that has been scaled much longer has many repeat frames and plays in slow motion. Experiment with this feature to get a sense of what results to expect.

#### To change the duration of a clip:



1. In time view, drag the Selection tool to select all the frames of a clip in a single track, or double-click the clip to select the entire clip.
2. Choose **Scale Selection** from the **Edit** menu.

This displays a dialog box with several fields that relate to the duration of the selected frames. You can change any one of these fields.



**Movie Ticks.** Displays the number of ticks taken up by the currently selected frames. A tick is a time unit. For example, a movie created at 30 frames per second is on a 30 tick time scale. A 25 frame per second movie has a 25 tick time scale.

**Seconds.** Displays the number of seconds taken up by the currently selected frames.

**x Scale.** Displays the scale of the selection in relation to its original footage. Initially, selected frames are represented as having a scale of 1.00 (100%).

3. Enter a new duration for the selected frames in one of the three

fields.

4. Click **OK** in the dialog box, or press **Return**.

The selected frames are changed to reflect their new duration. Their relationship to frames before and after the selection is unchanged, for example, blank time before and after remains in place.

Notice that if you select only a portion of a clip, the selected frames become a clip, with beginning and ending trim handles and a dog-eared transition point.

#### To change clip speed or duration using the Stretch tool:

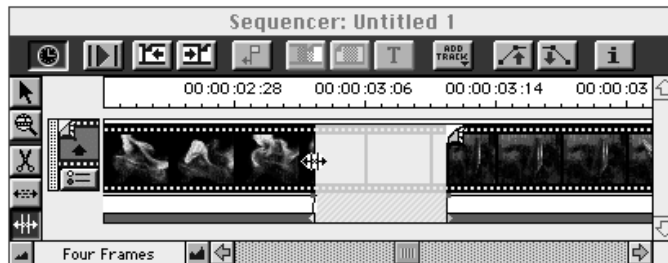
For information on the **Stretch** tool, see Chapter 2.

Before you begin, make sure you are in time view.

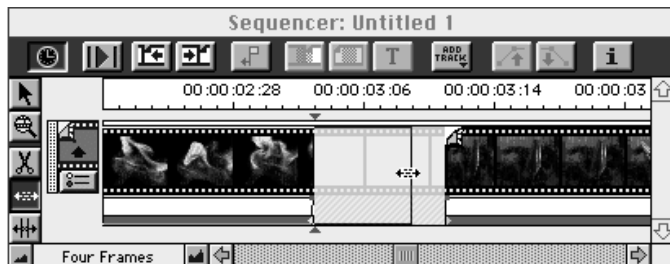


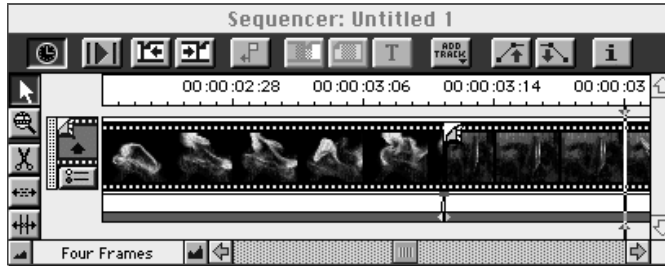
1. Select the Stretch tool from the sequencer's tool palette.
2. Move the tool to the beginning or end of a clip.

At the transition point, the tool turns into the Stretch tool.



3. Click and drag the clip to the desired length.





To change a scaled clip back to its original duration:

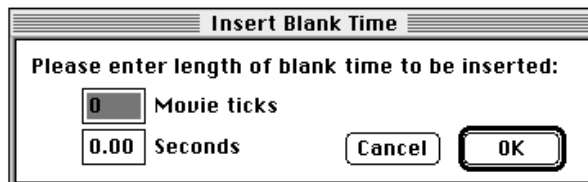
1. Select the entire clip.
2. Choose **Scale Selection** from the **Edit** menu.
3. Type 1.0 in the **x Scale** field.
4. Click **OK**, or press **Return**.

## INSERTING OR REMOVING BLANK TIME

Sometimes it is useful to insert a specific amount of **blank time** between clips in order to better to synchronize them. For example, you may want a particular kind of clip to appear in your movie every three seconds, separated by blank time or by a clip from another track.

To insert a specific amount of blank time at the insertion point:

1. Choose the **Insert Blank Time** command from the **Edit** menu.
- A dialog box appears.



2. Type the duration for blank time in the **Movie Ticks** or **Seconds**

fields.

3. Click **OK**, or press **Return**.

**To define more precisely where to insert blank time:**



1. Move the playout point one frame at a time by clicking the **Frame Forward** button in the canvas window.
2. Press the **Enter**, **I**, or **O** key on the keyboard to set the insertion point at the playout point.

If you insert blank time within a clip, the clip is split into two.



**NOTE:** Inserting blank time is different from sliding clips. When you insert blank time, all clips in the track beyond the insertion point are shifted over by the same amount of time. To insert blank time over more than one track, press the **Shift** and **Up** and **Down Arrow** keys to extend the insertion point to the other tracks.

**To remove blank time:**

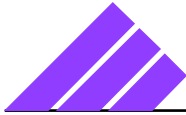


1. Double-click the area to select the entire region of blank time, or use the Selection tool to select an area of blank time.
2. Choose **Cut** from the **Edit** menu, or press E-X.

*or*

Choose **Delete** from the **Edit** menu, or press E-K.

The blank time is removed from the sequencer. All media to the right of the removed blank time slides to the left to fill the removed area.



## CHAPTER 5

### ***MULTIPLE TRACKS***

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#### INTRODUCTION

Multiple-track movies employ more than one video, audio, or title track. In VideoShop you can edit with a virtually unlimited number of tracks in a sequencer. Clips are positioned and aligned on the different tracks. During playout, the playout point passes over all the tracks and plays each clip regardless of the track it is on.

An important element to keep in mind is synchronizing the media in multiple tracks. Before attempting a multi-track movie, you should be familiar with sliding clips and synchronizing clips. (This is described in Chapter 4.) You should also understand how clips on different tracks can be laid out and moved in the canvas window. (Refer to Chapter 3.) This chapter covers:

- Adding new tracks
- Removing tracks
- Understanding video track layout
- Changing layers for multiple-track movies
- Layering multiple-tracks
- Creating inset movies
- Creating split screen movies
- Using active and inactive tracks
- Collapsing and expanding tracks
- Soloing a track
- Playing multiple audio tracks
- Optimizing a selection



## ADDING NEW TRACKS

You can add new empty tracks of any type (video, audio, MIDI, or title) at any time when working on a movie. Choose the appropriate type of track: drop video and picture clips into video tracks, audio into audio tracks, and so on.

### To add new tracks:



1. Click and hold the **Add Track** button on the sequencer to display a menu.
2. Choose the desired track from the submenu.

*or*

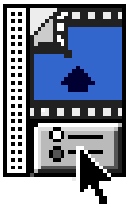
Choose **Add Track** from the **Sequence** menu, then choose the type of track from the submenu.

As soon as you make a choice with either method, the new empty track is added as the topmost track in the sequencer.

## REMOVING TRACKS

You can delete tracks from the sequencer whenever you no longer need them. It is good practice to delete tracks you don't need, if only to make it easier to see the other tracks in the sequencer. If the track has video, audio, music, or titles in it, that media are deleted as well.

### To delete a track of any type:

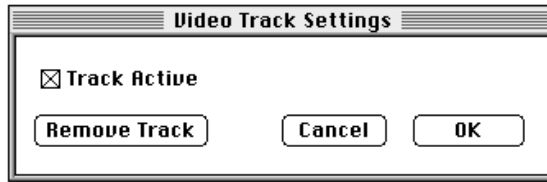


1. In the sequencer, click the bottom half of the track's icon at the far left of the track.

*or*

Choose **Track Settings** from the **Sequence** menu and choose the track from the submenu.

The Track Settings dialog box appears.



2. Click **Remove Track**.

*or*

- ☐ Select the track to be deleted from the **Remove Track** submenu on the **Sequence** menu.

The track (and any media on it) is deleted from the sequence. The track just below the deleted track replaces it in the layering order.

## UNDERSTANDING VIDEO TRACK LAYOUT

If you select a clip in the canvas window while the Clip/Track Mode button is in the track mode, a bounding box appears. This box represents the track's space (spatial dimensions of clips in the track). All the clips in the track are played within this space.



As long as the Clip/Track Mode button is set to track mode, any changes to the bounding box (or the clips from the track) affect the location of all the clips in that track. These changes have no effect on clips in other tracks.




If you click the Clip/Track Mode button to display clip mode, you can assign different locations and sizes to clips on an individual basis. These changes can affect the track's bounding box, but again, have no effect on other clips in the track. For more information on the bounding box, refer to Chapter 3.

## LAYERING MULTIPLE-TRACK MOVIES

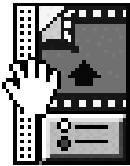
The layering order of tracks in VideoShop is similar to the layering order of objects in a Macintosh drawing program. The track's front-to-back order is arranged in the sequencer; the effect of the track order is viewed in the canvas window. VideoShop assigns a number to each track in a sequence to designate its position in the layering order, starting with number *1* for the topmost track in the sequencer. You can see this numbering order by choosing **Track Settings** from the **Sequence** menu.

The effect of a layering order on a multi-track movie sequence can most easily be demonstrated with video tracks. If two video tracks contain clips of equal duration and are playing at the same time, the uppermost track in the sequencer is higher in the layering order and therefore has a lower number. It is in front of the tracks below it. In the canvas window, the track at the top of the layering order may obscure the track beneath it. To see the lower track, click and drag the clips on the upper track out of the way in the canvas window.

 **TIP:** *The layering order of tracks is not particularly relevant for audio tracks. However, the audio and video or title tracks that relate to each other can be organized together. Remember, when you drop in a clip that contains both audio and video, the respective media are inserted in the next available track in the sequence.*

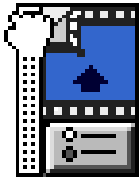
### To change the layering order of tracks in a sequencer:

1. In the sequencer, position the Selection tool over the track handle at the far left of the track's icon, at the far left side of the track.



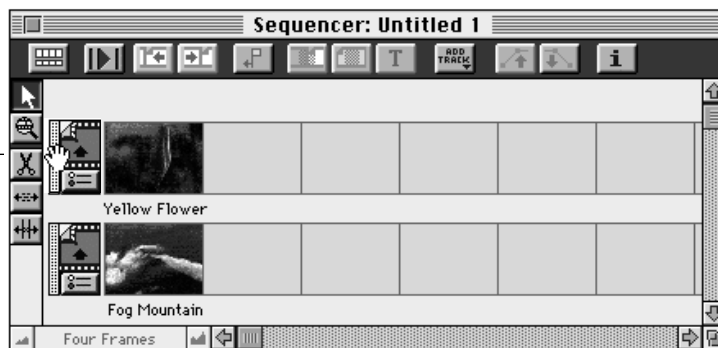
When the Selection tool moves over the track handle, it changes into a Hand tool. Pressing the mouse button displays an outline of the track.

2. Drag the track outline up or down in the sequencer, onto a track that is directly above or below it.



When you release the mouse button, the new layering order is displayed. The clips on the track that is moved higher in the layering order are displayed in the canvas window in front of the clips in tracks lower in the layering order.

Change the layering order of tracks by grabbing the track handle and dragging up or down.



## CREATING INSET MOVIES (PICTURE-IN-PICTURE)

An inset movie is one in which one movie plays within another at the same time. You can use the inset technique to create a picture-in-picture effect. In VideoShop, an inset movie is a two-track movie. You need at least two video tracks to create an inset movie.



Picture-in-picture

To create an inset movie, one track is moved lower in the sequencer's layering order. Thus, it becomes the background movie. For more information about layering, see "Layering Multiple Tracks" earlier in this chapter.

In the sequencer, the track higher up in the layering order becomes the foreground movie—it appears in front of the clips playing in the lower track(s).

In the canvas window, this track can be made smaller so that it seems to float on top of the background movie. When the movie sequence is played out, both the background and the foreground tracks play simultaneously (for the duration which they coincide).

### To create an inset movie:



This procedure assumes that the sequencer is *empty* at the start. Before you begin switch the sequencer to storyboard view.

1. Drag and drop the clip(s) for the background movie into the video track of the sequencer.

You can now add the foreground clip and float it on top of the

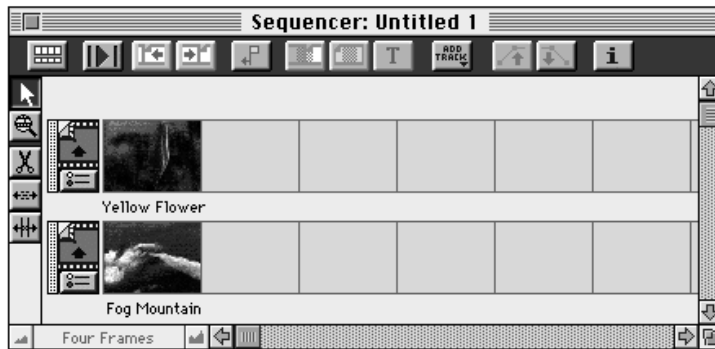
background.



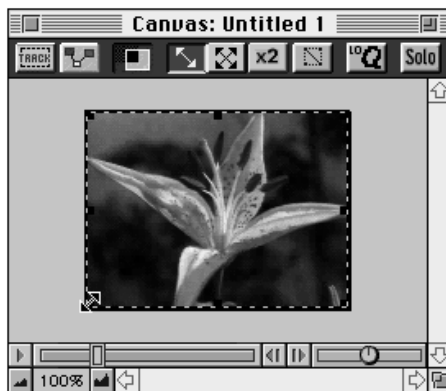
2. Create a new video track by choosing **Add Track** from the **Sequence** menu and then **Video Track** from the submenu.

A new video track appears above the one containing the background clips. This track is uppermost in the sequence layering order, and is the foreground.

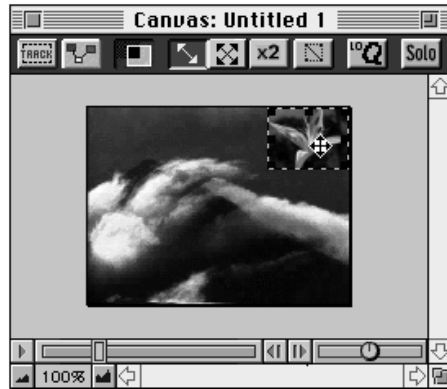
3. Drag and drop the clips for the inset movie into the *uppermost* (foreground) video track.



4. Switch the sequencer to time view by clicking the Storyboard/Time View button on the upper left of the sequencer.
5. Resize the foreground track to a size smaller than the background movie.



All the clips on the inset track will play out at the size you set for the first clip.



Play out the movie to view the full background movie and the inset movie.

## CREATING SPLIT SCREEN MOVIES (VIDEO WALLS)

Split screen movies can depict events occurring simultaneously in two or more different locations. For example, you can show an exterior view of a space shuttle being launched while also showing an interior view of the astronauts working inside the shuttle.



Split screen movie

As with inset movies, you need at least two video tracks for split screen movies. The layering order of split screen movies is of no con-

sequence. Two or more tracks play out in different locations in the canvas window simultaneously.

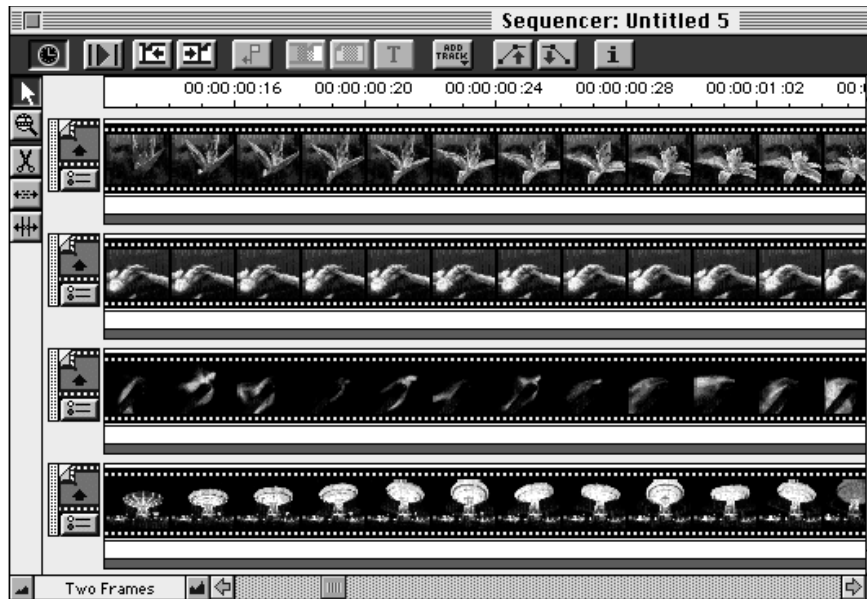
### To create a split screen movie:

This procedure assumes that the sequencer is *empty* at the start.

Before you begin switch the sequencer to storyboard view.



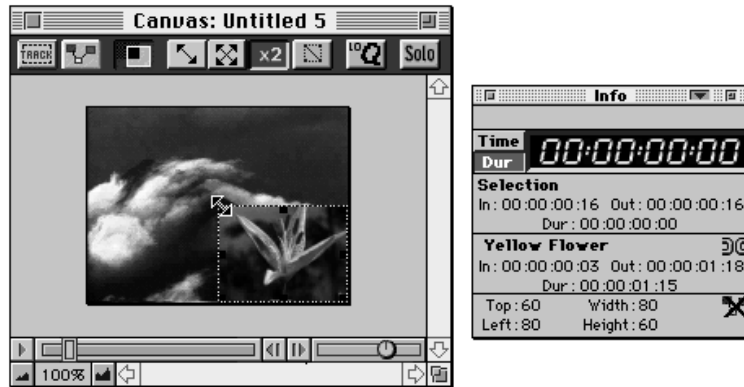
1. Drag and drop video 1 into the sequencer.
2. Add three new video tracks with the Add Track button on the sequencer. Or, choose **Add Track** from the **Sequence** menu, and then choose **Video track** from the submenu.
3. Drag and drop video 2, video 3, and video 4 into the new tracks.



4. In the canvas window, click to select the topmost, or foreground, video.
5. Resize the clip with the resize handles and reposition it on the lower right side of the canvas.

Watch the canvas readout in the info palette to see both a readout of the height and width of the clip as you resize and the position

of the clip in relation to the canvas.



Repeat steps 5 and 6 for video clips 1, 2, and 3, moving each clip to a different corner of the canvas.

Play the movie to view the split screen movie.

## USING ACTIVE AND INACTIVE TRACKS

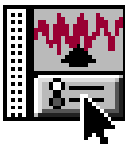
A track is active when its video, audio, or titles play in the canvas window during playback. Any new track in a sequencer is active (VideoShop's default). When a track is inactive, its contents are neither displayed nor heard during playback. When you save the movie, inactive tracks are neither saved nor mixed down. (For information about saving, refer to Chapter 9.) A track's active status is determined from the Track Settings dialog box.

You might want to make a track inactive as you experiment with several similar tracks in a movie.

### To make a track inactive:

1. Choose the **Track Settings** command from the **Sequence** menu, then choose the appropriate track from the submenu.

*or*

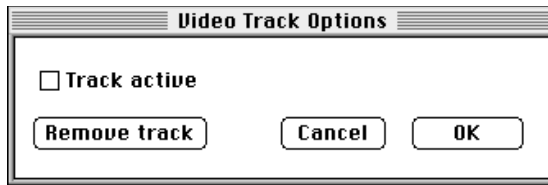


Click the indicator at the base of the track icon at the left of the track.

Both methods open the Track Settings dialog box.



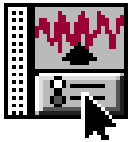
2. Click the **Track Active** checkbox to remove the check.
3. Click **OK**, or press **Return**.



#### To reactivate a track:

1. Choose the **Track Settings** command from the **Sequence** menu, then choose the appropriate track from the submenu.

*or*



Click the indicator at the base of the track icon at the left of the track.

Both methods open the Track Settings dialog box.

2. Check the **Track Active** checkbox.
3. Click **OK**, or press **Return**.

The track is activated.



## COLLAPSING AND EXPANDING TRACKS

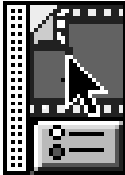
Working with multiple tracks can take up a large amount of screen space. With VideoShop, you can collapse and expand tracks. This lets you see more tracks in your sequencer at a time, and makes the editing process faster. One of the main benefits of working with collapsed tracks is that redraw is accelerated.

You can use all editing techniques while tracks are collapsed: trims, filters, transitions, media removal, and cut, copy, and paste com-

mands work exactly the same with collapsed tracks as with expanded tracks. When video tracks are collapsed, the name of each video clip is displayed to help keep your sequencer organized.

 **NOTE:** *You cannot use an audio or video rubberband while the track is collapsed.*

#### To collapse or expand a track:



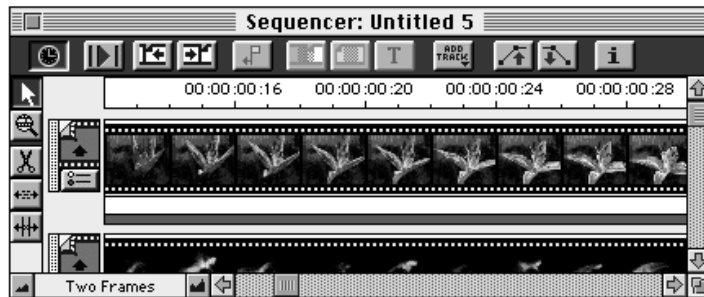
1. Click the top half of the track's icon.

*or*

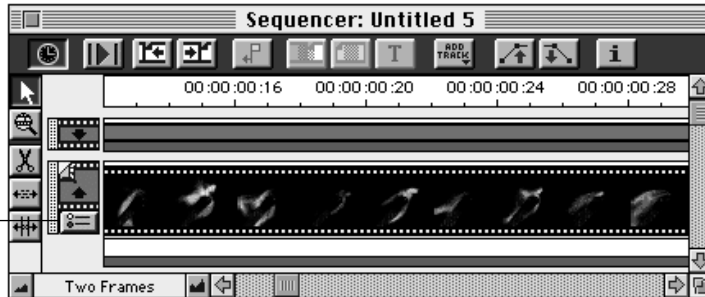
Choose **Expand/Collapse** from the **Sequence** menu.

2. Select the track to collapse from the **Expand/Collapse** submenu.

The track collapses or expands.



Click the track identifier to expand or collapse tracks.



## SOLOING A TRACK

When you play multiple clips in a sequence at the same time, performance degrades noticeably. Use the solo feature to play only one visible track at a time. **Solo** essentially sets all other visual tracks to inactive. Solo is especially useful with motion control (discussed in Chapter 6) and when you have multiple tracks with overlapping clips.

To play an individual track, click VideoShop's Solo button in the canvas window, or choose the **Solo Track** command from the **Canvas** menu. The video, sound, MIDI, and title tracks can be made solo tracks.

While a track is designated as the solo track, all other visual tracks are temporarily deactivated. Once you remove the solo track designation, all the tracks return to their former settings.

### To designate a solo track:

1. In the canvas window, click the track to be played alone.
2. Click the Solo button.



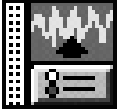
*or*

Choose **Solo Track** from the **Canvas** menu.

All other tracks are made inactive. Only the selected track plays.

### To make an audio or MIDI track solo:

Make sure the track is expanded (not collapsed).



1. Click the base of a video or title track's icon.

*or*

Choose **Track Settings** from the **Sequence** menu.

The Track Settings dialog box appears.

2. Click the **Track Active** checkbox (to remove the check) to deactivate the video or title track.
3. Repeat for all active non-audio tracks.
4. Play to hear audio only.

## PLAYING MULTIPLE AUDIO TRACKS

A multi-track sound track is often used in movies. One track might contain a **voice-over**—a narrator speaking and describing events seen on camera. Another track might be background music or sound effects that come in and out and play at different volumes.

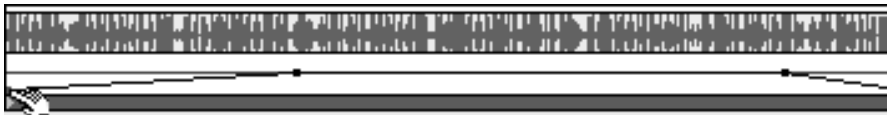
In VideoShop, two audio tracks are required to produce this basic effect, one for the voice-over (the narration synchronized to the video), and another for the background music. Setting the volumes of the two tracks controls how a track is heard above the other.

### To control multiple audio tracks:

1. Position the Selection tool over an audio track's rubberband.


The Selection tool changes to a Pointed Finger tool.

2. Adjust the volume up or down by dragging the rubberband with the Pointed Finger tool.



### 3. Repeat for additional audio tracks.

You can add as many audio tracks as you need to contain numerous sound effects, music, and voice clips. By sliding and positioning them on their tracks and controlling their volumes, you can create complex and realistic sound tracks for your movies.

 **NOTE:** *You cannot adjust audio with the rubberband if the track is collapsed.*

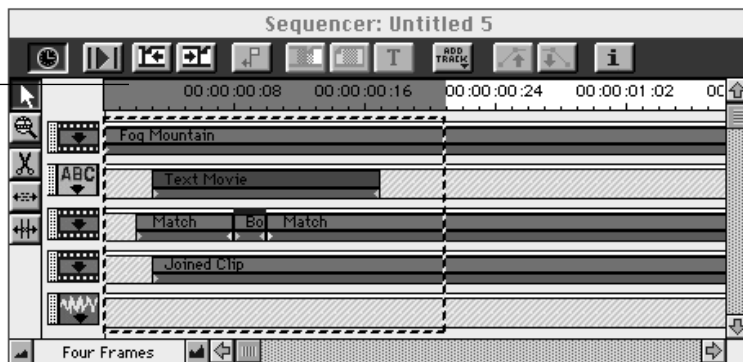
## OPTIMIZING A SELECTION

You can optimize or temporarily mixdown any portion(s) of a sequence. When you have multiple tracks of video, text, and audio all containing clips playing at the same time, the performance of your movie can degrade. To quickly preview how the final mixed down movie will look, select the portions of your movie that need streamlining and optimize them by choosing **Optimize Selection** from the **Sequence** menu. You can still edit a portion of a movie that has been optimized. After you perform an edit, though, the optimized section is no longer optimized. Refer to Chapter 9 for details on compression and mixdown.

### To optimize a selection:

1. In time view, select a duration across all tracks by clicking and dragging in the time bar.

Optimize a selection by dragging in the time bar.

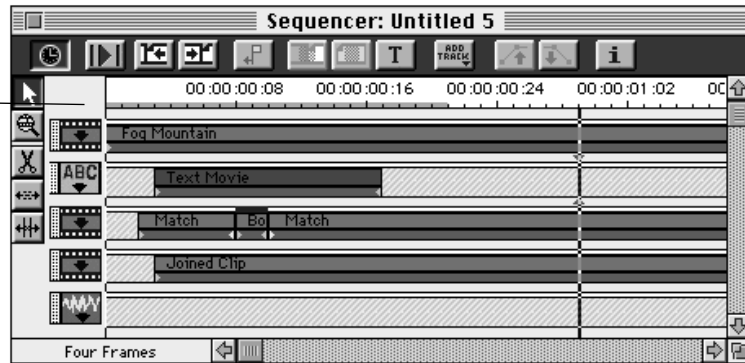


2. Choose **Optimize Selection** from the **Sequence** menu.

This will mixdown all the tracks to an optimized selection. The optimized selection is denoted by a green colored bar across the

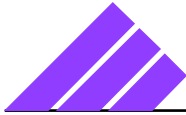
time bar.

re optimized region  
highlighted in  
ie time bar.



 **NOTE:** *Editing frames of an optimized selection removes any optimization previously applied to the clips.*





## CHAPTER 6

### *MOTION CONTROL*

---

#### INTRODUCTION

In VideoShop, you can use the **path editor** in the canvas window to define a screen motion path for visual media elements: video, graphics, and title clips. By adding motion to a media element you can make your clips “fly” across the screen. Motion for clips can be combined with transparency settings to create dream-like sequences with transparent images floating across the screen, for example.

In addition to controlling a clip’s motion over a path, you can change a clip’s size as it moves from one path point to another. If you change the size of the clip at any path point, the clip dynamically resizes as it moves.

This chapter covers the methods for controlling clip motion:

- Using the path editor
- Using predefined paths
- Saving and loading your own paths
- Controlling path speed
- Navigating along a path
- Aligning for motion
- Resizing dynamically

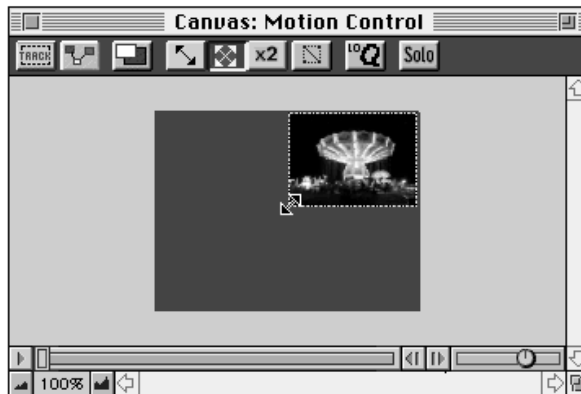


## USING THE PATH EDITOR

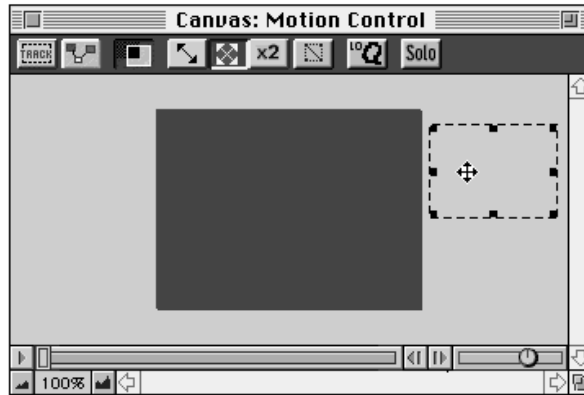
Clips can move on a path across the screen in VideoShop. A **path** is created using the path editor in the canvas window. A path consists of any number of straight line segments. The first path point is green, the last path point is red, and any points between are white. *A path always applies to an entire clip.*

**To create a path for a clip:**

1. In the canvas window, click to select the clip that you want to move along a path.
2. Resize the clip to your preferred starting size.

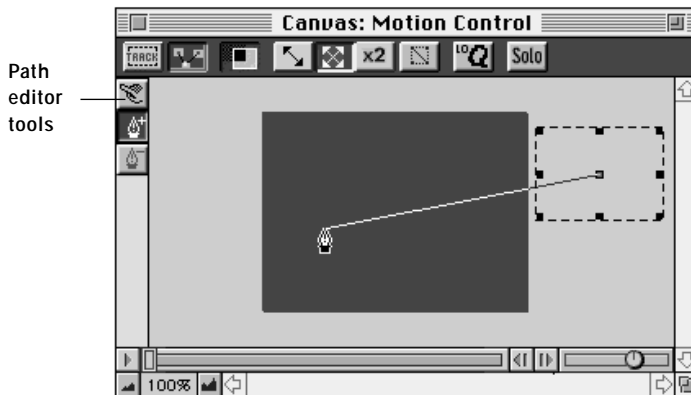


3. Move the clip to the location where you want it to begin.



4. Click the **Path Editor** button.

Three tools appear on the left side of the canvas window; a line is connected from the center of the clip to the **Add Path Point** tool.



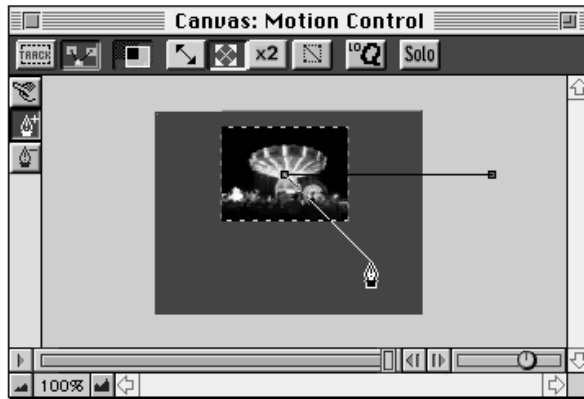
5. Click in canvas window to create path points for the clip to follow.

6. Repeat step 5 until your path is defined.
7. Double-click the last point to complete the path automatically.

*or*

Click to select any other tool. The path is complete.

The clip follows the defined path when played.



#### **To add a path point to the end of a path:**

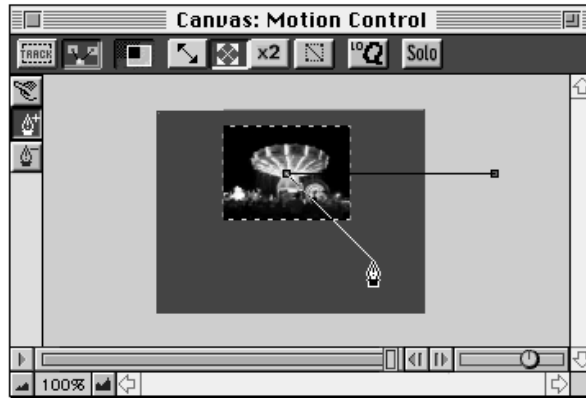
1. Select the clip in the canvas window.
2. Click the Path Editor button.



The three Path Editor tools appear on the left side of the canvas window.

3. Select the Add Path Point tool.
4. Click to add a path point to the end of the path.





**To add a point in the middle of a path:**

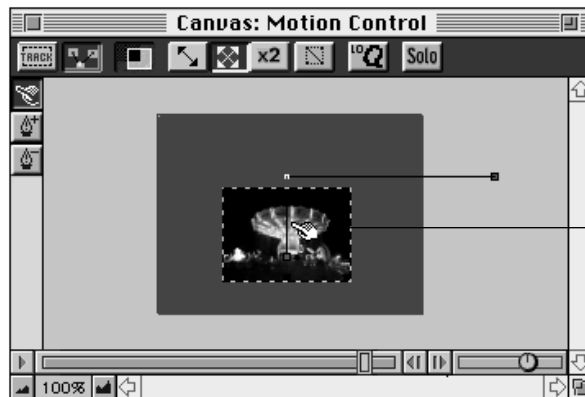


1. Click the Path Editor button.

Three tools appear on the left of the canvas window.



2. Select the **Modify Path** tool.
3. Click and drag the path line to create a new path point.



Click and drag to add a new path point.

### To edit a path:

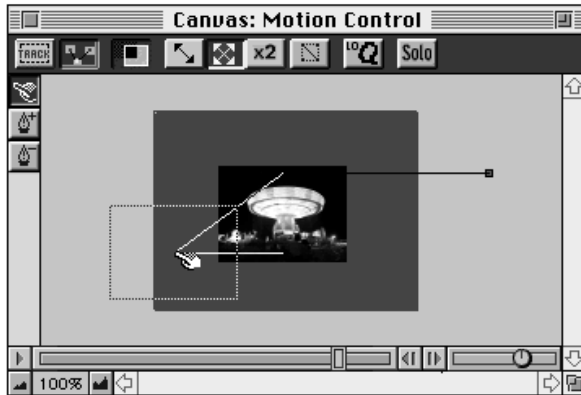


1. Click the Path Editor button.

Three tools appear on the left of the canvas window.



2. Select the Modify Path tool.
3. Click on any path point and move it to a new location.



### To remove a path point:



1. Advance to a clip in your movie that has a path defined.

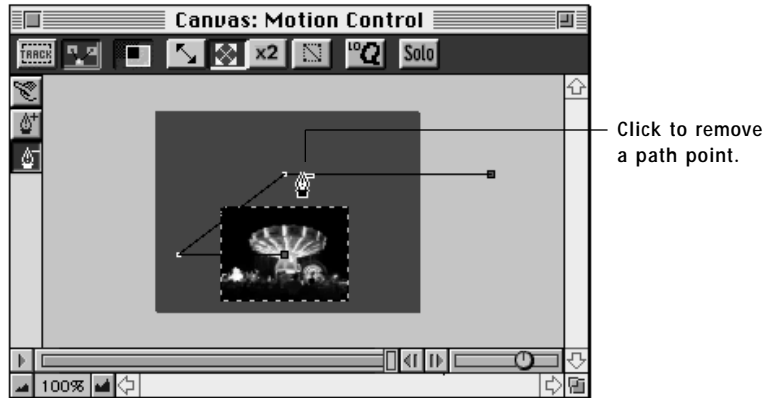
2. Click the Path Editor button.

Three tools appear on the left of the canvas window.



3. Select the **Delete Path Point** tool.
4. Click the point that you wish to remove.

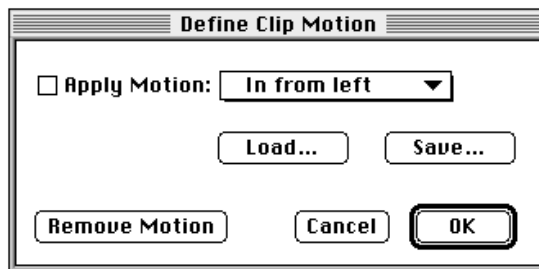
The path point is deleted.



#### To remove an entire path:

1. Advance to a clip in your movie that has a path defined.
2. Select the clip in the canvas window.
3. Choose **Clip Motion** from the **Canvas** menu.

The Define Clip Motion dialog box appears.



4. Click **Remove Motion** in the Define Clip Motion dialog box.
5. Click **OK**.

The path is removed.

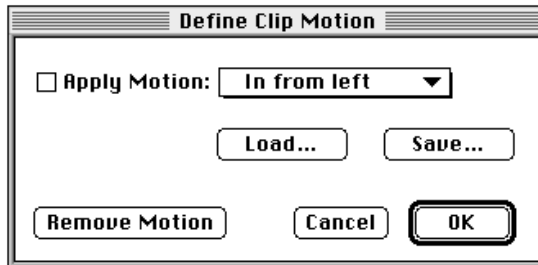
## USING PREDEFINED PATHS

Since it is possible to create complex path motions, VideoShop allows you to apply predefined paths to a clip, or to create your own saved clip motions.

**To use a predetermined path:**

1. Select a clip in the canvas window.
2. Choose **Clip Motion** from the **Canvas** menu.

The Define Clip Motion dialog box appears.



3. Check the **Apply Motion** checkbox.

A direction menu appears.

4. Select your desired direction.

The **In** selections move a clip into your designated path point, making the path point the end point. The **Out** selections move the clip out from your designated path point, making that path point a start point.

The clip moves in a straight line across the path.

If you have created a path you like, you can save it and apply it again to other clips at a later date.

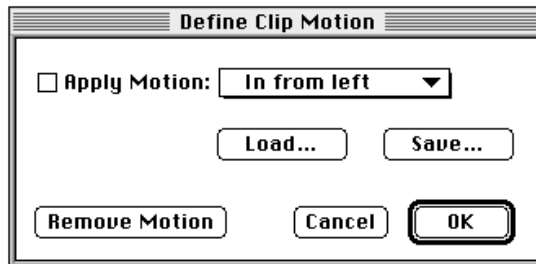
## SAVING AND LOADING YOUR OWN PATHS

With VideoShop, you have the flexibility to create and save paths to use on other projects at a later date.

**To save a path:**

1. Create a path for the clip.
2. Choose **Clip Motion** from the **Canvas** menu.

The Define Clip Motion dialog box appears.



3. Click **Save** in the Define Clip Motion dialog box.

A Save dialog box appears.



4. Name the path.
5. Click **OK**, or press **Return**.



### To apply a saved path:

1. Select the clip in the canvas window.
2. Choose **Clip Motion** from the **Canvas** menu.  
The Define Clip Motion dialog box appears.
3. Click **Load** in the Define Clip Motion dialog box.
4. Select a path.

## CONTROLLING PATH SPEED

The speed a clip travels when flying along a path is determined by the duration of the clip and the length of the path. No matter how long the path is, the clip travels from the first path point to the last path point over the duration of the clip. For example, with the same path, shortening the clip's duration increases the speed that the clip flies along the screen.

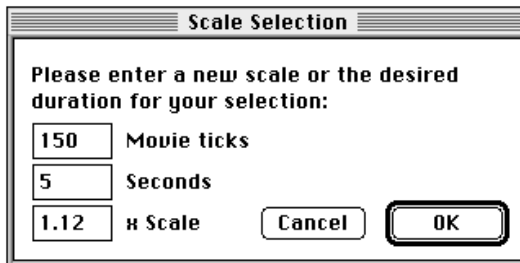
### To change the motion speed of a clip:



Before you begin, switch the sequencer to time view.

1. In the sequencer, double-click to select the entire clip.
2. Choose **Scale Selection** from the **Edit** menu.

The dialog box appears, displaying the current duration of the selection.



3. Enter the desired values for **Movie Ticks**, **Seconds**, or **X Scale**.
4. Click **OK**, or press **Return**.

*or*



Change the duration of the clip by trimming the end with the Trim tool.

For more information on changing duration refer to Chapter 4.

or

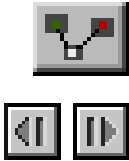
Change the duration of the clip with the Stretch tool. For more information on stretching clips refer to Chapter 2.

## NAVIGATING ALONG A PATH

To help you create and edit paths, VideoShop provides some convenient shortcuts. These shortcuts let you navigate along a path, jumping from one path point to the next.

**To step from path point to path point:**

1. Select a clip in the canvas window.
2. Click the Path Editor button.
3. Hold down the **Option** key.
4. Click the Frame Forward button on the canvas to advance to the next path point, or click the Frame Backward button to move to the previous path point.



The canvas window displays the path point; the playout point moves to the corresponding frame in the sequencer.

## ALIGNING FOR MOTION

The **Align** command controls alignment in the canvas window. Alignment locks clips in time and tracks in space. The **Align** command can be used to create motion control without using the path editor.

*Alignment controls the synchronization of two clips in the same track over time.* This feature precisely matches up one clip on a track with another. The **Align** command works with motion control, just as the **Sync Selection** command works with sound synchronization.

When the beginning frame of a selected clip is aligned to the previous clip, the selected clip gradually moves across the canvas to the position of the previous clip. Likewise, when the end frame of a selected clip is aligned to the next clip, the selected clip gradually moves to the position of the next clip.

### To apply motion with the Align command:



Make sure you are in clip mode. If not, press the Clip/Track mode button.

1. Select a clip in the canvas window.
2. Choose either **Last Frame to Next Clip** or **First Frame to Previous Clip** from the **Align** submenu of the **Canvas** menu, or establish your own parameters with the Custom dialog box.



When the movie is played, the aligned clip moves to the position of the clip to which it was aligned.

## RESIZING DYNAMICALLY

You can resize a clip over time to add to motion in the canvas window. When you resize a clip at a path point, VideoShop dynamically shrinks or enlarges it while moving it from the previous path point to the resized path point.

The change in size occurs gradually, as the clip moves during playout from one key frame to the next.

### To resize a clip as it moves along a path:

1. In the canvas window, select a clip in your movie that has a path defined.



2. Click the Path Editor button.

The path editor tools appear on the left of the canvas window.

3. Select the Modify Path tool.

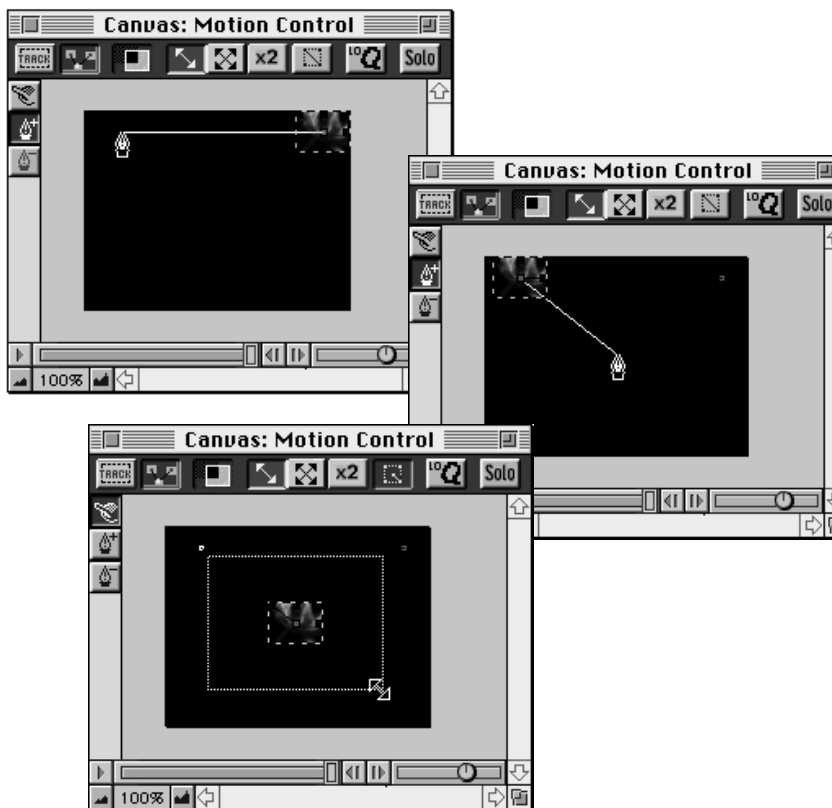


4. Click a path point.

A bounding box appears around the clip. At the bounding box, the Modify Path tool turns into the Double Arrow tool.



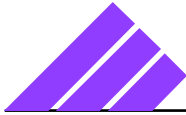
5. Use the Double Arrow tool to resize the clip at that path point.



During playback, the clip resizes dynamically.

The canvas section of the info palette provides a readout of the size and position of the clip relative to the canvas as you set path points and as you play.





## CHAPTER 7

### *SPECIAL EFFECTS*

---

#### INTRODUCTION

Special effects add polish and visual impact to your movies. VideoShop includes two categories of effects, transitions and filters.

Transitions are effects that blend the end of one clip with the beginning of another, providing seamless passage between either video or audio clips.

Filters are graphic effects applied to movie frames over a specific period of time. Some filters are designed for one individual track, others work only over multiple tracks.

This chapter covers:

- Using the Plug-Ins folder
- Applying filters
- Applying multi-track filters
- Applying filters to titles
- Changing the duration of filters
- Changing the quality of filters
- Applying transitions
- Altering the transition style
- Changing the duration of transitions
- Correcting color
- Removing filter and transition effects

## USING THE PLUG-INS FOLDER

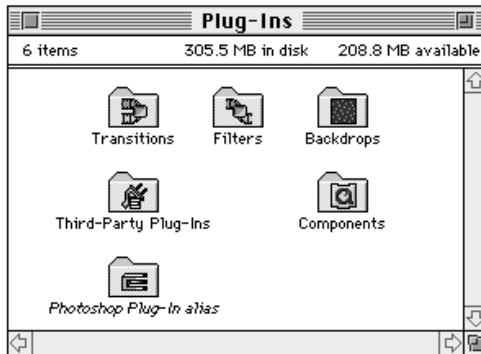


Plug-Ins

VideoShop provides its own filters, transitions, canvas backgrounds, and third-party plug-in effects. All effects are stored in a VideoShop folder named Plug-Ins.

**To add a new effect:**

1. In the Finder, double-click to open the Plug-Ins folder.



2. Place the new plug-in into the appropriate folder: the Filters folder, Transitions folder, Backdrops folder, Components folder, or Third-Party folder.



**TIP:** The folders within the Plug-Ins folder simply facilitate the organization and management of different effects. VideoShop can find new effects anywhere within the Plug-Ins folder.

3. Quit VideoShop.
4. Launch VideoShop again.

Your new effect is available by clicking the Filter and Transition buttons on the sequencer, or by choosing the **Apply Filter** or **Apply Transition** commands from the **Sequence** menu. Canvas backgrounds are accessible through the **Canvas Backgrounds** command on the **Sequence** menu.

VideoShop has been enhanced to take advantage of the increased performance of Power Macintosh. You will notice a greater responsiveness during normal editing. It is typical for some transitions and filters to process 2 to 5 times faster when running on a Power Macintosh.

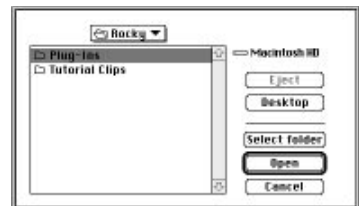
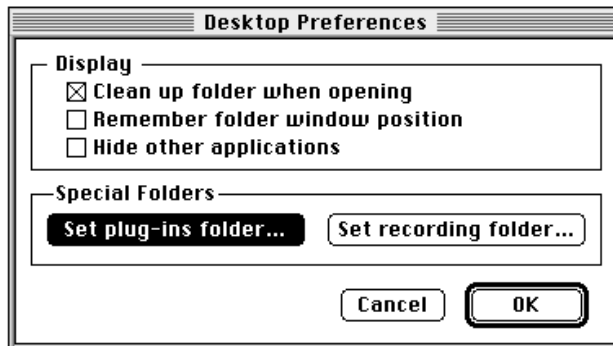
A special file (in the Extensions folder inside your System Folder) called the **Strata VideoShop® PowerPlug** accelerates VideoShop. If you are running on a Power Macintosh and this file is not present, you will be notified when VideoShop starts up. You should then attempt to locate this file and place it in the Extensions folder. If you have used the installer and chose VideoShop for Power Macintosh, then this file should already be installed.

The VideoShop application must be aware of the location of the Plug-Ins folder. Either the application needs to be in the same spot as the Plug-Ins folder, or you need to let VideoShop know it is in another location. The following method for designating a new Plug-Ins folder is also used for identifying its location.

**To change the default plug-ins folder:**

1. Choose the **Preferences** command from the **File** menu.
2. Choose **Strata Desktop** from the **Preferences** submenu.
3. Click **Set plug-ins folder**.

A dialog box appears.



4. Select the desired new effects folder.
5. Click **OK**, or press **Return**.



## APPLYING FILTERS

Filters are special effects that change the appearance or characteristics of the frames to which they are applied. There are one track, two track and three track filters. .

This section describes how to apply single-track video to your movie. To apply filters to a number of tracks, refer to the section “Applying Multi-Track Filters” later in this chapter.

For a list of all filters included with VideoShop and the number of tracks over which they are applied, refer to the “Effects Listing” in the *VideoShop Reference Guide*.

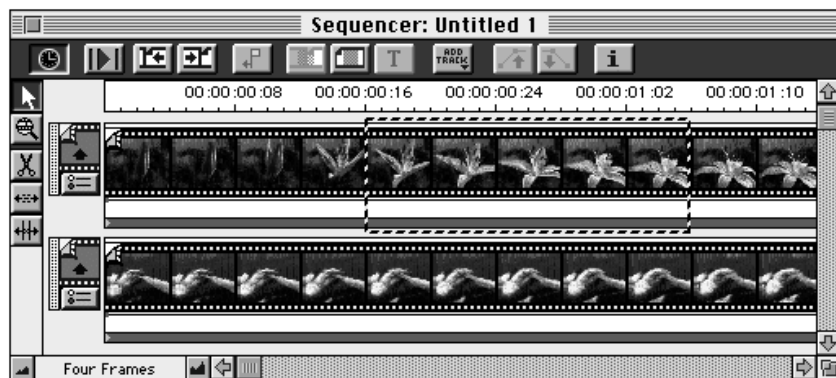
There are two ways to apply a filter effect to a video sequence. Use the first method if you would like to preview different filters before applying them. The second method is a shortcut, which allows you to bypass the previewing stage and to directly select and apply your chosen filter.

### To apply a filter:



Make sure you are in time view.

1. Select the frames over which to apply the filter.





**TIP:** When making a selection, it is helpful to watch the canvas window, which displays the last frame of your selection.

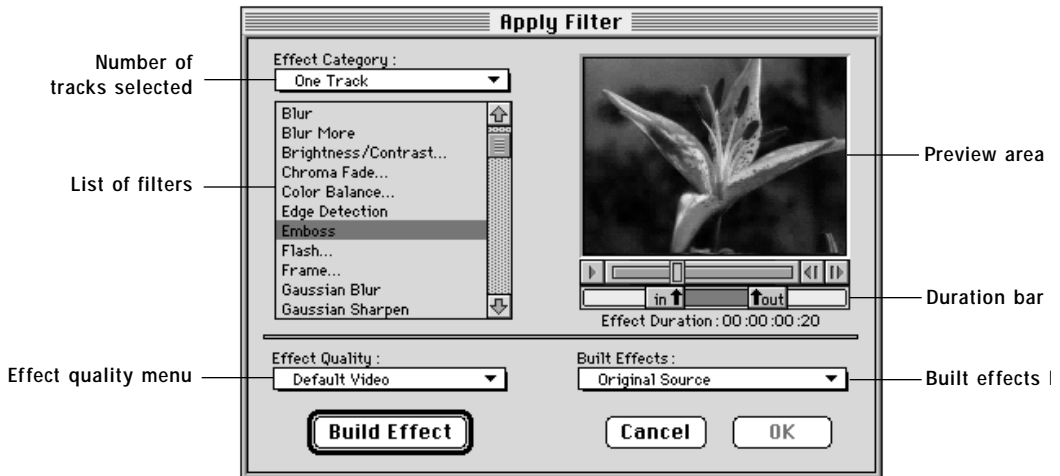


2. Click the **Filter** button.

or

Choose **Apply Filter** from the **Sequence** menu, then choose **Apply Filter** from the submenu.

The Apply Filter dialog box appears.



The top left side of the dialog box contains a menu showing how many tracks you have selected. Next is a list of filters available. Only filters applicable to the number of tracks selected appear. For example, if you have selected a region over one track, only single-track filters are available.

On the right side of the dialog box are several features.

**Preview.** Shows you how a sequence appears after the filter has been applied. The controls under the preview window allow you to play the sequence, shuttle back and forth along it, and advance or rewind frame by frame.

**Duration bar.** Allows you to increase or decrease the amount of video or audio media over which the filter is applied. If, for example, you selected 8 frames in the sequencer over which to apply the filter, this

bar reflects this duration but allows you to manually increase or decrease it as you see fit.

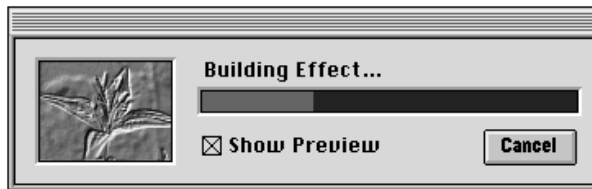
**Effect Quality.** Determines which hardware or software compression algorithm is used to build your filter effect. For more information of effect quality, see the section “Changing the Quality of Filters” later in this chapter.

**Built Effects.** Keeps track of previewed filters. After you have finished previewing filters, choose a filter from this list to apply to your movie sequence.

3. Choose a filter from the list of available filters and click **Build Effect**.

As with all Macintosh menus and lists, if a filter’s name is followed by ellipses (...), there are parameters specific to the filter displayed in a dialog box. The dialog box lets you set parameters appropriate to the type of filter and, if appropriate, to select the settings in the options dialog for that filter effect.

A Building Effect dialog box opens. As the effect is being built, you can check **Show Preview** to see the effect applied to your selected frames.

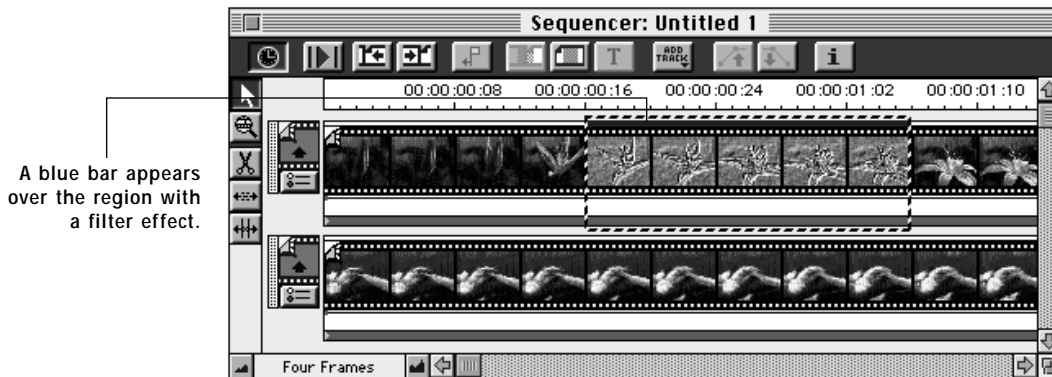


The Building Effect dialog box closes automatically at the end of this process, and the Effects Preview plays out the selected frames affected by the chosen filter.

Now, you can select another filter to preview in the same way. Any previously built filters are listed in the **Built Effects** menu.

4. When you have previewed all the filters you want to see, select one from the list of built effects, and click **OK** to insert the filter into your sequencer.

The dialog box closes and the filter is inserted into your movie. A blue bar appears over the portion of the clip to which the filter has been applied.



### To use a shortcut to apply a filter:



Make sure you are in time view.

1. Select frames to which to apply a filter.



**TIP:** While making a selection, it is helpful to watch the canvas window, it displays the last frame of your selection.



2. Click and hold the **Filter** button, then select the filter to apply from the submenu.

or

Choose **Apply Filter** from the **Sequence** menu, then select the filter to apply from the submenu.

A Building Effect dialog box opens. As the effect is being built, you can check Show Preview to see the effect being applied to your selected frames.

The Building Effect dialog box closes automatically at the end of this process, and the filter is automatically inserted into your movie sequence. Once a filter has been applied, a blue bar appears over that portion of the track, indicating that a filter has been applied to those frames.

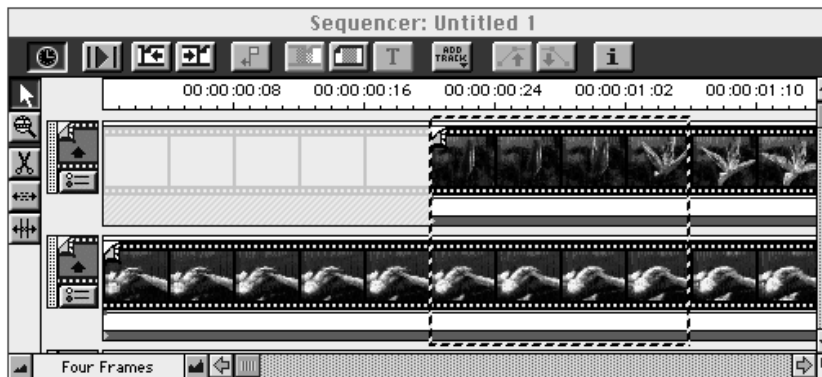
## APPLYING MULTI-TRACK FILTERS

When you select across multiple tracks and click the Filter button, only those filters which work with the specific number of tracks are listed. Multi-track filters include: fade in, fade out, chroma/luma key, morph, Alpha Map, and Alpha Channel Filter. See Appendix E, “Tips and Techniques,” for more information on specific multi-track filters.

### To fade in or fade out:

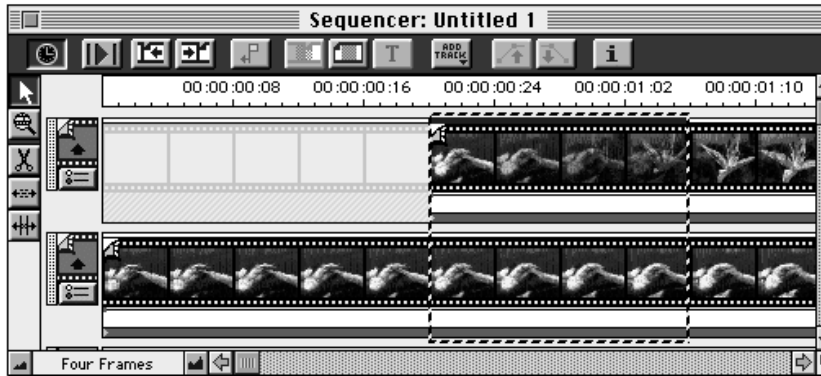
1. Add a new track to your sequencer and insert the foreground video or title sequence to be faded. (Refer to Chapter 5, “Multiple Tracks,” and Chapter 8, “Adding Titles to Movies.”)
2. Add another video track for the background over which media will fade in or fade out.
3. Position the track containing the foreground media directly above the track containing the background. (Refer to Chapter 5.)
4. Make a selection across both tracks.

The filter effect will be applied to this selection.




5. Click the Filter button on the sequencer toolbar and choose **Fade in** from the submenu.

When the effect is completed, the two sources are blended together. The resulting effect appears in the first video track.



## APPLYING FILTERS TO TITLES

Although special effects filters apply primarily to video and audio tracks, the fade in, fade out, and Alpha Map can also be applied to titles. For more information on Alpha Filters, see Appendix E, “Tips and Techniques.” VideoShop also provides the option to add drop shadows to titles. For more information on adding titles to movies and using drop shadows in titles, refer to Chapter 8.

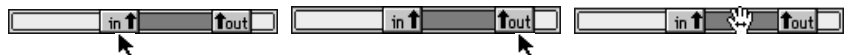
 **NOTE:** Only the Fade In, Fade Out, and Alpha Map filters can be applied to titles.

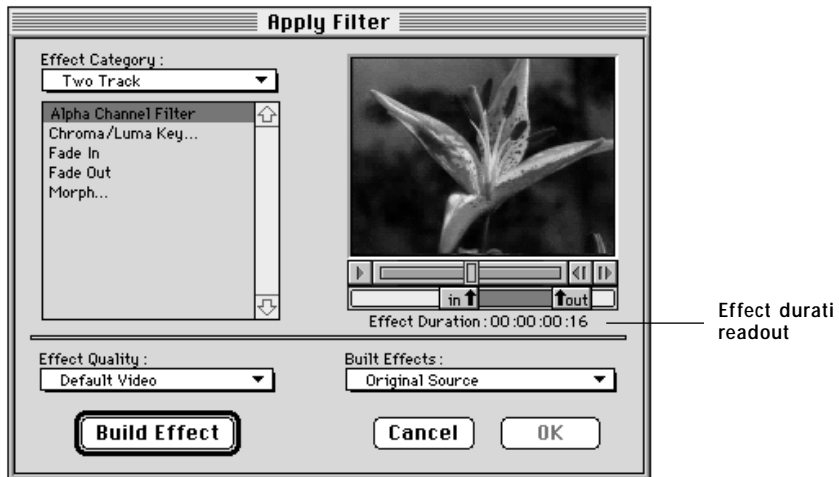
## CHANGING THE DURATION OF FILTERS

The duration of a filter effect is determined by the duration of media (video, audio, or titles) selected. The selection duration readout in the sequencer window and the effect duration readout in the Filter Effect dialog box display this duration.


**To change the duration of a filter effect:**

- ☐ In the Filter Effect dialog box, slide the handles on the **effect duration bar** right or left to add or subtract frames from either the beginning or end of the effect duration.





The effect duration readout indicates the frames over which the effect is applied. Effect duration can be trimmed down to any single frame of the sequencer selection. Effect duration can be extended up to two seconds at either end of the sequencer selection. If you need to extend the effect further than two seconds at either end or four seconds overall, you must return to the sequencer and make a longer initial selection. You can always trim if you select too much.

 **NOTE:** Changing the duration of a filter effect is not the same as stretching a clip. If the duration of a filter effect is changed, the media over which the filter is applied also change. If media containing a filter effect are stretched or shrunk, playout of the sequence either slows down or speeds up, but the underlying media remain unchanged.

## CHANGING THE QUALITY OF FILTERS

There are five quality settings available for filter effects. Each setting is chosen from the **Effect Quality** menu in the Filter Effect dialog box.

**Default Video.** VideoShop attempts to build the effect with compression settings that match those of the source material. If VideoShop cannot match the quality and frame rate of the source material, then the default compressor **Apple Video** is used.

**Default Graphics.** Functions in the same way as Default Video, except that if VideoShop cannot match the quality and frame rate of the source material, then the default compressor **Apple Animation** is used.

**Best Quality.** Defaults to **Apple None**, however, if you have redefined the definition of **Best Quality** in the Effects Preferences dialog, VideoShop uses the definition that you have chosen.

**Custom Quality.** Defaults to **Apple Video**, but the definition of **Custom Quality** can be redefined through the Effects Preferences dialog box. If you have redefined **Custom Quality** through the effects preferences, then VideoShop uses the definition that you have chosen.

**Other.** Brings up a dialog box from which you can choose a compressor, effect quality, and motion settings on the fly.

The choice of compressors available is determined by QuickTime and by the type of video hardware installed in your Macintosh. For detailed information about compression settings refer to Chapter 9.

## APPLYING TRANSITIONS

Transitions are the boundary between two clips. Transition effects are used to blend the end of one clip with the beginning of another. For example, you might want to dissolve from one clip to the next, rather than abruptly ending one and beginning another.

A transition effect is applied at the boundary between video or audio clips. For a list of all transition effects included with VideoShop, refer to “Effects Listing” in the *VideoShop Reference Guide*.

There are two ways to apply transition effects. One allows you to preview different transitions before choosing one. The other method allows you to bypass the preview and apply a specific transition effect immediately.

### To apply a transition:



Make sure you are in time view.



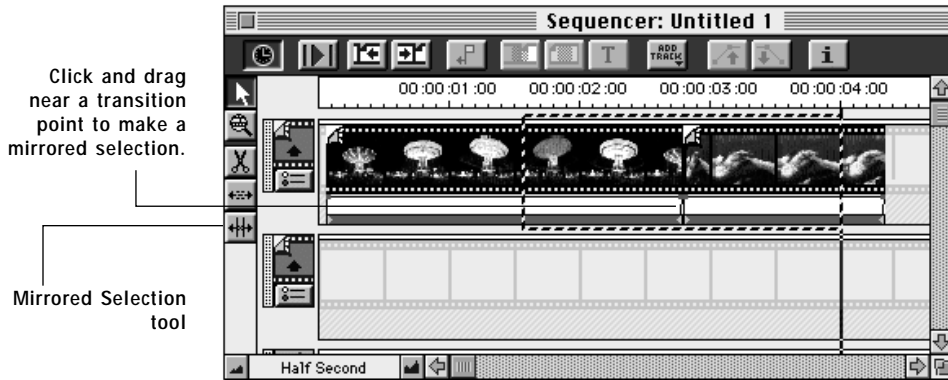
1. Locate a transition point (indicated by a dog-eared corner) between two clips.
2. Select the **Mirrored Selection** tool from the sequencer’s tool pal-



ette.

3. Place the Mirrored Selection tool over the transition point, then click and drag.

As you drag the Mirrored Selection tool, the selection automatically expands an equal number of frames on the right and left of the transition frame.



*or*

Select an uneven area across two clips with the Selection tool.

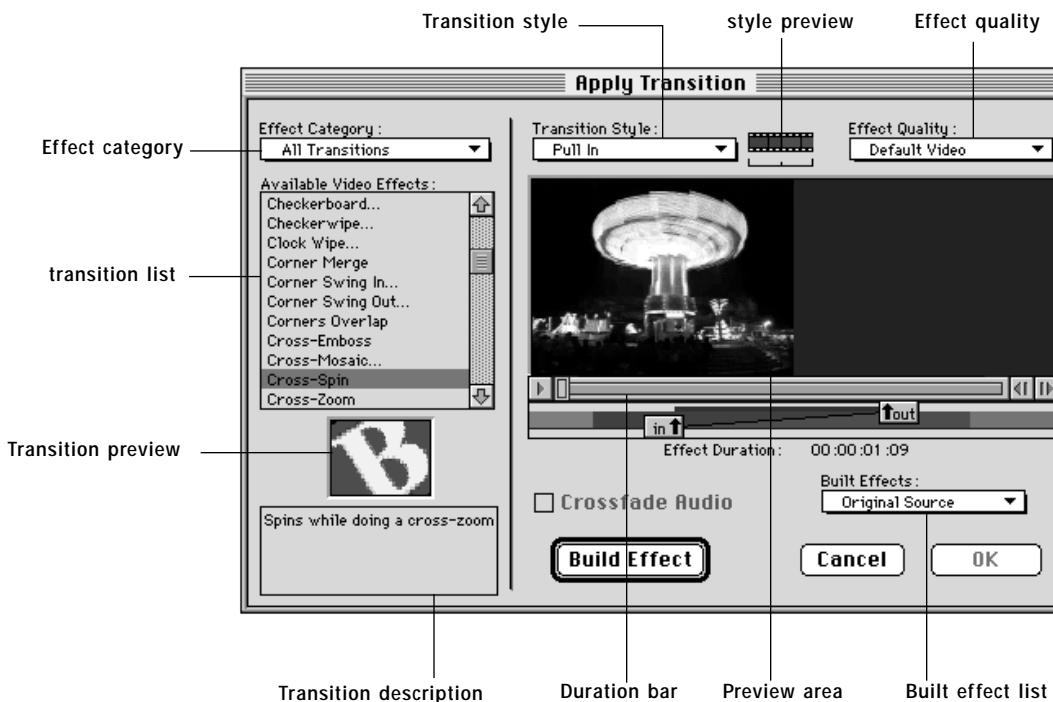
You can select a duration for the transition either by eye or by using the time/duration readout on the info palette.

4. Click the Transition button on the sequencer.

*or*

Choose **Apply Transition**, then **Apply Transition** from the **Sequence** menu.

An Apply Transition dialog box is displayed.



The left side of the dialog box contains a menu of transition effect categories. Next is a complete list of the transition effects available in the chosen category. Beneath that is an animated preview of the effect as applied to two test images. A description of the effect follows.

On the right side of the dialog box are several menus:

**Transition Style.** Determines how VideoShop overlaps clips when creating a transition.

**Effect Quality.** Determines compression settings when the transition effect is built.

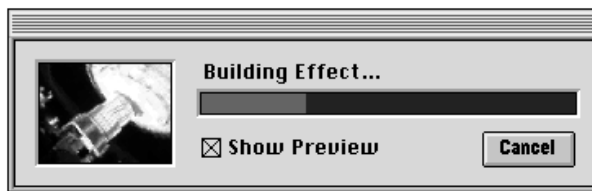
**Preview Area.** Shows the transition applied to your selected frames.

**Duration bar.** Controls the duration of your transition effect. If, for example, you selected 8 frames in the sequencer over which to apply the transition, the green/red bar is displayed to reflect this duration.

**Built Effects list.** Keeps track of those transitions already previewed. Once you have finished previewing transitions, choose one from this list to apply to your movie sequence.

5. Choose a transition effect from the list and click **Build Effect**.

The first preview box showed the transition as applied to red and green test images. The preview shows the transition as it is applied to your selection.



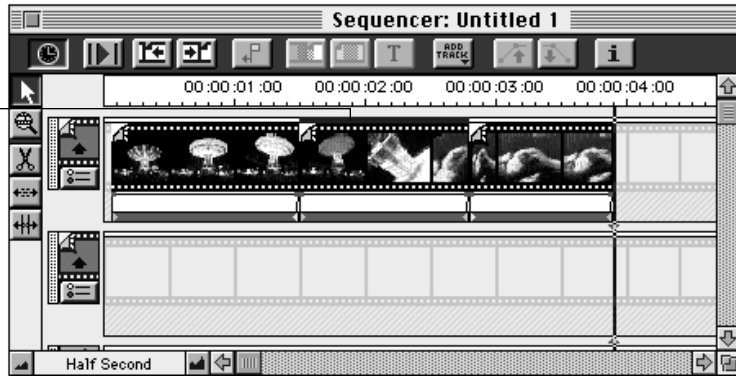
6. When you have previewed all the transitions you want to see, choose one from the list of built effects, and click **OK** to insert the effect into your sequencer.

The dialog box closes and the effect is applied. A blue bar appears over the portion of the clip to which the effect has been applied.

When you apply a transition, VideoShop creates new media that contain the affected movie frames.

In time view, the transition clip is separated from the rest of the clips by a dog-eared corner with a blue bar on top. In storyboard view, it appears as a separate clip, named for the transition.

A blue bar indicates that an effect has been applied.



### To use a shortcut to apply a transition effect:



Make sure you are in time view.



1. With the Selection tool or the Mirrored Selection tool, make a selection over a transition point.
2. Click and hold the **Transition** button, then select a transition from the submenu.

*or*

Choose **Apply Transition** from the **Sequence** menu, then select a transition from the submenu.

A Building Effect dialog box opens. As the effect is being built, you can check Show Preview to see the effect as it is applied to your selected frames.

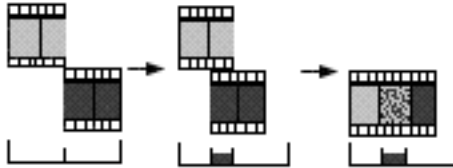
When the Building Effect dialog box closes, the built effect is automatically inserted into your movie sequence. A blue bar appears over the new transition clip.

## ALTERING THE TRANSITION STYLE

When some transition effects are created, a portion of the first clip overlaps and interweaves with a portion of the second clip. The **Transition Style** menu on the Apply Transition dialog box lets you choose how the clips overlap and how the duration of your movie is affected.

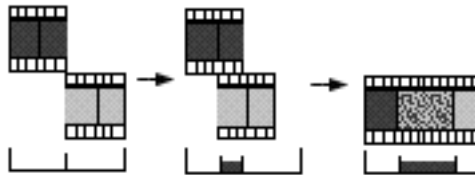
## Transition styles

**Pull In.** The second clip is pulled underneath the first clip. The duration of the overall video sequence is shortened by one half of the transition duration.



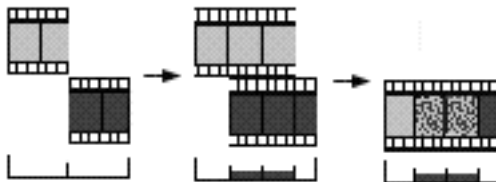
If media have not been trimmed, **Pull In** and **Pull and Stretch** are the only transition styles available.

**Pull and Stretch.** The second clip is pulled underneath the first clip, just as with Pull In. However, the transition is then stretched (played at half speed) to maintain the original duration of the video sequence.



If media have not been trimmed, **Pull In** and **Pull and Stretch** are the only transition styles available.

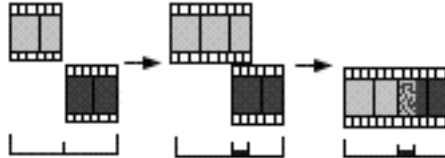
**Centered at Cut.** Both clips are unrolled evenly by one half of the transition duration. The overall duration of the video sequence does not change.



This style of transition is only available if both the first and second clips have been trimmed. (For more information on trimming, refer to Chapter 4.) The duration of the transition is limited by the amount of

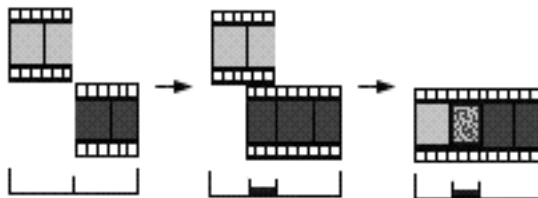
media trimmed from both clips. If one second has been trimmed from the first clip and two seconds have been trimmed from the second clip, the transition duration can be at most two seconds (one second of material from each clip).

**Start at Cut.** The first clip is untrimmed to extend under the second clip. The overall duration of the video sequence does not change.



This style of transition is only possible after the first clip has been trimmed. (For more information on trimming, refer to Chapter 4.) The duration of the transition is limited by the amount of media that was trimmed. If two seconds have been trimmed from the first clip, the transition duration can be at most two seconds.

**End at Cut.** The second clip is trimmed to extend under the first clip. The overall duration of the video sequence does not change.



This style of transition is only possible after the second clip has been trimmed. (For more information on trimming, refer to Chapter 4.) The duration of the transition is limited by the amount of media that was trimmed from the clip. For example, if two seconds have been trimmed from the second clip, the transition duration can be at most two seconds.

**To see a demonstration of each transition style:**

1. Choose the style of transition to view from the **Transition Style** menu in the Apply Transition dialog box.

To choose **Start at Cut**, **End at Cut**, or **Centered at Cut**, media

must be trimmed from the first and/or second clip.

2. Click the diagram next to the **Transition Style** menu.

The diagram animates, demonstrating the transition.

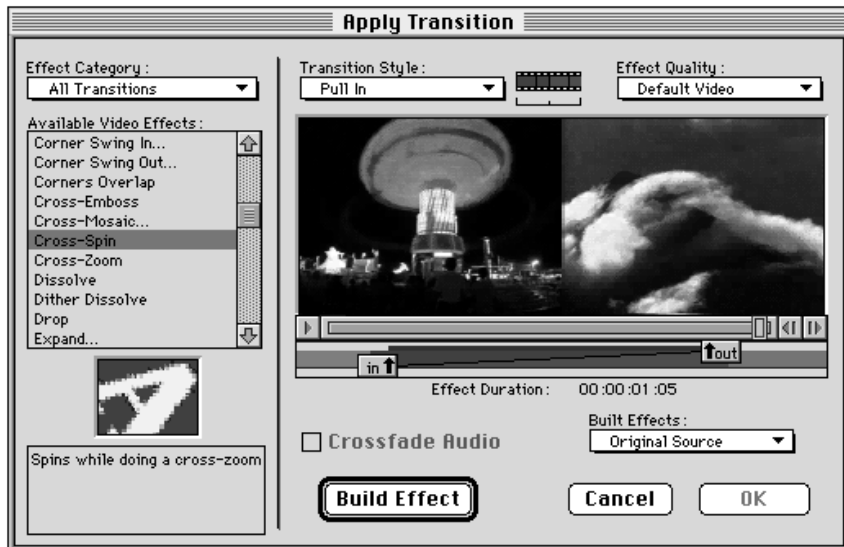
3. Click the diagram again to see the demonstration again.

## CHANGING THE DURATION OF TRANSITIONS

The duration of a transition effect is determined by the amount of media (video or audio—*transitions cannot be applied to titles*) selected. The time readout in the sequencer window and the effect duration readout in the Apply Transition dialog box display the duration.

**To change the duration of a transition effect:**

- ☐ In the Transition Effect dialog box, slide the handles on the effect duration bar to the right or left to add or subtract media from either the beginning or end of the transition.



The preview window shows the first and last frames in the transition and displays the duration of the transition between them.

The minimum transition duration is three frames. The amount of time that can be added to the transition effect is limited to one second at each end.


 **NOTE:** *Changing the duration of a transition effect is not the same as stretching a clip.*

## CORRECTING COLOR

Many times, a movie editor makes certain aesthetic changes to movie frames that are similar to the retouching effects that a photographer applies to an image negative before printing.

### To edit individual frames and make color changes:

- ☐ Use the **Color Balance** filter supplied with VideoShop.
- or*
- ☐ Paste frames into a graphics application that has painting and color tools. Refer to Appendix B for more information on how to do this.

 **NOTE:** *Certain third party CODECs (compression/decompression components) are very sensitive to hard edges between areas of high contrast or big color changes. This can sometimes produce compression artifacts on some effects.*

For more information about incorporating filter effects, refer to the “Applying Filters” section of this chapter. For a visual glossary of available filters, refer to the “Effects Listing” in the *VideoShop Reference Guide*.

## REMOVING FILTER AND TRANSITION EFFECTS

### To delete an effect:



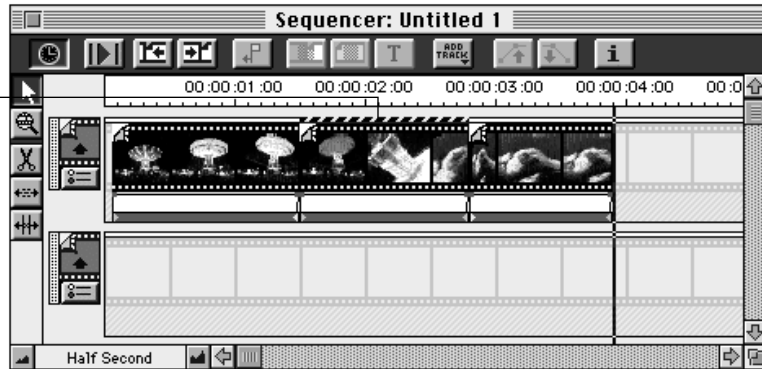
Make sure you are in time view.


1. Click the blue bar over the affected frames.
2. When the bar has been selected and displays moving diagonal lines, press **Delete**.

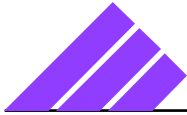
The filter is removed.



Click the blue  
bar and press  
Delete to  
remove an  
effect.



 **NOTE:** *When the blue bar is deleted, only the most recently applied effect is removed.*



## CHAPTER 8

### *ADDING TITLES TO MOVIES*

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#### INTRODUCTION

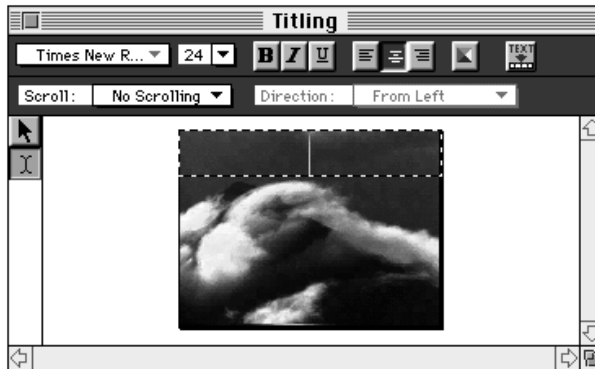
VideoShop has a built-in title tool. With it, you can create titles and captions, scroll them across the screen, change their features, anti-alias, and add drop shadows to them. Advanced features allow you to create dramatic effects with text and to save text as a transcript track, which can be useful in movies created for CD-ROM publishing.

This chapter covers the following topics:

- Creating a title
- Editing a title
- Inserting the title into the sequencer
- Changing the timing of a title
- Changing the duration of a title
- Editing a title in the sequencer
- Creating a dynamic title
- Positioning a title in the canvas window
- Anti-aliasing titles
- Scrolling titles
- Defining a scroll region
- Defining a language
- Adding drop shadows to titles

## CREATING A TITLE

When a sequencer first opens, it does not have a title track. To add titles to your movie, first add a title track, select the frames over which you want the title to appear, open the titling window, and then enter your text and define its style.



Titling window

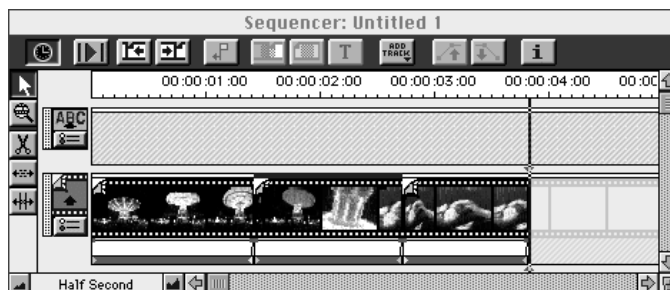
To add a title track:



- ☐ Click the Add Track button on the top of the sequencer and choose Title Track from the pop-up menu.

*or*

Choose **Title Track** from the **Add Track** submenu of the **Sequence** menu.



A title track appears at the top of the sequencer. As always, you can rearrange the layering of any track by grabbing the track handle on the left side of a track and dragging it up or down to the new position.

Titles usually appear as foreground over video. The title track needs to be higher in the sequencer window than the video track to display the title over the video. If a title is to appear behind video (through a window in the video, for example), the title track must be lower in the layering order than the video track.

**To open the titling window:**

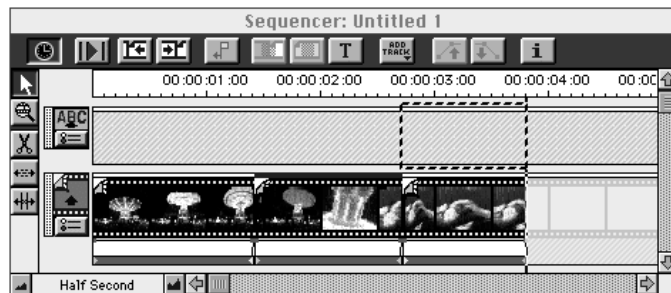
If you do not have a title track in your sequencer, add a title track.



Make sure you are in time view by clicking the Storyboard/Time View button.

1. In the title track, select an area for the title.

As you select, the underlying video appears in the canvas window, the selection portion of the info palette displays information about the frames you have chosen for the title.

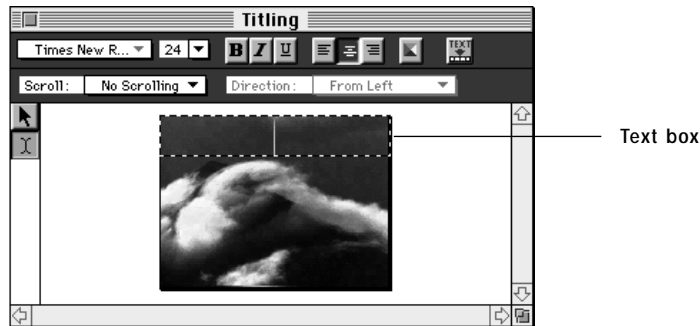




2. Click the **Text** tool.

*or*

From the **Window** menu, choose **Titling** (E-E).



The titling window is displayed. Titles are typed into the text box of this window (the area designated by a dotted line). The frame currently displayed in the canvas window also appears in the titling window.

#### To create a title:



1. Position the Selection tool in the text box (the box located at the top of the window) of the titling window.

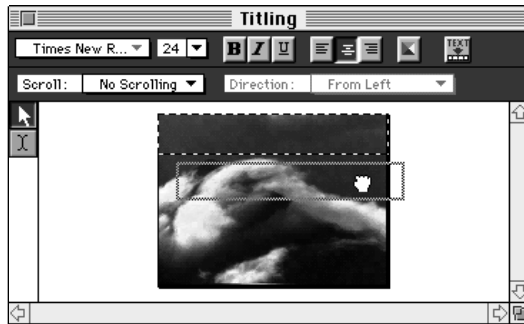


The Selection tool turns into an **Edit Text** tool.



The Selection tool turns into a Hand tool when it is inside the text box. By clicking and dragging with the Hand tool, you can posi-

tion the text box anywhere in the titling window.



## 2. Type in your text.



**TIP:** If the text is too wide for the titling window, the text wraps around and the text box adds a new line. You can resize the text box from lower right corner when the Edit Text tool is selected.

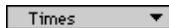
If your title does not need editing, your next step is to incorporate the title into your movie. Refer to the “Inserting the title into the sequencer” section of this chapter for instructions.

## EDITING A TITLE

There are many ways to modify your title while you are in the titling window. You can change the font, font size, color, alignment, and other attributes. VideoShop supports TrueType fonts. If Adobe Type Manager (ATM) is installed, VideoShop supports PostScript Type 1 fonts.

### To select a font:

1. With the Edit Text tool, select the portion of your title that you want to modify.
2. Click the **Font** button to choose from a list of available fonts



or

- ☐ Choose a font from the **Font** submenu of the **Title** menu.

VideoShop remembers the last font you selected for the text; the next title you add is automatically the same font.

### To change point size:

1. Select (by clicking and dragging) the portion of the title you want to resize.



2. Click the **Font Size** button and select a new point size.

*or*

- ☐ Choose a point size from the **Size** submenu of the **Title** menu.

VideoShop remembers the last font size you selected for the text; the next title you add is automatically the same font size.



**TIP:** In addition to the font size increments (such as those available in any word processing program), VideoShop lets you adjust the size of your title with much greater precision through the options **Smaller** and **Larger**. Each selection of these decreases or increases, respectively, the size of the title by a single point. The **Other** option brings up a dialog box in which you can type in a precise point size.

Only those point sizes available on your Macintosh are available in VideoShop; all point sizes are not available on every configuration.

### To change the style of a title:

1. Select the text that you want to change.
2. Click the appropriate icon(s) at the top of the titling window.

*or*

Choose a style from the **Style** submenu of the **Title** menu.



### To set the alignment of a title:



Click either the **Center** button, the **Left Justify** button, or the **Right Justify** button.



### To add color to a title:

1. Select (click and drag) the part of the title to which you want to

apply color.



2. Click the **Color Wheel** button to bring up the color wheel.
3. Select a color.
4. Click **OK**, or press **Return**.

VideoShop remembers the last color you selected for the text; the next title you add is automatically the same color.

## INSERTING THE TITLE INTO THE SEQUENCER

Once you have added all the desired type specifications to your title, you can insert the title into the sequencer in three ways:

- Insert the title for a selected duration
- Insert the title at a specific point and for a standardized duration
- Drag and drop the title into the sequencer, and reposition it later

### To insert the title into a selection in the sequencer:

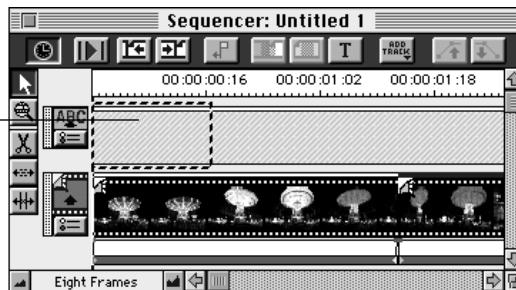
1. Make a selection in the title track where you want the title to appear.

The duration of the selection is displayed in the selection readout in the info palette. To view the background video as you select, watch the canvas window.

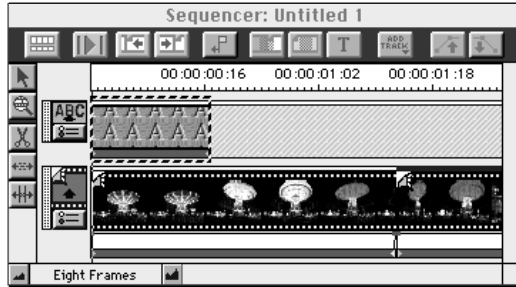


2. Click the **Insert Text** button in the upper right of the titling window.

Select a region  
in which to  
insert the title.







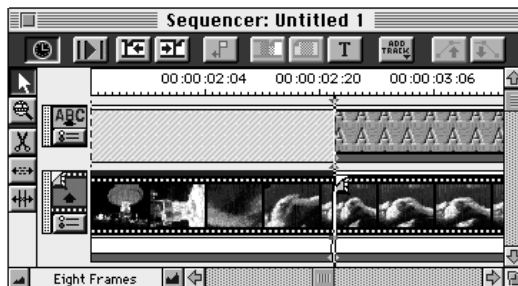
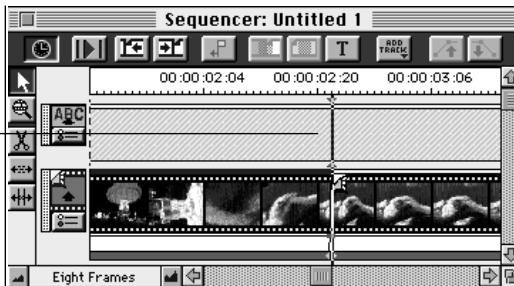
**To insert the title at a particular point in the sequencer:**

1. Click in a title track to set an insertion point.
2. Click the Insert Text button on the upper right of the titling window.



The beginning of your title is inserted at that point. It continues for a default of 5 seconds.

The title will be inserted at the insertion point.



To insert the title by dragging it into the sequencer:

1. In the titling window, select the Selection tool.
2. Position the Selection tool over the text box.  
The Selection tool turns into the Hand tool.
3. With the Hand tool, click and drag the title from the titling window into a title track of the sequencer.



To automatically close the titling window:

- ☐ Select **Auto Close Window** from the **Title** menu.

After this option is selected, each time text is inserted into the sequencer with the Insert Text button (or by pressing E-J or by selecting the **Insert into Sequencer** command from the **Title**

menu), the titling window automatically closes.

## CHANGING THE TIMING OF A TITLE

Once a title has been inserted into the title track, you can move it to another point in time using the same procedure as moving video or audio clips.

**To slide a title:**



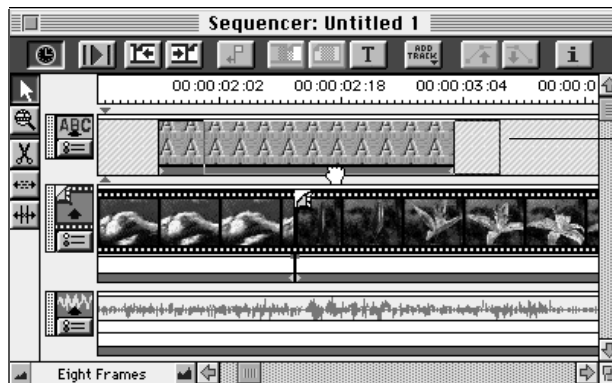
1. Position the Selection tool at the orange slide bar at the bottom of the text clip in the title track.

The Selection tool changes to the Hand tool.



2. Click to grab the clip.
3. Slide the clip to any new location.

If, when you slide the clip to the right, it butts up against another clip, it will halt the slide. To push both clips, continue to push. Both clips slide to the right.



Grab and slide the title to a new location.

## CHANGING THE DURATION OF A TITLE

Titles are cut, copied, and pasted the same as video or sound clips. Select an area to cut or copy, then make the appropriate selection from the **Edit** menu.

You can also trim title clips in the same as other clips. Once you have created a title and placed it in the sequencer, you may want to make

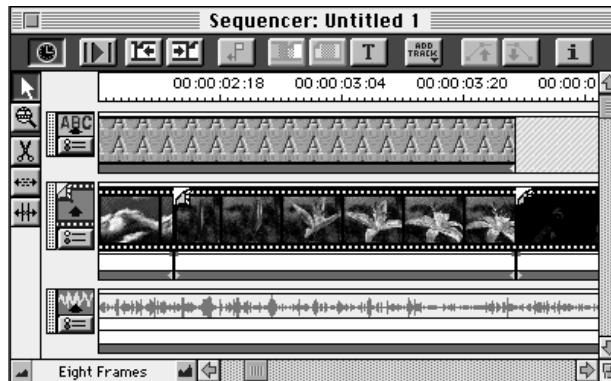
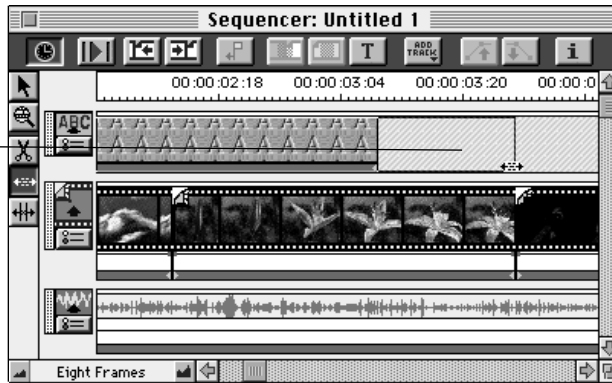
the title longer or shorter. To shorten the title, select and cut, or trim the end just as you would a video clip. To extend the duration, use the Stretch tool or the **Scale Selection** command.

#### To stretch a title:



1. Select the Stretch tool.
2. Click on the end of the title clip and stretch to extend the duration.

Use the stretch tool to change the duration of a title.



#### To change the duration of a clip:

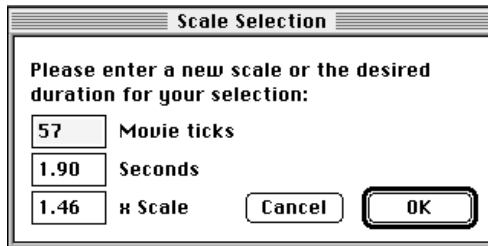


1. In time view, drag the Selection tool to select all the frames of a clip in a single track, or double-click the clip to select the entire

clip.

2. Choose **Scale Selection** from the **Edit** menu.

This displays a dialog box with several fields that relate to the duration of the selected frames. You can change any one of these fields. The dialog box allows a new duration to be entered in seconds, in ticks, or as a percentage of the original selection duration.



**Movie Ticks.** Displays the number of ticks in the selected frames. A tick is a time unit. For example, a movie created at 30 frames per second is on a 30 tick time scale, a 25 frame per second movie has a 25 tick time scale.

**Seconds.** Displays the number of seconds in the selected frames.

**x Scale.** Displays the scale of the selection in relation to its original duration. Until you change it, it remains at 1.00 (100%).

3. Enter a new duration for the selected frames in one of the three fields.
4. Click **OK** in the dialog box, or press **Return**.

The selection is edited to the specific duration. It's relationship to frames before and after the selection is unchanged; for example, blank time before and after remains in place.

Note that if you select only a portion of a clip, the selected frames become a clip, with beginning and ending trim handles and a dog-eared transition point.

**To trim a title:**



1. Position the Selection tool at the trim handle at the end of the clip

until you see the Trim tool.



2. Trim the title to the desired duration.



**TIP:** *The material you trim is not deleted; it is merely hidden. You can untrim it at a later date.*



**NOTE:** *You cannot use the Trim Dialog on titles.*

## EDITING A TITLE IN THE SEQUENCER

Once you have created a title and dropped it into the sequencer, you can still freely edit it. To edit a title, you need to send it back to the titling window, where your text editing tools are located. You do this by selecting the portion of text that you want to edit, and then opening the titling window.

### To edit a title:

1. Select the title clip to edit.

To select an entire title clip, double-click in the sequencer. To select a part of a clip, click and drag.

The selection readout in the info palette displays information about your selection.

You can also select and edit separate sections of a text clip.



2. Click the Text tool on the sequencer toolstrip to send the title from the sequencer back to the titling window.

The titling window becomes the active window.

3. Edit any or all of the text in the title box by dragging the Edit Text tool to highlight it, then applying any changes of color, font, scrolling, and so on.



4. Click the Insert Text button to update the title in the sequencer.

## CREATING A DYNAMIC TITLE

So far you have learned how to edit the characteristics of a title clip. With VideoShop you can also change the characteristics of a title *over*

*time*. For example, the a title may be blue for two seconds, then green for two seconds, and then underlined for three seconds. You do this by selecting and editing successive portions of a single title clip.

#### **To change title characteristics over time:**

1. Select a portion of a title clip in the sequencer.

 **NOTE:** *Changes are made to the title only for the selected duration.*

2. Click the Text tool to open the titling window.
3. Change the characteristics of the title (font, style, size, color).
4. Click the Insert Text button.
5. Repeat for other parts of the title.



For information on adding drop shadows to titles, see “Adding Drop Shadows to Titles” later in this chapter. For information on applying filters to titles, see Chapter 7.

## **POSITIONING A TITLE IN THE CANVAS WINDOW**

Once titles have been positioned temporally in the sequencer, you can position them spatially in the canvas window. Text is positioned and resized the same as video or graphics, with the bounding box. For more information on the bounding box, refer to Chapter 3.

#### **To position a title:**

1. Create a title in the titling window and insert it into the sequencer.  
Make sure the playout point is over the title clip.
2. Select the title in the canvas window and move it to the desired position.
3. Resize the clip by dragging any edge of the bounding box.

*or*

Use the **Clip Size** commands on the **Canvas** menu.

 **TIP:** *Titles are recognized in the canvas window as clips. They can be resized and moved from*

*within the canvas window.*

## ANTI-ALIASING TITLES

You may notice in the canvas window that the curved and diagonal edges of your titles are jagged. This is known as **aliasing**. VideoShop smooths out the aliasing or anti-alias the titles when you click the **Anti-Alias** button in the canvas window, or select **High Quality** from the **Canvas** menu. Although the **High Quality** (Anti-Alias) command improves the look of your text in the canvas window, it slows down the performance during playback until you mixdown the movie or the selection. (Refer to Chapter 9 for information about mixdown.) When you save and mixdown the movie, VideoShop automatically anti-aliases all text. The Anti-Alias setting *affects the entire movie*, not just the selected text clip.

### To anti-alias titles:

1. Add a title to a title track in your sequencer.

Be sure the playout point is over the title clip.

2. Select the title in the canvas window.

3. Click the Anti-Alias button.

*or*

Choose **High Quality** from the **Canvas** menu.



**TIP:** If you are not using a 16-bit or 32-bit monitor, use the Anti-Alias button to improve the quality of both titles and video.

## SCROLLING TITLES

VideoShop provides the ability to scroll text in and out of your movie. This is accomplished either by using the path editor on each title clip, or by selecting a scrolling option in the titling window.

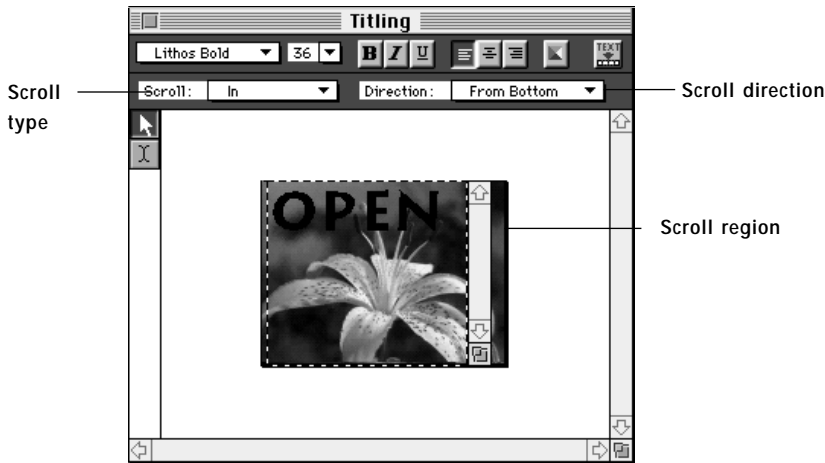
You have the option to scroll your title into frame, out of frame, or through the frame. You can also choose the scroll direction (left, right, bottom, or top).

### To scroll a title in your movie:

1. Choose **In**, **Out**, or **Through** from the **Scroll** pop-up menu on the



titling window.



A **grow-box** and scroll bar appear on the text box to allow you to resize the scroll region.

2. Choose scroll direction from the **Direction** pop-up menu.

You must define how the text wraps while in the titling window. The height and width of the scroll region (described in the next section) determine how much text is in view in the canvas window.

## DEFINING A SCROLL REGION

When using automatic scrolling in VideoShop, you can define the region in which the text scrolls. For example, you may want text to scroll through the entire frame, beginning off screen above and ending off screen below. In another case, you might want only one line of text at a time to scroll through a small region of the frame. Define this by resizing and positioning the scroll region.

**To define a scroll region:**

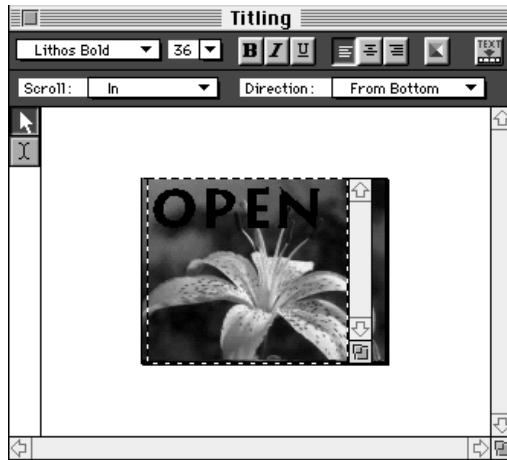
1. Type a title in the titling window.

*or*

Select a title in the sequencer, and open the titling window by

clicking the Text tool.

2. Select scrolling direction.
3. Select a font and font size from the menus (or inherit the font and font attributes from the previous title).
4. Select the Edit Text tool in the titling window and resize the scroll region using the grow box in the lower right hand corner.



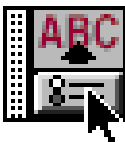
 **NOTE:** In the canvas window you can only resize the text. In the titling window, you can only resize the text scroll region.

## DEFINING A LANGUAGE

With VideoShop, you can add multiple title tracks to a sequencer and define different languages for them; for each language you add, a different title track needs to be created. Once saved, a movie can then be played in any one of the defined languages.

### To define a language:

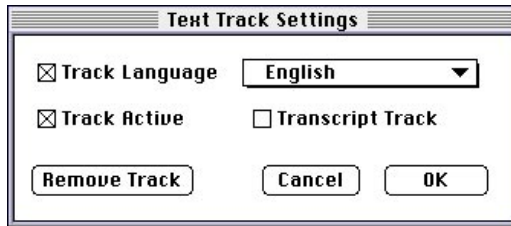
Make sure your title track is not collapsed.



1. Add a title to your sequencer.
2. Click at the indicator at the base of the track's icon at the left of the

track.

The Text Track Settings dialog box opens.



3. Check the **Track Language** checkbox.  
The **Languages** submenu is activated.
4. Choose a language from the **Languages** submenu.
5. Click **OK**, or press **Return**.

#### To select a language on opening a movie:

The movie must have been saved with title tracks of different languages.

1. Double-click to open the movie.
2. Choose the desired language from the **Languages** submenu of the **Play** menu.
3. Press the Play button on the clip window, press the **Space Bar**, or choose **Play** from the **Play** menu.



For information on creating transcript tracks, refer to Appendix E, “Tips and Techniques.”

## ADDING DROP SHADOWS TO TITLES

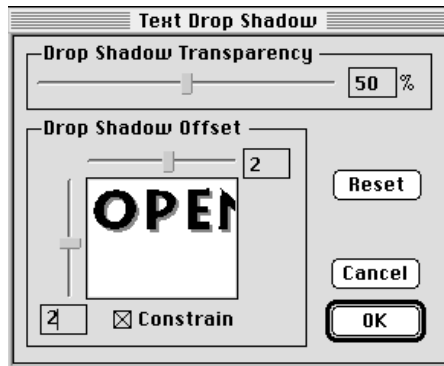
With VideoShop, you can apply drop shadows to titles. You can even apply various levels of transparency to the drop shadows. Drop shadows can be applied to both stationary and scrolling titles. When you add your first title to a movie, it automatically has a 2 X 2 pixel offset drop shadow. There are two ways to change the drop shadow parameters or remove them altogether.



**To alter drop shadows:**

1. Select a title in the canvas window.
2. Choose **Text Drop Shadow** from the **Canvas** menu.

The Text Drop Shadow dialog box is displayed.



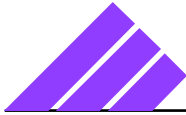
3. Adjust the vertical and horizontal offsets to create a drop shadow.
4. Adjust the transparency slide (or type a precise value in the setting field) to make the drop shadow translucent.
5. Click **OK**, or press **Return**.

**To adjust drop shadows from the Title menu:**

1. Select a title in the canvas window.
2. Choose the appropriate parameters from the **Drop Shadow** sub-menu under the **Title** menu.
3. Press the Insert Text button.



The drop shadow is added to the clip. VideoShop remembers your drop shadow settings; the next title you insert these drop shadow settings.



## CHAPTER 9

### ***SAVING SEQUENCERS AND MOVIES***

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#### INTRODUCTION

Save the sequencer—VideoShop’s basic document—while you work, just as you would periodically save word processing or spreadsheet files in progress.

When you finish composing a movie in VideoShop, instead of printing to paper, you save it as a movie which can either be printed to videotape or distributed as a digital file that can be read on other computers.

Just as a word processor saves a text file that can be printed as a pamphlet, a book, a letter, or a movie script, VideoShop saves a movie file that can be printed to videotape or CD-ROM as a music video, a television commercial, a kiosk presentation, or a video catalog (other output options are available). The term **movie** is used here generically to denote any video document during or after production; the **sequencer** is the production environment, which can, and must, be saved, session by session, until editing is completed.

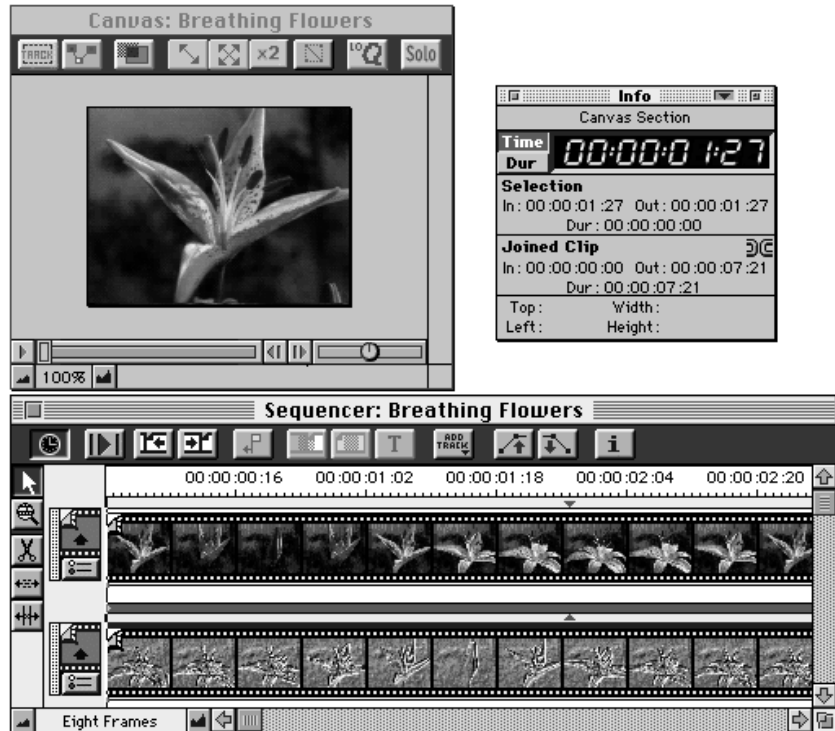
The performance and quality of the movie can be **optimized** through a process known as **mixdown**. You can mixdown an entire movie when you save it and you can optimize and preview selections while still editing.

This chapter discusses saving sequencers, saving movies, optimizing selections, and movie mixdown, and explains the various compression and mixdown options; it covers the following topics:

- Saving sequencers
- Saving as a digital movie
- Mixing down for smoother playback
- Optimizing while editing
- Optimizing a selection
- Mixing down and loss of data
- Mixing down to save a movie
- Choosing compression settings
- Other mixdown issues
- Improving movie performance before mixdown

## SAVING SEQUENCERS

When you first open a new sequencer, its title bar reads “*Sequencer: Untitled*,” and a number indicates the number of new sequencers opened in the present work session. Since each sequencer is associated with a canvas, the canvas window shares the same name and number as its sequencer window.



You must save your sequencer, the production environment, with its tracks and editing tools, until you are completely done editing. Once you save your work as a movie (unless you also save the sequencer) you lose the ability to edit. A completed movie is like any other self contained video clip: you can drop it into a sequencer and include it in other movies. It is recommended that you to save multiple versions of the sequencer as you edit.

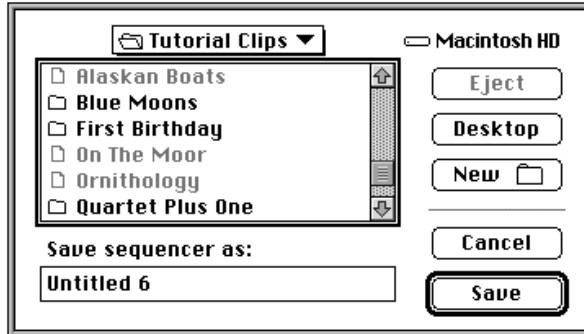
After opening a new sequencer and dropping video and audio clips into the sequencer tracks, name and save the sequencer.



### To save a sequencer:

1. Choose **Save** from the **File** menu.

This opens the familiar Macintosh Save File dialog box. Use the file directory to select a particular folder.



2. Type a name for the sequence.
3. Click **Save**, or press **Return**.

This saves your work to the hard disk. From now on, as you construct your movie, choose **Save** frequently (or simply press E- S) whenever you make substantial changes to the sequence. You may want to use **Save As** from time to time to update previously saved sequencers. As long as your work is saved as a sequencer, it can be re-opened and edited. Save your sequencer as a movie only when you are finished editing or want to optimize the playback. The sequencer appears with its VideoShop icon in the folder in which it was saved.

### Saving Multiple Versions of the Sequencer

You may want to save multiple versions of the same project under different names. This allows you to experiment with different versions or save incremental versions of a project. You can then return to an earlier version if you don't like your later work.



**TIP:** The **Save As** command is available only when the sequencer has previously been saved.

### To save a sequencer under a different name:

1. Choose **Save As** from the **File** menu.
2. Type a new name, and select the appropriate folder.
3. Click **OK**, or press **Return**.

## More about Sequencers

A sequencer is not a self contained QuickTime movie file that can be distributed. It is strictly a VideoShop document—a collection of tracks containing edited clips that can be opened only by VideoShop.

The audio and video clips in the sequencer are actually only references, pointers, to the audio and video files on disk. As edits are made in the sequencer, these references to the audio or video files are altered accordingly. Saving the sequencer saves these references and their references to each other.

When a sequencer is re-opened, VideoShop must locate the referenced audio and video files and re-sequence them. For this reason, you cannot freely distribute a sequencer file without including all the original audio and video files that were used in its creation—the sequencer will not be able to display its clips.

If you delete files used in a sequencer from your disk between sessions, the sequencer will not be able to display the clips. (Restoring the files to your disk also restores them to the sequencer.)

## Distributing a Sequencer to Another Macintosh

If you move a sequencer to another Macintosh or share it with another movie maker, be sure to include on the transport disk all the movie files used to create the sequencer. If you include movie titles in your sequence, the fonts used for the titles must also be available on the target computer.

## Exporting Selections as PICT, PICS, AIFF, or SND Files

Selections of audio clips, video frames, and titles can be saved as audio, PICT image, and Text files with the **Export Selection** command on the **File** menu. This lets you save a portion of an audio clip, a single frame, or titles and transcripts as separate files that can be incorporated in other movies.

See “Optimizing a Selection” in this chapter for more information.

## SAVING AS A DIGITAL MOVIE

Once you have finished all your editing and the sequence requires no further revision, you can save it as a standalone digital movie for distribution or inclusion in another application.

It is a good idea to save a movie under a different name from its sequencer, so as not to inadvertently write over the final sequencer. Keep the final sequencer available so you can re-edit a movie if necessary.

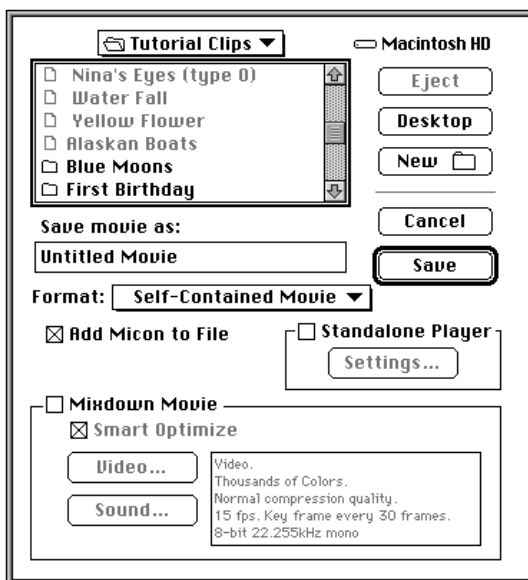
### To save a movie:

 **NOTE:** *Be sure to save a final copy of the project as a sequencer in case you ever need to re-edit the movie.*

Click anywhere in the sequencer or canvas window to make it active.

1. Choose **Save As Movie** from the **File** menu.

The Save As Movie dialog box opens.



2. Choose the movie format you want to create from the **Format** pop-up menu. (See “Self-Contained Movies,” “Reference Movies,”

“Cross-Platform Format,” and “Standalone Players” later in this chapter.)

3. Check any other options for saving the movie. (These are described in the section, “Options for Saving Movies” later in this chapter.)
4. Type a name for the movie.  
Use a *unique* name, so as not to overwrite the sequencer.
5. Choose the appropriate folder or drive.
6. Click **Save**, or press **Return**.

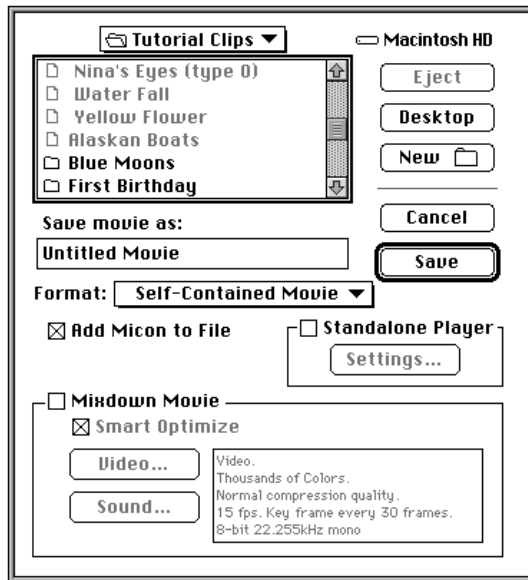
The new movie is saved and stored in the designated folder.

Once you select the **Save As Movie** command from the **File** menu, a dialog box is displayed with three format options for saving a sequence as a movie:

- A Self-Contained Movie
- A Reference Movie
- A Cross-Platform Movie
- A Standalone Player (which can be either a self-contained or reference movie)

You also have the following options:

- Add Micon to File
- Mixdown Movie
- Smart Optimize
- Player Settings



The following sections describe each option. The option you choose depends on the situation for which the movie is created. Whichever you choose, remember that no sequencer information is included with the file—these are actual movies.

 **NOTE:** *If you want to re-edit the movie, you must save the final sequencer.*

## Self-Contained Movies

A self-contained movie is a QuickTime movie that can be played by VideoShop or any QuickTime-compatible video and non-video application. Examples of non-video applications that play QuickTime movies include word processing applications that play movies within documents, or authoring applications, such as HyperCard, which can include QuickTime movies in its stacks.

The self-contained movie keeps its own copies of the clips used to create it. You can distribute a self-contained movie to anyone who has a QuickTime-compatible movie application.

Self-contained movies can have Micons assigned to them or they can display the generic Hand & Scissors icon.

Self-contained movie files can become quite large, even simple 3–4 minute movies take up 8 or 9 MB of disk space. Sufficient hard disk space is required.



**TIP:** *If you drop a self-contained movie into a VideoShop sequencer, VideoShop treats it like any other clip. This makes saving self-contained movies useful for people working in a group on a large project—the smaller individual movies can be shared as clips in the larger final movie.*



**NOTE:** *There is no functional difference between a reference and a self-contained movie; they act exactly the same to the system. The only difference is that a self-contained movie has the movie data encapsulated, and a reference movie does not.*

## Reference Movies

A reference movie contains references or pointers to the original video and audio clips, and retains all editing information for the creation of the movie. It contains no sequencer or clips. If the associated clips are available on the same hard disk, a reference movie can be played by VideoShop or any other QuickTime-compatible application. If the associated clips are not available on the same disk, a reference file cannot play as a movie.

If the associated clips are available, the movie can be played. Dropping the reference movie into a sequencer loads it as a single clip into the sequencer (again, only if the associated clips are available).

Reference movies are much smaller than self-contained movies, taking only 30 or 40 KB of disk space. This makes them useful for storage and playout on the same computer that was used to create them, where the same clips are still available. They can also be useful for archiving and transporting.

### *A scenario for saving as a Reference Movie*

Since self-contained movies contain duplicates of the clips used to make the movies, it only takes a few to consume 50–60 MB of disk space; you may not be able to archive or distribute several movies easily. However, the movie reference files for these same movies could take only 100 KB. By saving and archiving only the movie reference files, and simply keeping the original clips available on your computer, you can dramatically reduce the storage requirements of these movies. *As long as the clips are available, the movies will play.*

For distribution you need to save and mixdown self-contained movies, but archiving reference movie files makes better use of your storage space.

If VideoShop or another application attempts to open a reference movie but cannot find the referenced clips, screen messages will ask you to find the named clips and open them. If the clips are not found, the movie will not play.

## Cross-Platform Format

When this option is selected, VideoShop saves a self-contained movie in the IBM PC format. The movie can be played on any PC with Windows and QuickTime for Windows and a QuickTime-compatible movie application.

## Standalone Players

A standalone player is a movie that can be played on any Macintosh with QuickTime, even one that does not have a QuickTime-compatible movie application. Both self-contained movies and reference movies can be saved as standalone players. In a sense, VideoShop includes a copy of a movie application with every standalone player. Standalone players are very useful in situations where you want to be sure a movie gets played by your audience regardless of the system setup of the audience—for example, in CD-ROM distribution.

If a *self-contained movie* is saved as a standalone player, you do not need to include anything else with the movie to distribute it—all the clips and a playout application are included in the file. These files can be very large even a two-minute standalone player or a self-contained movie can be 10 MB.

If you save a *reference movie* as a standalone player, you must also include copies of the original clips when you distribute the movie.

## Options for Saving Movies

The following is a quick synopsis of the movie options:

### *Add Micon to File*

When this option is checked, VideoShop automatically creates a Micon with the new movie file. The first 30 frames of the movie are

used as the animated preview. When this option is unchecked, the new movie receives a generic Hand & Scissors icon.

### *Standalone Player*

When this option is checked, VideoShop saves the movie in a form that can be played on any Macintosh, even without a QuickTime movie application. Simply double-clicking this file plays the movie. Unchecked, the movie is left as either a plain self-contained movie or a reference movie, which requires a movie application for playing. File sizes are often very large.

### *Player Settings*

This button is darkened only when **Standalone Player** is checked. This opens a dialog box with settings in which you can specify parameters for background color, window types, and play actions for the player.

### *Mixdown Movie*

This option is available only when **Self-Contained Movie** or **Cross-Platform Movie** is chosen. When this option is checked, the saved movie is optimized, or fine-tuned, for better playout performance and smaller file size. When this option is unchecked, the movie is saved unoptimized.

## MIXING DOWN FOR SMOOTHER PLAYBACK

**Mixdown** is a process that optimizes movie playout performance. There is a marked performance improvement with particular classes of Macintoshes with slower speeds and limited memory. Mixdown involves the compositing of information, which reduces a movie's storage and RAM requirements by interleaving its various tracks.

Movie media can be optimized during the editing process or during the final save, when you save your sequencer as a movie. There are two situations when you should consider optimizing:

- **For final movie delivery**—Once all unoptimized sequencer tracks are ready to be saved as a final movie, they can be mixed down for general distribution and playout situations.
- **During the saving process**—When you save a movie to disk, you can mixdown the entire movie for better playout.



Each edit in an open sequencer takes up a certain amount of memory. When you edit very complex movies or work on a Macintosh with little memory, playback may get choppy. Optimization of movie parts in progress is both practical and necessary.

## OPTIMIZING WHILE EDITING

When a movie has motion control, titles, multiple tracks, and transparency effects included, even the most powerful Macintoshes may not be able to play the sequence smoothly. When especially complex sections of the movie are played, performance may be poor—pauses may occur, or frames can be dropped. This is where **Optimize Selection** can help. Optimizing in VideoShop is a process in which you can control a set of movie characteristics. You can:

- Compress the movie's data rate with an appropriate compression utility. Smaller movie files play more smoothly and need less storage space.
- Mixdown the tracks into one stream of media.
- Control the video color depth (the number of colors displayed by each pixel: 8 colors, 256 colors, thousands of colors, and so on). The more colors, the higher the color fidelity, and the more RAM necessary.
- Control image quality. Higher-quality video images display less visual noise and have better sharpness.
- Control the movie's frame rate (frames per second). Higher-quality video demands higher frame rates, which also tax a computer's processing power.

By limiting the movie's information demands in each of these areas to appropriate levels, you can decrease file size and improve performance. Making practical choices in optimizing a section of the movie helps strike a balance between movie quality and playback smoothness.

## OPTIMIZING A SELECTION

Certain effects, such as motion control, transparency, and translucency tend to hurt a movie's playout performance. Choppy playback can distort your perception of a sequence and make it difficult to edit accurately.

VideoShop lets you selectively and temporarily optimize segments of a sequencer with the **Optimize Selection** command on the **Sequencer** menu. All the video clips within the selection then play more smoothly.

 **NOTE:** *Editing frames that have been optimized removes the optimization.*

Optimization involves a mixdown operation compressing all the visual tracks into a single video track. Note that successive compression optimizations on the same media can lead to image degradation.

#### **To optimize a selected duration of a sequence:**

1. In time view, select the duration by clicking and dragging in the time bar.

All tracks in the sequencer must be selected to optimize a portion of your project.

2. Choose **Optimize Selection** from the **Sequence** menu.

Editing any component of an optimized selection removes the temporary optimization.

### **Smart Optimization**

During mixdown, you can opt for **Smart Optimization**. Smart optimization recompresses only those images that need it. Movies comprised of simple cuts and few special effects are prime candidates for smart optimization. Movies with a lot of layering and compositing, motion control and titles do not necessarily benefit from smart optimization. During this process, any source material that matches the movie content *exactly* are simply copied. Since all images are not recompressed, smart optimization is faster than traditional optimization.

### **MIXING DOWN AND LOSS OF DATA**

Because mixdown involves data compression and possibly reduced image information, a certain amount of data is always lost to the optimized movie (although the final sequencer will still contain the original sequence). This loss of data is usually not very noticeable as degraded image quality, and it is worthwhile for the smoother play-out the movie achieves.

But a mixed down movie, if it is dropped as a clip into another VideoShop movie sequence and optimized again, may start to show poor

image quality. *It is best not to mixdown the same material twice.* If you want to create a movie for inclusion in another movie, either keep the sequence simple enough to not require mixdown, or apply only the most limited compression settings (high-quality).

## MIXING DOWN TO SAVE A MOVIE

When you save a multi-track sequencer as a self-contained movie, mixing down improves the movie's playout performance and reduces its storage requirements. The result is smoother playback and a smaller movie file size.

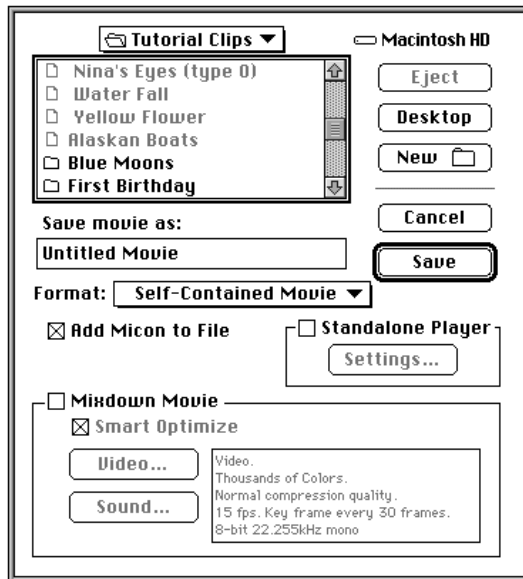
During mixdown, multiple tracks are interleaved into one video track and one audio track, and video image data is compressed. By reducing the amount of overall data that the computer must process during playout, playout performance can be improved.

Additionally, by mixing down you can tune a movie to play best from a particular class of Macintosh or from CD-ROM.

### To mixdown during **Save As Movie**:

1. When you are ready to save a sequence as a movie, choose **Save As Movie** from the **File** menu.

The Save File dialog box appears.



2. Check **Mixdown Movie** in the Save File dialog box.

Checking **Mixdown Movie** activates the **Video** and **Sound** buttons.

3. Click **Video** to display a Compression Settings dialog box where you can specify parameters for type of compression, frame rate, color depth, and other optimization settings.

(These settings are described in the next section.)

4. Click **Sound** to display a Sound Output Options dialog box where you can specify parameters for rate, size, and use.

(These settings are described later in this chapter.)

5. Click **OK**, or press **Return** to apply your settings.

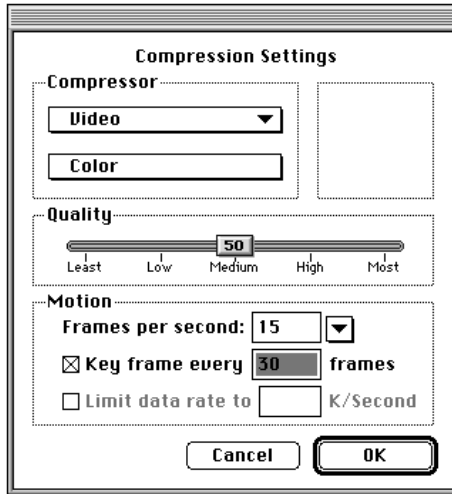
6. Click **Save**, or press **Return** to save your sequence as a movie.

## CHOOSING COMPRESSION SETTINGS

Once you have selected **Mixdown Movie**, the **Video** and **Sound** buttons become active.

### Video Compression Settings

Click **Video** to display these settings in the Compression Settings dialog box:



### *Compressor*

A pop-up menu appears with a list of compression utility choices. File compression can reduce the size of a file, the amount of data, the number of colors, and the level of detail. By reducing file size, and, optionally, color and resolution, compression improves playout performance.

The menu lists QuickTime's built-in video compressors. Some video boards include additional compressors, such as for real-time compression and decompression. Hold down the E key and pull down the menu to see an extended list of compressors.

Choose a compressor from this pop-up menu.

QuickTime movie performance is directly related to how much digital data is required to describe the movie. A compressed movie has less data and so is easier for a computer to process and play. Each com-

pressor is best suited toward a particular kind of movie material (motion video, still graphics, animation). Choose the compressor that best fits your movie. In cases where a movie is composed of different types of media, choose the compressor that suits the majority of the media.

**Apple Animation.** Best for compressing 16-bit (thousands of colors) or 24-bit (millions of colors) animated or still images that are computer-generated (rather than recorded from analog videotape).

**Apple Cinepak.** Best for compressing highest quality final movies for CD-ROM distribution when processing time is not an issue. Saving and mixdown may take several hours if you use this compressor. Final file size is quite small and quality is very high.

**Apple Component Video.** Does not compress, but streamlines data to twice the efficiency of raw data.

**Apple Graphics.** Best for compressing 8-bit (256 colors) computer-generated animated or still images or video recorded from an analog source to be played using an 8-bit display (256 colors or grays).

**Apple None.** Best for mixing down during the editing process.

**Apple Photo-JPEG.** Best for compressing movies with numerous high-resolution (24-bit) still images.

**Apple Video.** Best for compressing motion video recorded from an analog source. The movie is stored at 16-bit color depth (thousands of colors) unless a 24-bit compression card is installed.

One of QuickTime's features is its plug-in architecture. As new compressor utilities become available—implemented either through hardware or software—they are accessible through VideoShop in this **Compressor** menu.

### *Color Depth*

Each of the compression methods has its own various options for video color depth (the number of colors displayed by each pixel—256 colors, thousands of colors, 16 million, and so on). Color depth is selected through the pop-up menu just below the **Compressor** pop-up menu. VideoShop automatically assigns a color depth for each compression method, but you can specify a different choice. Specifying a

lower color depth can improve playout performance; higher depths demand more processing power from a computer.

### *Quality*

This slider control determines an optimized movie's image fidelity. The **Most** setting yields the best image quality. Bear in mind, however, that the higher the image quality, the larger the amount of data required to describe each movie frame, and hence the greater the disk storage and processing power requirements placed on the Macintosh.

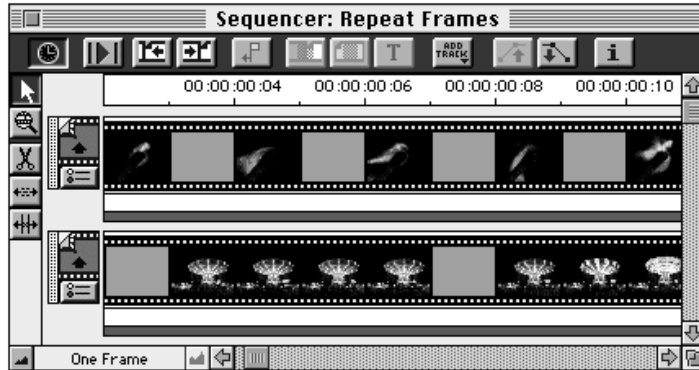
Depending on the amount of free hard disk space, the length of the clip(s) to be optimized, and the power of the Macintosh, consider a Quality setting less than Most.

As you move and release the quality slider, the effect on image quality is displayed in the preview box. When deciding on a Quality setting, balance these three considerations:

- Image quality is lost forever as a result of mixing down a movie at a setting below Most.
- It is better to mixdown movies at the highest practical quality setting, as you can always decrease the quality later.
- The higher the image quality, the greater the processing power needed and the greater the hard disk space required.

### *Frame Per Second*

Frames per second determines the number of actual samples (frames) that are saved and displayed per second. This is distinguished from movie ticks (all movies are played at 30 ticks per second). Therefore, in a movie that is stored at 10 frames per second, each frame (or sample) is displayed for 3 ticks (totaling 30 ticks per second) when played. The additional frames are called repeat frames and are represented in the sequencer in time view as gray frames.



The mixdown frame rate value (in frames per second) represents a cap on the sequence frame rate. Specify frame rate value by entering a value in the Frames Per Second field or through the pop-up menu.

Why would you want to decrease a movie's frame rate? The higher the frame rate, the higher the processing power and storage space required by the computer. To tune a movie for optimal performance on a particular class of Macintosh or CD, or to decrease a movie's storage requirement, cap the movie's frame rate.

If you want all the clips in a sequence to retain their native frame rates (none are capped), use a mixdown frame rate of 0 fps.

### *Frame Differencing*

Frame differencing minimizes the amount of data required to represent each frame in a movie and the processing power and storage requirements for a movie.

Unless a movie contains an extreme amount of motion, there is a fair amount of redundancy from one movie frame to the next. Rather than storing all the data for each individual frame, frame differencing stores only the changes from one frame to the next.

### *Key Frame Rate*

Frame differencing is done by splitting the movie into chunks. Using the first frame of the chunk as the starting point, every other frame in the chunk is then compared to its previous frame—only the differences are saved. When the movie is played out, VideoShop rebuilds each frame.



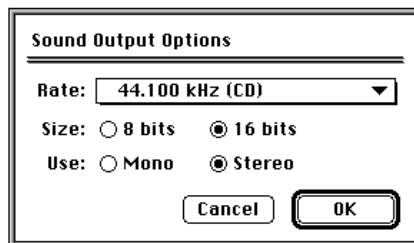
The first frame of a chunk is called the **key frame**. The key frame rate specifies the number of frames from one key frame to the next.

Why not have only one key frame, in an effort to minimize disk storage and processing requirements? The problem with this approach is that as the number of key frames decreases, random accessibility of any individual frame is sacrificed. Broadly spaced key frames produce satisfactory results only if the movie being optimized is meant primarily for linear playback.

When deciding on a key frame rate, you should bear in mind that if QuickTime begins to fall behind in its audio/video synchronization during playout, it will freeze a key frame until it reaches the next key frame. Extremely long intervals between key frames can result in choppy playout under low-memory conditions or on slower Macintoshes. You generally want as high a key frame rate (as *low* a number) as is practical.

## Sound Output Options

Once you have selected **Mixdown Movie**, the **Video** and **Sound** buttons become active. Click **Sound** to display these settings in the Sound Output Options dialog box:



### *Rate*

The rate at which sound samples are compressed relates to the fidelity of the sound produced. Higher fidelity settings produce better quality digital audio. Higher sound fidelity, however, requires greater processing power and hard disk space. The default rate setting is 22.050 kHz. Additional rates supported by your hardware (compression

boards) appear here. The following settings are offered by the Apple Sound Manager:

- 22.050 kHz
- 44.100 kHz
- 11.025 kHz

### *Size*

Choose **8-bit** or **16-bit** as digital sample resolution. 16-bit sound produces better quality audio. The size relates to how fast your Macintosh can handle the audio information. Take the processing power of your Macintosh into account when selecting a compression size.

### *Use*

Choose **Mono** or **Stereo**. Stereo allows two channel audio to be handled, but demands greater processing power from your Macintosh. To play, record, and compress stereo sound, you need a Macintosh or hardware with stereo-out capabilities.

## CONSIDERING OTHER MIXDOWN ISSUES

Here are some other factors you should consider during mixdown:

- Image quality degrades when optimized and when any compression method other than **Apple None** or **Apple Component Video** is used (even with a Quality setting of **Most**). In many cases, the degradation is not noticeable, particularly if the movie dimensions are kept small.
- The mixdown process temporarily requires twice the hard disk space of the final (optimized) standalone movie. If this space is not available on your hard disk, mixdown cannot take place.
- After mixdown, the height and width of a movie with multiple video tracks are determined by the height and width of the bounding box that bounds all the video clips displayed in the movie's playout window. If the resulting movie has a larger screen area than its individual clips, it requires greater processing power. In this instance, you can achieve better performance by optimizing video tracks individually and saving the composite movie without mixdown. If such a movie is mixed down, frame differencing with a high key frame rate should help improve perfor-

mance, as the redundant data from the bounding rectangle is not saved or redrawn.

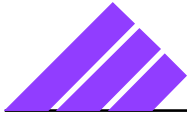
## IMPROVING MOVIE PERFORMANCE BEFORE MIXDOWN

Mixdown is not the only way to improve movie performance. There are a few tips to keep in mind which make for smoother playout from the start of a project.

- Audio sampling rate and stereo versus mono sound. The higher the sampling rate when the audio is captured and digitized, the greater the processing power required to play the audio. Stereo audio also requires greater processing power than mono audio. Choosing a lower sampling rate and mono makes for smoother playback, particularly on less powerful Macintoshes.
- Movie dimensions (height x width, in pixels). The larger the pixel area, the greater the processing power required to play the movie. Increasing the size of the movie in the playout window makes larger demands on your computer. Keep clip size as small as possible for editing purposes.
- Avoid disk fragmentation it cripples movie playout. To optimize your hard disk's performance, use a disk defragmentation utility.
- Use a fast hard disk.
- Saving a standalone movie without mixdown interleaves audio and video data, providing better and smoother playback performance.

Other factors that affect performance include the following:

- Video frame rate.
- Key frame rate. A high key frame rate improves performance to a point by reducing overall data rate. But if the CPU cannot keep up, it will suddenly play very poorly, as it will have to skip to key frames to play.
- CPU.



# CHAPTER 10

## VIDEOTAPE PRODUCTION

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### INTRODUCTION

Just as desktop publishing has revolutionized the publishing industry, desktop video is revolutionizing the video industry and expanding its use to new and exciting markets. Making videotapes is no longer only for video professionals. Graphic artists, independent producers, corporate trainers, and home hobbyists are catching on to desktop video.

Earlier chapters explained how to create, edit, and save your movie. This chapter covers what you need to know to put your movie on videotape or CD-ROM.

You can print a sequencer or a finished movie to videotape for distribution. You do not have to print the entire movie; you can specify the times of the starting and end points of any portion of a movie to tape only that portion.

Printing a movie simply means recording onto videotape what you see on the screen. So if the movie fills up only a quarter of the screen when you play it, it will also fill up only a quarter of the screen after you have printed or recorded it to tape.

When printing, VideoShop allocates all of the processing power of the computer to achieve the best performance for the taped movie. For best results, close any unnecessary applications and utilities on your computer. You can also improve performance by turning off file sharing and network access, including mail services.

By printing an open sequencer, you bypass the time-consuming process of first saving a sequencer as a movie. But if playback quality is poor when you preview the movie, playback will also be poor on the videotape. You may get better quality playback if you save the sequence as a movie and mixdown before printing to videotape. Refer to Chapter 9 for information on mixing down your movie.

This chapter covers the following topics necessary for distributing movies:

- Video capture and compression boards
- Hardware for videotape production
- Using print-to-video
- Video signals
- Digital delivery
- CD-ROM publishing

## VIDEO CAPTURE AND COMPRESSION BOARDS

To use VideoShop for full screen videotape production, you need a compression board. A normal Macintosh computer is not powerful enough to capture or draw 30 frames of video every second. Therefore, a special card is required to compress and decompress the video and allow full screen 30 fps editing and playback.

### Videotape Production Solution

The following table lists recommended software and hardware for producing videotapes.

<b>Software</b>	VideoShop 3.0 Disk defragmentation software 3D Graphics package Plug-in filters Clip media Paint package
<b>CPU hardware</b>	Mac AV or Quadra 20 MB RAM Compression card Encoder/scan converter
<b>Peripherals</b>	CD-ROM Drive 8mm videotape deck S-VHS videotape deck NTSC Monitor 2 GB hard drive or disk array

### VideoShop Configuration

The following table lists recommended settings in VideoShop for videotape production.

<b>Recording</b>	640 x 480 with hardware compression 30 fps (or 60 fields per second) 24-bit color
<b>Editing</b>	640 x 480 canvas size Zoom to 25%

<b>Special features</b>	Canvas window for compositing Canvas zoom to fit on monitor Automatic scrolling credits Organize scenes by folder Plug-in backgrounds Special effects
<b>Saving</b>	640 x 480 Mixdown movie Hardware compression 30 fps
<b>Delivery</b>	Print-to-video

## HARDWARE FOR VIDEOTAPE PRODUCTION

Recording a finished movie or sequence (printing the movie) from your Macintosh onto videotape requires the following equipment:

- A video capture and compression board
- A video-out board in your Macintosh
- An encoder device to produce the correct video formatted signal
- A connected videotape recorder/player

### Video-Out Boards

To print to videotape, the digital data from the computer must be converted to analog data. The device that makes the conversion is called a video-out board, and is installed in one of the expansion or NuBus slots in your Macintosh. There are many components to a video-out board, so be sure that you ask your dealer if your board can print to videotape.

The newer Macintosh AV models have built-in video-out capabilities. There are also external devices that convert computer screen images to output that can be recorded on tape.

Many video digitizing boards (which convert analog video camera frames into digital frames) have built-in video-out capabilities. You can save the price of a new video-out board if you purchase such a digitizing board.

## Encoder Devices

Producing the correct video signal requires an encoder hardware device connected to both your Macintosh and the recording device. (Some video-out boards also include encoder features.) This is a crucial piece of equipment—the quality of this device makes a significant difference in the quality of the final videotape.

See the encoder's user manual for instructions on connecting and operating the device.

## Using Print-to-Video

Print-to-video blacks out your screen and uses all the computer's power to play your movie. Use print-to-video when you are ready to print a videotape or demonstrate your complete movie on screen.

You can preview open sequences and finished movies in folders with the same method. Basically, this kind of previewing involves printing the sequence to video—to your monitor, in this case. The process is similar to printing a movie to videotape, but does not require any videotape recording hardware.

### To preview with print-to-video:

1. If you are previewing an open sequencer, click the sequencer to make sure it is active.

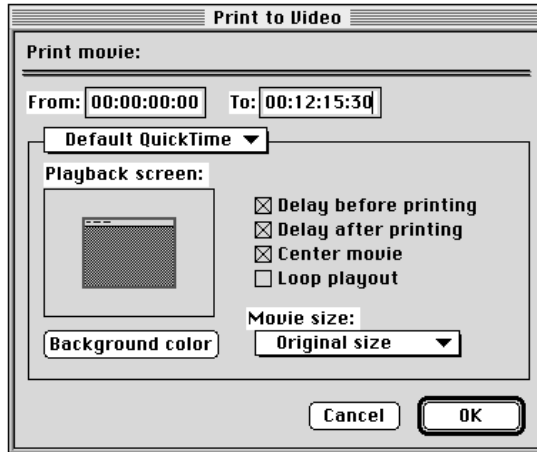
*or*

If you are previewing a sequencer or finished movie while it is stored in a desktop window, select the icon or Micon. You can select multiple movie files by pressing the **Shift** key and clicking each file.

2. Choose **Print To Video** from the **File** menu or press E-P.

In either case, VideoShop displays the **Print To Video** dialog box, in which you can specify how to playback your movie on your monitor.





3. In the dialog box, type in the starting time of the first frame (**From:**) you want to print.

The default starting time is 00:00:00, the beginning of the movie. Entering a starting time later in the sequence lets you preview a portion of the sequence to tape. Leave this setting as it is if you want to play the entire movie.

4. Type in the ending time of the last frame (**To:**) you want to print.  
The default ending time is the last frame of the movie.

5. Select the other parameters that affect previewing a movie:

- In the area labeled **Playback screen**, click to select the appropriate monitor for viewing the movie, if more than one monitor is connected to your Macintosh. The monitor selection determines the selection of the correct video-out board in your Macintosh. The left-right orientation of the monitors in the **Playback Screen** area is determined by the **Monitors** file with the Apple menu's **Control Panels** command.
- Check **Delay Before Printing** if you want to delay the preview by ten seconds. VideoShop displays the ten-second countdown after you click **OK**. (This delay is useful primarily for printing to videotape.)
- Check **Center Movie** when you want the movie positioned in the center of the screen. Otherwise, the movie is positioned at

the last location of the Selection tool before you initiate printing.

- Check **Loop Playout** when you want the movie to play in a continuous cycle. At the end of playback, the movie immediately begins playback again from its starting point in a constant loop.
- Choose **Original Size** or **2x** or **4x** from the pop-up menu that controls movie dimensions. (Note that a larger size can degrade playback performance on some Macintoshes.)
- Click **Background Color** to display the Macintosh color wheel, where you can select a color for the playback screen. If unchecked, the color defaults to the background color you chose in the playout window.

6. In the dialog box, click **OK**.

VideoShop closes the dialog box and prints the movie to the selected monitor. The movie plays on the monitor as a preview.

**To print-to-video from the desktop:**

1. Click a clip icon to select it in a desktop window.
2. Choose **Print to Video** from the **File** menu, or press E- P.  
Set the parameters in the Print to Video dialog box.
3. Click **OK**, or press **Return**.

**To stop playback and return to VideoShop:**

- ☐ Click the mouse button once.

**To pause and restart playback without returning to VideoShop:**

- ☐ Press the **Space Bar**, just as you would to control playback in the canvas window. You can also use the arrow keys on the keyboard to step through the movie.

## VIDEO SIGNALS

To print to a videotape, you must produce an NTSC (or PAL or SECAM) video signal. Videotape recorded in one format cannot be viewed on a videotape player or monitor of a different format. NTSC is the standard used in North America and Japan. PAL is the most prevalent standard in Europe. In France, both SECAM and PAL are used.

## DIGITAL DELIVERY

You can distribute a finished QuickTime movie saved by VideoShop for play on Macintosh and non-Macintosh platform computers simply by transferring the movie to other storage devices. The transfer is performed by duplicating the movie onto hard disk cartridges, CD-ROMs, or other portable storage media.

VideoShop saves movies in the QuickTime format, so any application that can play or import a QuickTime movie can include a movie from VideoShop. You can add a movie to a word processing or database document, for example, to demonstrate a subject described in the text. VideoShop does not have to be present for the movie to play in the document. Consult your application user manual for information on including QuickTime movies.

## CD-ROM PUBLISHING

As electronic publishing is becoming commonplace, CD-ROM distribution is becoming popular. Now, digital movies can be included in CD-ROM publications and played on Macintosh and Windows machines. Many magazine publications, reference book publishers, and courseware developers are turning to desktop video to help them enter the field of digital video publishing.

### What You Need to Create a CD-ROM Movie

The CD-ROM, by virtue of its extremely large capacity (over 600 MB) and low per-unit cost (about that of a floppy disk), is currently the most practical and cost-effective medium for archiving and distributing QuickTime movies.

Authoring CD playable movies, however, presents some special challenges. Specifically, the performance (data transfer rate and seek time) of currently available CD-ROM units does not approach that of even a modest hard disk.

Therefore, you need to take special care when making CD playable movies:

- Avoid file fragmentation; it cripples movie playback.
- Mixdown is a must.

#### To mixdown your movie for CD-ROM playback:

1. Choose **Save as Movie** from the **File** menu.

This displays the Compression Settings dialog box.

For parameters for satisfactory CD-ROM playback of a movie, see the listing later in this section. Set the **Limit Data Rate** parameter. Choose **Mixdown Movie** from the Save Movie dialog box to display the Compression Settings dialog box.

The default data rate setting is 90 KB per second. This setting is suitable for CD-ROM drives with a transfer rate of 150 KB per second. To accommodate newer CD-ROM drives, which have a transfer rate of 300 KB per second, set **Limit Data Rate** to 150 KB per second. **Apple Compact Video Compressor** is the best choice for compressing media to be transferred to a CD-ROM.

### CD-ROM Production Solution

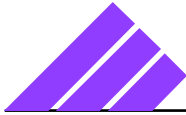
The following table lists recommended software and hardware for producing CD-ROMs.

<b>Software</b>	VideoShop 2.0 Authoring software (Director, Apple Media Kit, HyperCard) Disk defragmentation software
<b>CPU hardware</b>	Mac AV or Quadra 20 MB RAM Compression card
<b>Peripherals</b>	CD-ROM drive CD-ROM recorder 2 GB hard drive or disk array

## VideoShop Configuration

The following table lists recommended VideoShop settings for producing CD-ROMs.

<b>Recording</b>	320 x 240 with hardware compression 30 fps 24 bit color 8-bit 22 kHz audio
<b>Editing</b>	320 x 240 canvas size Zoom to 50% (if one monitor)
<b>Special features</b>	Multiple language tracks Transcript tracks Limited data rate save Standalone player
<b>Saving</b>	For all Macintoshes: 320 x 240 Mixdown movie Cinepak 10 fps 20 keyframe data transfer rate of 200 KB For Quadras with double speed CD-ROM: 15 fps 20 keyframe data transfer rate of 200 KB
<b>Delivery</b>	CD-ROM Hard disk



# CHAPTER 11

## *CAPTURING VIDEO AND AUDIO*

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### INTRODUCTION

VideoShop lets you capture audio and video from VCRs, camcorders, audio tape decks, and other devices for use in your movie.

Using a variety of off-the-shelf hardware products, you can digitize audio and video from any source directly to your hard disk.

The following discussions assume that appropriate hardware is installed on your Macintosh:


- Understanding the recording process
- Designating the recording folder
- Using the recording window
- Adjusting video parameters
- Adjusting audio parameters
- Recording scenarios
- Selecting digitizing hardware

## UNDERSTANDING THE RECORDING PROCESS

The following table provides an overview of the steps for recording and tells where to find the detailed instructions.

Description	Where to Get Information
1. Check to make sure you have a digitizing board and its software installed on your Macintosh—generally you need a VDIG (Video Digitizing Component) to digitize and a CODEC (Compression/decompression component) if you have a compression card. These belong in your System folder.	“Selecting Digitizing Hardware” section of this chapter.
2. Connect the device from which you want to record—VCR, camcorder, laser disk.	Documentation for your digitizing board.
3. Define a recording folder.	“Designating the Recording Folder” section in this chapter.
4. Choose <b>Movie Recording</b> from the <b>Windows</b> menu.	“Using the Recording Window” section in this chapter.
5. Adjust video and audio settings—choose <b>Video On/Off</b> or <b>Sound On/Off</b> from the <b>Recording</b> menu.	“Adjusting Video Parameters” and “Adjusting Audio Parameters” sections in this chapter.
6. Turn on the device from which you are recording.	Documentation for the device.
7. Test the connection by pressing the Play or Record button.	Not applicable.

Description	Where to Get Information
Start recording.	“Adjusting Video Parameters” and “Adjusting Audio Parameters” sections in this chapter.
Close the recording window.	Not applicable.

 **TIP:** Before recording, make sure you understand this process. You must adjust settings in the correct order.

## DESIGNATING THE RECORDING FOLDER

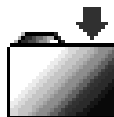
When you record, you create new video and audio clips on your hard drive. Before recording, you need to select a folder to hold these newly created clips.

The VideoShop installer creates a default folder called “Recording Folder.” You can select any folder on your hard disk to be the recording folder—but you can have only one recording folder at a time.

**To designate a folder as the recording folder:**

1. Select the folder where newly recorded clips should be placed.
2. Choose **Assign Recording Folder** from the **Desktop** menu.

An arrow over the folder indicates that it is the recording folder.



 **TIP:** You can select any folder on any volume to designate as your recording folder.



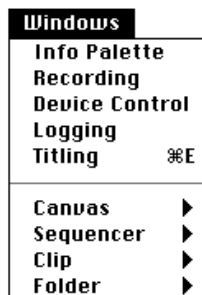
## USING THE RECORDING WINDOW

VideoShop's recording window is where you start, stop, and control the recording process. When the recording window is displayed, a **Recording** menu appears on the menu bar. The Recording menu contains commands for specifying recording parameters and settings.



To open the recording window:

- ☐ Choose Recording from the **Windows** menu.



VideoShop opens the recording window and displays the Record-

ing menu on the menu bar.

**To change the size of the recording preview window:**

- ☐ Choose the appropriate size from the **Video Preview Size** submenu of the Recording menu.

*or*



1. Position the Selection tool in the lower right corner of the recording window crop region.

The Selection tool changes to a Double Arrow tool.



2. Drag the Double Arrow tool to resize the window.

The new recording dimensions are indicated on the right side of the recording window.



— Recording dimensions

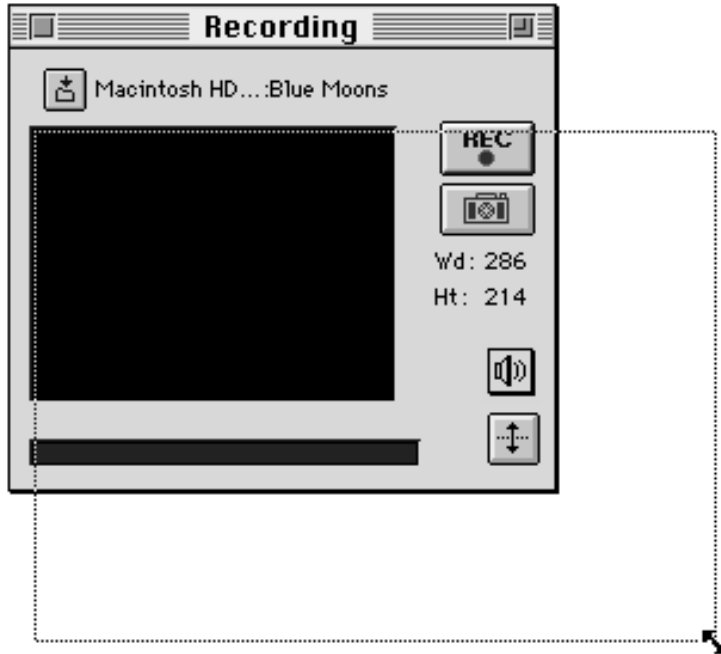
**To define a crop region:**




1. Position the Selection tool inside the recording preview area.

The Selection tool changes to a crosshair.

2. Click and drag to define the crop region marquee, which is constrained to the aspect ratio of the movie dimensions. Holding down the **Option** key while dragging creates a freeform crop marquee to any size and aspect ratio.



The dimensions of the crop region are displayed in the recording window.

 **TIP:** To see the effect of a cropped video image, turn on the recording device. A video image is displayed in the recording window; you can view the effects of cropping the image here.

3. If necessary, move the crop region marquee by positioning the Selection tool inside the crop region and dragging.



**TIP:** To undo the crop region and return to the full size of the recording window, click anywhere in the crop region.



**NOTE:** Do not begin recording until you have adjusted the video and audio parameters, as described below.

### To change the preview volume level:

The volume control in the recording window lets you listen to the audio as you record. (To control the volume of the captured audio, use the volume control in the Sound Settings dialog box, as described later in this chapter.)

1. Position the Selection tool over the audio icon in the recording window, then click and hold.

A **volume control bar** appears.

2. Adjust the volume level using the slider in the volume control bar.

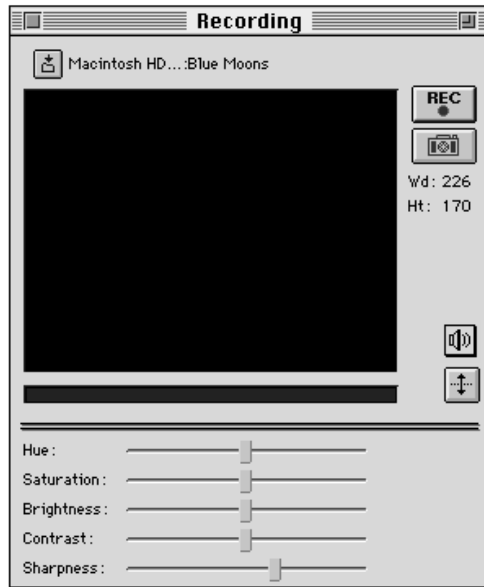


### To adjust image parameters:



1. Click the **Image Settings** button in the lower right corner of the recording window.

The image settings region of the recording window becomes visible. If your digitizing board supports these features, slider controls are active and allow you to adjust the black level, white level, hue, saturation, brightness, and contrast of the recorded image. These are the same settings as in the Video Settings dialog box.



2. Adjust image settings.



**TIP:** To see the effect of your changes to the image settings, turn on your recording device. A video image is displayed in the recording window; you can view the effects of the changes in image settings here.



**To record clips smaller than full screen:**

1. To begin recording, click the Record button in the recording window.

2. The Record button toggles to a Stop button.

*or*

Press **I** on the keyboard.

*or*

Choose **Start Recording** from the **Recording** menu.

*or*

Press **Enter** on the keyboard.

3. To stop recording, click the Stop button in the recording window.

*or*

Press **O** on the keyboard.

*or*

Click the mouse anywhere outside the recording window.

Your newly digitized clips appear in the recording folder.

**To record full screen clips:**

- ☐ Click the zoom box on the top right corner of the recording window.



**NOTE:** *Full screen recording will not take place unless you have chosen 640 x 480 from the Recording menu.*

4. To begin recording, press **I** on the keyboard.

*or*

Press **Enter** on the keyboard.

5. To stop recording, press **O** on the keyboard.

Your newly digitized clips are in the designated recording folder.

6. Repeat for as many clips as you would like to record.
7. Click the mouse to return from full screen to the recording window.

#### To record still frames:



- ☐ Click the still frame icon in the recording window.

#### To open the recording folder:



- ☐ Click the recording folder icon at the top of the recording folder.

Newly digitized clips appear in the folder.

*or*

- ☐ Choose **Open Folder - Recording Folder** from the **Desktop** menu.

#### To record to RAM:

Recording to RAM captures video directly into your system's memory. This is the fastest recording method, and allows you to achieve the highest frame rates. However, recording to RAM requires 8 MB or more of RAM.

If you do not specify Record to RAM, clips are recorded directly to your hard disk.

- ☐ Choose **Record to RAM** from the **Recording** menu.

## ADJUSTING VIDEO PARAMETERS

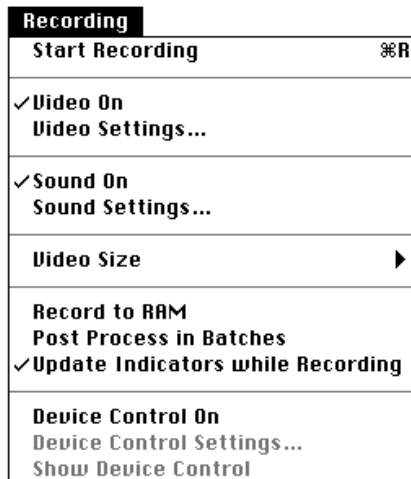
This section describes the various video settings you can specify. You do not need to reset these parameters every time you record, VideoShop saves these settings.

There are four categories of settings:

- VideoShop-specific settings
- Source selection
- Compression settings
- Image settings

To set video parameters:

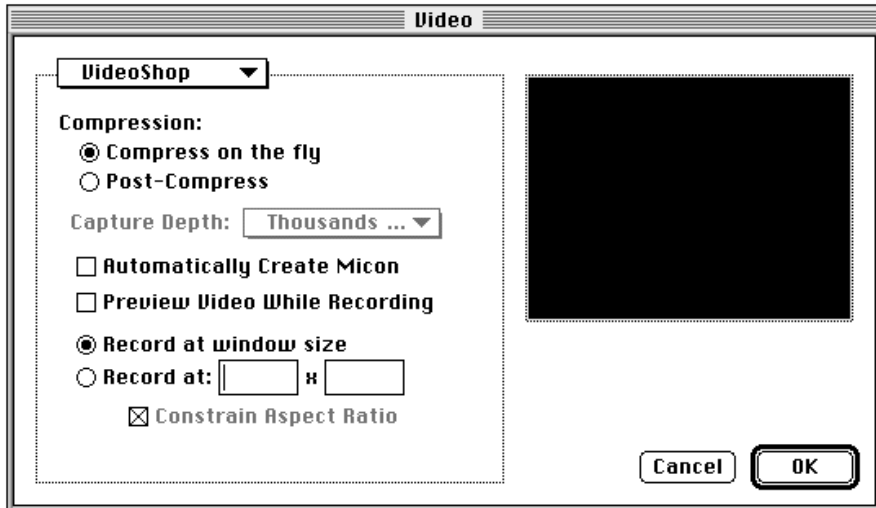
1. Choose **Video On** from the **Recording** menu.



2. Choose **Video Settings** from the **Recording** menu.

This opens a dialog box.





3. Choose **VideoShop** settings from the pop-up menu.



## VideoShop Recording Settings



**TIP:** *VideoShop's default settings adjust depending on your machine. VideoShop should select the proper settings; it may not be necessary to adjust the parameters discussed below.*

**Compress on the fly.** Lets you record and compress video simultaneously. Best used with digitizing boards with built-in compression boards.

**Post-Compress.** First digitizes video without compression, then, in a second pass, compresses the digitized video. Best used with digitizing boards that do not have built-in boards or compression daughter cards.

**Capture depth.** Determines the amount of color information captured per video image pixel. The more colors selected, the better the quality of the video image. However, a higher number of colors often

requires more processing power and storage space. Active only for post-compression.

**Automatically Create Micon.** Creates a Micon for a newly recorded clip.

**Preview Video While Recording.** Lets you view video in the recording window as the video is being digitized. If your digitizing board does not have display capabilities, choosing this option may result in lower frame rates. Previewing when using digitizing boards with display capabilities does not affect frame rates.

**Record at Current Size.** Records your clip at the size of the video in the recording window when you click the Recording button. (Compare with **Record at:**) Larger sizes require more processing power.

**Record at.** Lets you select the dimensions at which your clips will be digitized. When you click the Recording button, the video automatically resizes to this size. Larger sizes require more processing power from your Macintosh.

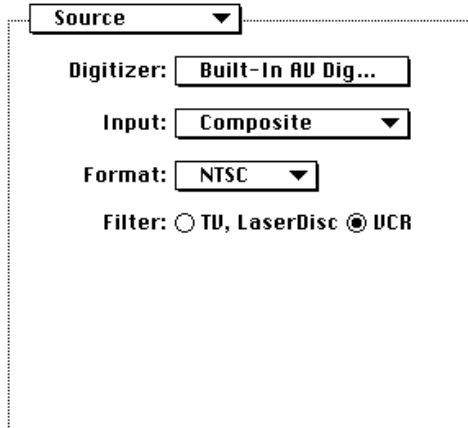
This command also causes the screen to go blank during recording.

**Constrain Aspect Ratio.** Applies only if you define your own recording size. If you customize recording size, constraining the aspect ratio forces you to conserve the dimensional ratio of your original clip.

4. From the pop-up menu in the Video dialog box, choose **Source**.

## Source Settings

Source settings allow you to tell VideoShop what type of digitizing hardware you are using and where you have connected your recording device.



Source

Digitizer: Built-In AU Dig...

Input: Composite

Format: NTSC

Filter: ☐ TV, LaserDisc ☒ VCR

### To set source settings:

- ☐ Choose **Source** recording settings.

### *Source Recording Settings*

**Digitizer.** Indicates the type of hardware used to digitize your image clips. All QuickTime-compatible boards installed in your Macintosh appear in this menu, as long as their VDIGs (Video Digitizing Components) are in your System folder. A VDIG is a system software file that enables your digitizing board to communicate with QuickTime and VideoShop. If your board is capable of compression, you need a QuickTime CODEC (Compression/decompression component), which also goes in your System folder.

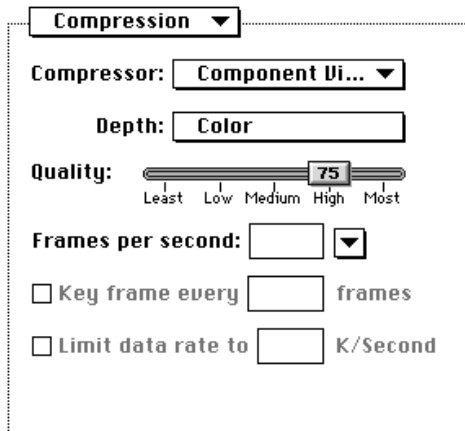
**Input.** Tells VideoShop where you have connected your recording device. You need to have first connected your source to the video connector on the digitizing board. Choose **Composite** or **S-video**. For higher-quality input, choose S-video. However, not all digitizing boards support S-video.

**Format.** Lets you choose the video standard used to digitize your clip. Three common standards are NTSC (North America and Japan), PAL (Europe, except France), and SECAM (France).

**Filter.** Adjusts color in digitized video to compensate for differences in different video sources. Choose the appropriate filter to compensate for color differences that are related to the source of your video.

5. Choose **Compression** from the pulldown menu in the Video dialog box.

The **Compression** menu allows you to select the QuickTime or hardware-specific compression algorithm for compressing your digitized clips. Compressors improve performance during play-out.



6. Choose **Compression** settings.

## Compression Settings

The following are the standard QuickTime compression settings. Depending on the hardware you have installed, additional settings may be displayed on the **Compression** menu.

### *QuickTime Compression Settings*

**Apple Animation Best.** Use for compressing 16-bit (thousands of colors) or 24-bit (millions of colors) animated or still images that are computer-generated (rather than recorded from analog videotape).

**Cinepak Best.** Use for compressing highest quality final movies for CD-ROM distribution when processing time is not an issue. Saving and mixing down may take several hours with this compressor. Final file size is quite small.

**Apple Graphics Best.** Use for compressing 8-bit (256 colors) computer-generated animated or still images or video recorded from an analog source to be played using an 8-bit display (256 colors or grays).

**Apple None.** Does not compress the image. The image is left raw at the depth selected in the depth menu.

**Apple Photo JPEG.** Use for compressing movies with picture quality high-resolution (24-bit) still images.

**Apple Video.** Use for compressing motion video recorded from an analog source. The movie is stored at 16-bit color depth (thousands of colors).

**Others.** If you have additional CODECs in your System folder, they appear in this submenu.

## The Depth Menu

The **Depth** menu is used to determine how many colors (256 colors, thousands of colors, 16 million, and so on) are available for each pixel. Each compression method has its own options for video color depth. VideoShop automatically assigns a color depth for each compression method, but you can specify a different choice for some of the compressors.

## Slider Control

Use the slider control to set a movie's image quality. The **Most** setting yields the best image quality. However, the higher the image quality, the more data required to describe each movie frame and the more disk space and processing power are needed. This can sometimes equate to lower frame rates.

As you move and release the slider, the effect on image quality is displayed in the preview square.

**Frames Per Second.** Determines the number of actual samples (frames) that are captured and displayed per second. The frame rate value (in frames per second) represents a cap on the sequence's frame

rate. Specify frame rate value by entering a value in the **Frames Per Second** field or through the pop-up menu.

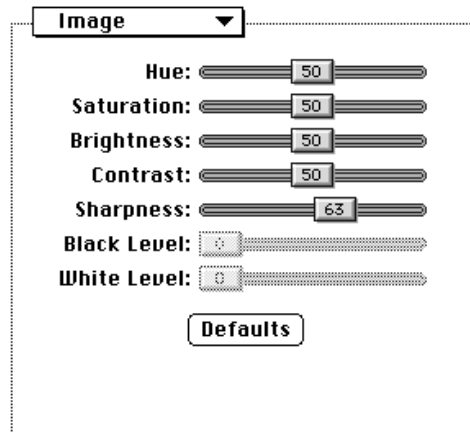
The higher the frame rate, the higher the processing power and storage space required by the computer. To tune a movie for optimal performance on a particular class of Macintosh or to decrease a movie's storage requirement, cap the movie's frame rate.

If you want a captured clip to retain its native frame rate use an optimization frame rate of **Best** or 0 fps.

**Key Frame Rate.** Frame differencing is a type of compression available that stores only the differences between frames. Every time a complete frame is stored, it is called a key frame. By setting the **Key Frame Rate**, you can determine how often a complete key frame is saved. The lower the key frame rate, the more often a complete frame is saved. Broadly spaced key frames produce satisfactory results only if the movie being captured is meant primarily for linear playback.

If QuickTime falls behind in its audio-video synchronization during playout, it freezes a key frame until it reaches the next key frame. Extremely long intervals between key frames can result in choppy playout under low-memory conditions or on slower Macintoshes. Therefore, you generally want a low number for the key frame rate.

## Image Settings



### To set video image parameters:

These are the same settings as in the Recording Window dialog box.

1. Choose **Video On** from the **Recording** menu.
2. Choose **Video Settings** from the **Recording** menu.

This opens a dialog box.

3. Adjust the pop-up menu so that these **Image** parameters are displayed. If your digitizing board supports these features, slider controls are active and allow you to adjust the black level, white level, hue, saturation, brightness, and contrast of the recorded image.

If your digitizing board does not support these features, this panel is inactive.

Once you record at certain levels, these levels become the norm for the recorded footage. If you lose certain image details because of your settings (such as if you set the brightness too high and you wash out certain light areas) that information will be lost. Preview the image settings first before moving ahead with these levels.

- **Hue** controls the tint of the image on a red-to-green spectrum.
  - **Saturation** controls the color intensity of the video images.
  - **Brightness** controls the amount of luminescence or light in the image.
  - **Contrast** controls the intensity of the difference between dark and light areas.
  - **Sharpness** controls the level of definition of the image.
  - **Black Level** control the depth of blackness in the black pixels.
  - **White Level** control the depth of whiteness in the white pixels.
4. Click **OK** to accept settings, or **Cancel** to discard changes.

## ADJUSTING AUDIO PARAMETERS

There are three types of adjustments for audio settings:

- **Source**
- **Compression**
- **Sample**

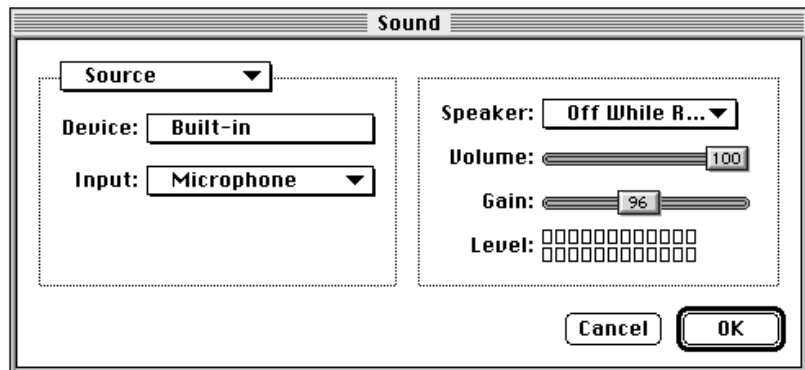
To set audio parameters:

1. Choose **Sound On** from the **Recording** menu.
2. Choose **Sound Settings** from the **Recording** menu.

A dialog box opens in which you can adjust how you record sound and its playback quality.

3. Select the **Source** parameters.

### Source Parameter Settings



This section describes the settings you may want to adjust to improve audio quality.

**Device.** Lets you select the hardware board or accessory to digitize audio (an internal/external microphone, Mac Recorder, or an additional hardware source). QuickTime-compatible audio digitizing devices automatically appear in this menu, if their drivers are in your computer's System folder.



**Input.** Indicates input source. Channel 1 is the default. With additional hardware, other input options appear.

**Speaker.** Turns the sound on or off during recording. Turning the speaker off reduces the chances of feedback problems.

**Volume.** Adjusts the audio level you hear during playout. (Or, you can do this in the recording window.)

**Gain.** Adjusts the sensitivity of the input signal. The higher the setting, the stronger the signal received.

**Level.** Shows the sound input level of the recording.

## Audio Compression Settings

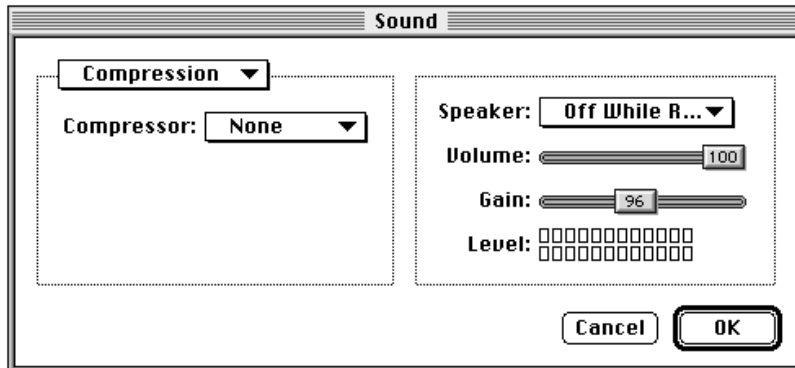
To set audio compression settings:

1. Choose **Sound On** from the **Recording** menu.
2. Choose **Sound Settings** from the **Recording** menu.

A Sound dialog box is displayed.

3. If compression settings are not displayed, use the pop-up menu to choose compression settings.

The right side of this dialog does not change as you scroll through the pop up menu. **Speaker**, **Volume**, **Gain**, and **Level** settings are explained earlier in this section.



4. Select audio **Compression** settings.

**None.** Does not compress recorded sound. Use this setting for the best sound quality.

**MACE.** Digitize sound at reduced file sizes. MACE 3:1 reduces file size three times, MACE 6:1 reduces file size six times. The larger the reduction in file size, the lower the sound quality.

## Sound Sample Settings

**To set sound sample settings:**

Sound sample settings let you determine the trade-offs between quality (fidelity) and storage (bandwidth).

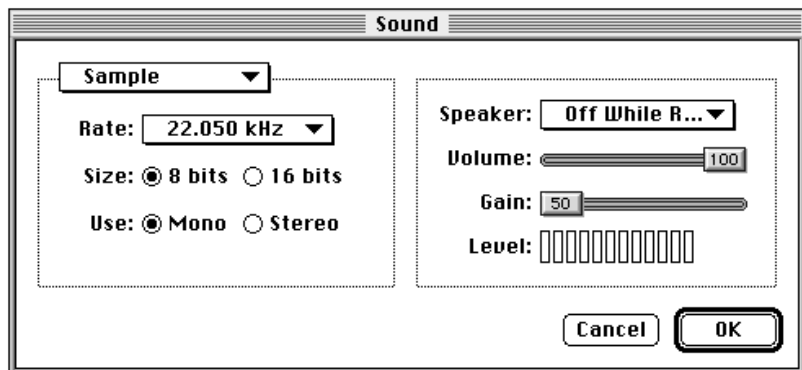
1. Choose **Sound On** from the **Recording** menu.
2. Choose **Sound Settings** from the **Recording** menu.

A sound dialog box opens.

*or*

If sample settings are not displayed, choose **Sample Settings** from the pop-up menu on the upper left of the dialog box.

The right side of this dialog does not change as you scroll through the pop-up menu. **Speaker**, **Volume**, **Gain**, and **Level** settings are explained in earlier in this chapter.



### 3. Set **Sample** parameters.

**Rate.** Lets you select the fidelity of digitized audio. Higher sampling rates yield higher sound quality, but require more processing power and disk space.

**Size.** Lets you choose an 8-bit or 16-bit size for your audio sample. 16-bit samples record a greater tonal range and produce better quality audio, but require more processing power.



**TIP:** *Sound options vary depending on your available hardware. For example, Macintosh AV machines offer the 16 bit audio options, many other Macintoshes do not.*

**Mono or Stereo.** Stereo recording enhances audio quality, but increases the performance requirements of your Macintosh. To play and record stereo audio, you need a Macintosh or hardware with stereo-out capabilities. Refer to the documentation for your digitizing board or Macintosh for details about stereo capabilities.

## RECORDING SCENARIOS

This section provides some guidelines for getting the best possible results in typical recording scenarios. These scenarios apply only to boards that do not use full-screen hardware compression.

Follow the instructions in this chapter, and choose the options recommended below for each scenario.

### *Scenario 1: Easy Recording*

Use the following recording procedure if:

- Your Macintosh is configured with 8 MB of RAM or less.
- You have a minimum of 100 MB of empty space on the hard disk to be used for recording.
- You are not overly concerned with movie frame rate.
- You don't want to bother experimenting with quality and frame differencing settings.
- You do not have a compression card.

Make sure that your recording settings and choices match the following:

**Recording Menu**

- Record to RAM (unchecked)
- Video On (checked)
- Sound On (checked)
- Video Settings command
- Sound Settings command

**VideoShop**

- Compression: Post-Compress
- Automatically Create Micon (checked)
- Preview Video While Recording (checked)

**Compression**

- Compressor: Apple Video
- Color: Color
- Quality: Most
- Frame Per Second: empty

**Source**

- Digitizer: name of the digitizing board in computer
- Device: Built-in or Other

**Sample**

- Size 160 x 120
- Sampling Rate: 11.1 kHz

## *Scenario 2: Recording with Limited Hard Disk Space and Limited Memory*

Use the following recording procedure if:

- You have less than 8 MB of RAM.
- You have less than 100 MB of free space on the hard disk to be used for recording.
- You are not concerned with movie frame rate or image quality.
- You do not have a compression card.

Make sure that your recording settings and choices match the following:

### **Recording Menu**

- Record to RAM (unchecked)
- Video On (checked)
- Sound On (checked)
- Video Settings command
- Sound Settings command

### **VideoShop**

- Compression: Post-Compress
- Automatically Create Micon (checked)
- Preview Video While Recording (checked)

### **Compression**

- Compressor: Apple Video
- Color: Color
- Quality: Normal
- Frame Per Second: empty

**Source**

- Digitizer: name of the digitizing board in computer
- Device: Built-in or MacRecorder

**Sample**

- Sampling Rate: 11.1 kHz

*Scenario 3: Recording with Limited Hard Disk Space and Abundant Memory (RAM)*

Use the following recording procedure if:

- You have more than 8 MB of RAM.
- You have less than 100 MB of free hard disk space.
- You want the best possible image quality and frame rates and you are recording short video clips.
- You do not have a compression card.

Make sure that your recording settings and choices match the following:

**Recording Menu**

- Record to RAM (checked)
- Video On (checked)
- Sound On (checked)
- Video Settings command
- Sound Settings command

**VideoShop**

- Compression: Compress on-the-Fly
- Automatically Create Micon (checked)
- Preview Video While Recording (checked)

### **Compression**

- Compressor: Apple Video
- Color: Color
- Quality: Normal
- Frame Per Second: empty

### **Source**

- Digitizer: name of the digitizing board in computer
- Device: Built-in or MacRecorder

### **Sample**

- Sampling Rate: 11.1 kHz

### *Scenario 4: Maximizing Video Capture Rates When Recording to Hard Disk*

To maximize video capture rates (to achieve higher frame rates) when recording to a hard disk, you must first record a clip without compression and then save and mix it down in VideoShop as a self-contained movie. During the mixdown process, you can apply higher compression and a higher frame rate than you can during recording.

Use the following recording procedure if:

- You have more than 8 MB of RAM.
- Your hard disk capacity is 100 MB or more, of which 50 MB or more is empty
- You are concerned with achieving high movie frame rates for long clips.
- You do not have a compression card.

Before you begin the recording process, you must dedicate an empty hard disk for movie recording or establish an empty partition on your hard disk (at least 50 MB) strictly for recording.

**To establish a partition for recording:**

1. Create a new folder on the recording disk/partition.
2. Designate that folder as the recording folder. (Choose **Set Recording Folder** from the **Folder** menu.) This folder should be the only item in the recording disk/partition.
3. Continue with the recording process.

Make sure that your recording settings and choices match the following:

**Recording Menu**

- Record to RAM (unchecked)
- Video On (checked)
- Sound On (checked)
- Video Settings command

**VideoShop**

- Compression: None
- Automatically Create Micon (unchecked)
- Preview Video While Recording (checked)

To maximize your movie frame rates, you must save the raw footage in a VideoShop sequencer as a self-contained movie. During the save process, mixdown the movie using the following settings.

- Compressor: Apple Video
- Quality: Most
- Frames Per Second: enter desired frame rate



### *Scenario 5: Maximizing Video Capture Rates When Recording to Memory (RAM)*

Use the following recording procedure if:

- You have more than 20 MB of RAM.
- You have more than 100 MB of free space on your hard disk.
- You are concerned with achieving the highest possible movie frame rates.
- You do not have a compression card.

Make sure that your recording settings and choices match the following:

#### **Recording Menu**

- Record to RAM (checked)
- Video On (checked)
- Sound On (checked)
- Video Settings command
- Sound Settings command

#### **VideoShop**

- Compression: Compress on-the-Fly
- Automatically Create Micon (checked)
- Preview Video While Recording (checked)

#### **Compression**

- Compressor: Apple Video
- Color: Color
- Quality: Most
- Frame Per Second: empty

**Source**

- Digitizer: name of the digitizing board in computer
- Device: Built-in or MacRecorder

**Sample**

- Sampling Rate: 11.1 kHz

**SELECTING DIGITIZING HARDWARE**

Video and audio information recorded from a camera, or on video-tapes and audio tapes, are in analog format. To store information on a computer's hard disk, where it can be manipulated with VideoShop, the information must be converted into digital form. To do this, you need a digitizing board and/or audio input device. VideoShop works with all QuickTime-compatible video and audio digitizing hardware. Some Macintoshes (the Centris 660 AV and the Quadra 840 AV) have built-in video digitizing.

VideoShop can control video decks that support the Sony serial protocol via the RS-422 port. All that is required is a cable that connects from the Macintosh modem port to the Sony RS-422 port on the device (consult your device's manual to determine if it has a RS-422 port). This cable (#35) is available directly from Avid and can be purchased by calling Avid at 800-949-AVID (2843) option 5.

**Video Digitizing Boards**

Video digitizing boards are often referred to as video-in boards or capture cards. A video digitizing board takes the video signal from an analog format (for example, a VCR or camcorder) and converts it into a digital format that the computer can understand. When you buy a digitizing board, evaluate it based on the following features:

- QuickTime compatibility.
- Capture speed (frame rate) should be a minimum of 8 frames per second; the highest quality digitizing boards (also the most

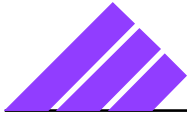
demanding on your computer) offer frame rates of 30 frames per second.

- Color depth (16-bit capability recommended).
- Full-screen still capture capability.
- Hardware compression options—some boards offer compression of the video information, which makes a higher frame rate possible.
- Graphics acceleration.
- Audio input capabilities.
- PAL/SECAM (European) video standards support.

## Sound Input Devices

Some Macintoshes, such as Quadras (700, 900, and 950), IIsi, LC and LC II, and the Classic, come equipped with an external microphone and built-in audio digitizing circuitry. For other Macintosh models, you need an audio input device or digitizing board. Standard video cameras usually come equipped with a microphone, which you can connect to an audio input device or digitizing board. Features to look for in an audio input device or digitizing board include:

- Audio quality—should be a minimum of 11 kHz. Standard Macintosh quality (22 kHz) is recommended. The best quality audio available is 44 kHz, CD quality.
- 8-bit or 16-bit—16-bit is higher quality.
- Internal or external device—if you do not have enough slots in your Macintosh to support another board, you may want to consider using an external device that connects to your Macintosh via one of the serial ports.
- Volume control—hardware or software controlled.
- Built-in microphone or input line for microphone—be sure to get whichever better suits your overall needs; if you opt for an input line, you will need a microphone



## CHAPTER 12

### *THE LOGGER*

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#### INTRODUCTION

This chapter describes the VideoShop Logger. It covers the first steps toward logging clips and includes discussions on:

- The Logger Basics
- Device Control Basics
- Using Device Control
- Logging Basics
- Using Tape Logs
- Creating Logs
- Saving Your Work
- Preparing to Log Material
- Logging
- Clip Information
- Batch Digitizing
- Digitizing clips
- Using Time Code

## THE LOGGER BASICS

The Logger is a VideoShop tool that helps you select and log clips before an edit session. The Macintosh must be connected to a single deck that has ViSCA or Sony serial deck protocol; the Logger supports remote control through ViSCA or Sony serial protocols.

The Logger is comprised of three components, the recording window, the **logging window**, and the **Device Control window**. Used together, these three windows allow you to control the deck to view your source tapes and select shots for your log.

For each shot that you log, the Logger automatically saves the start and end timecodes, duration, and clip name.

The Logger's **Clip Information dialog** lets you add new categories of information to your log, so that you can record the scene, take, location, or any comments that can help you identify the footage.

After logging shots, use the VideoShop recording window to digitize and edit the footage.

Before you begin using the Logger, you need to understand how the system uses clips and logs to organize your work.

The Logger's clips and logs are a lot like their film counterparts. Just as film editors pull clips from raw footage and store the clips in logs for the editing session, the Logger lets you select shots from your tapes and store information about the shots in digital logs.

Each time you log clips, you open a log and then use the deck controls to play your tapes, mark your in and out points, and add the entry to the open log.



**TIP:** *A hard disk is recommended, but not required.*

**To Start the System with a deck that supports the Sony Serial Protocol:**

1. Power on the deck.
2. Set the deck's REMOTE/LOCAL switch to REMOTE.
3. Turn on the Macintosh computer.
4. Launch **VideoShop**.
5. Select **Logging** from the **Windows** menu.

The logging window opens.

6. Select **Device Control** from the **Windows** menu.

The Device Control window opens.

7. Select **Recording** from the **Windows** menu.

The recording window opens.

When you install VideoShop, the ViSCA Driver is placed in the Avid VideoShop folder. If you are using the Logger with a ViSCA deck, move the contents of the **ViSCA Driver 1.2 folder** to the System folder on your startup volume. The Macintosh will bring up a dialog asking whether you want to place it in the Control Panels folder. Click **OK** or press **Return**.

**To Start the System with a deck supporting the ViSCA Protocol:**

1. Power on the deck.
2. Turn on the Macintosh computer.
3. Select **ViSCA** from the Macintosh Control Panels found in the Sys-

tem Folder.

4. Set the ViSCA driver to the appropriate port (Printer or Modem)
5. Launch **VideoShop**.
6. Select **Logging** from the **Windows** menu.

The logging window opens.

7. Select **Device Control** from the **Windows** menu.

The Device Control window opens.

8. Select **Recording** from the **Windows** menu.

The recording window opens.



**TIP:** *The VideoShop recording window does not need to be open to use the Logger. For example, if you do not have a digitizing card on your system or you are using a Macintosh PowerBook, you can just use a monitor or television connected directly to the deck to view the content of the tape.*

## Configure the Logger for Your Video Device

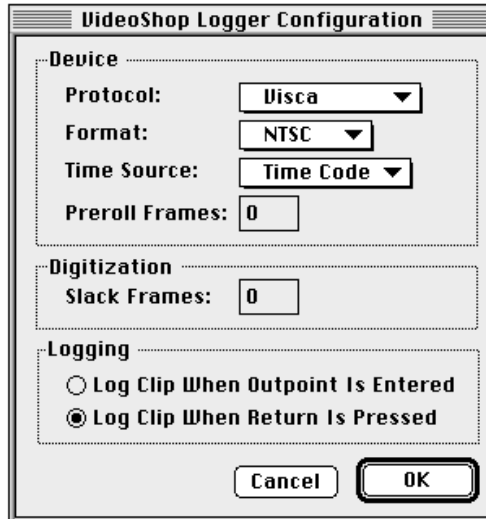
Before you can use the Logger, you must tell it about your video device.

**To configure the Logger:**

1. Launch VideoShop
2. Choose **Device Control** from the **Windows** menu
3. Press the **Setup** button on the tool strip.



A dialog box appears.



4. Set the Protocol to correspond to your video device or device controller.

Sony V Deck 1000 or 500 or LANC devices with a Sony VBox Controller need to be set up with ViSCA protocol driver.

5. If your device supports time code and you are using tapes which contain time code, select **Time Code** as the **Time Source**. Otherwise ensure that the **Time Source** is set to **Counter**. (See “Using Time Code” later in this chapter for more information)
6. Enter the number of **Preroll Frames**.

**Preroll Frames** tells the VideoShop Logger how many frames your video device needs to play before the image is stable. Ten frames is sufficient for most video devices. If the first few frames of each digitized clip are not clear, you should increase the number of preroll frames.



7. Enter the number of **Slack Frames**.

**Slack Frames** specifies the number of additional frames to be automatically added to the beginning and end of each clip when the clip is digitized. Slack frames can be used to give you flexibility to make final trims in VideoShop to compensate for non-frame accurate video devices.

## DEVICE CONTROL BASICS

The on-screen remote control functions much like its physical equivalent. The Device Control window has the standard functionality of a remote control, a jog shuttle, a time code display, and the ability to go to a specific frame.

### Preparing the Video Device

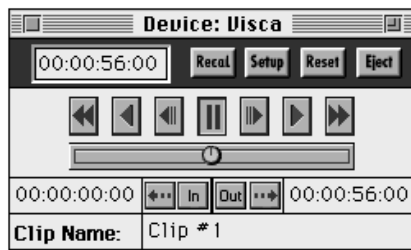
To begin working with the Logger's Device Control feature, be sure your hardware is connected properly.

**To prepare a device:**

1. Set the device to remote.
2. Insert the source media in the device.

### Opening the Device Control Window

Device control can be turned on at any time once the Logger is activated. If device control was in use the last time the recording window was closed, and the recording window was closed first, the Device Control window automatically opens when the recording window is next opened.



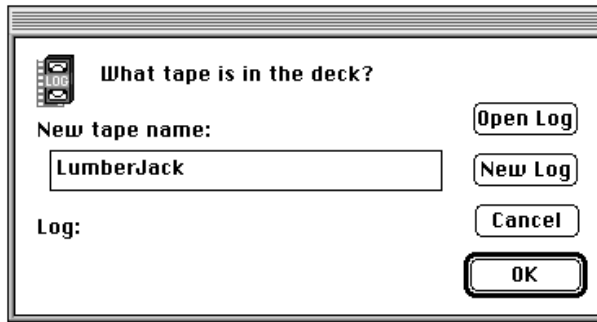
**To open device control:**


- ☐ Choose **Device Control** from the **Windows** menu.

*or*

- ☐ Choose **Recording** from the **Windows** menu if device control was in use in the most recent recording session.

The Device Control window opens. A dialog box also opens, in which you are required to type the name of the tape you are working from.



 **NOTE:** *The Logger does not permit the use of multiple tapes for a single log. In order to open a log with source reference different from the current tape in the deck, you need to eject the tape.*

**To turn off device control:**

1. Click to activate the Device Control window

- ☐ Choose **Close** from the **File** menu.

*or*

- ☐ Press E-W.

*or*

- ☐ Click the close box on the Device Control window.

## Resetting the Counter

If your device does not support time code or your tape does not contain time code, you must rely on the device's internal counter to determine the current tape position. While in counter mode, each time you put a new tape in the deck, you need to reset the counter. Resetting the counter ensures that your log is consistent if you want to return to the log later to digitize.

### To reset the counter:

1. Put a tape in the deck.
2. Press the **Reset** button on the Device Control window toolbar.



This rewinds the tape to the beginning and sets the counter to zero.

## Recalibrating the Counter

Tape counters work reasonably well when playing straight through the tape. However, starting, stopping, and searching causes the counter to drift. To prevent this from interfering with clip logging and batch digitization, you should periodically recalibrate the counter.

### To recalibrate the counter:



- ☐ Press the **Recalibrate** button on the Device Control window toolbar.

This rewinds the tape to the beginning and then fast forwards back to where you were, recalibrating the counter from zero to your current point.



**TIP:** *If you are not using time code, you should recalibrate the tape every so often.*

## Entering Time Code

Frames are represented by a number in the form HH:MM:SS:FF. The first two digits give the hour, the next two the minute, the next two the second, and the last two the frame number. Since there are a maximum of thirty frames per second, the maximum time code is 23:59:59:29. The hours portion of the time code is not important when working with footage that is shorter than one hour.

**To enter the frame number 00:01:05:10:**

1. Type 10510 on the keyboard.
2. Press **Enter** or the **Tab** key on the keyboard.

The Device Control automatically adds the colons and initial zeros.

## USING DEVICE CONTROL

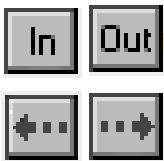
The on-screen remote control functions much like its physical equivalent. The Device Control window has the standard functionality of a remote control, a jog shuttle, a time code display, and the ability to set marks and to go to a specific frame.

### Using Device Control to Search for a Specific Frame

The Device Control window lets you search for a specific frame on the tape, provided that you know the time code or counter position of the frame. The time code or counter position is found in the upper left corner of the Device Control window when the frame is played.

**To go to a specific frame:**

1. Enter the time code (or counter position) in either of the position boxes (found in the lower left and right corners of the Device Control window).



Either type in the time code or click the **In** or **Out** button to store tape position in these fields.

2. Press the appropriate **Go To** button.

The deck moves the tape to the specified position. The deck locates the specific frame.

**To cancel a search:**



- ☐ Click the **Pause/Stop** button.

*or*

- ☐ Press **E-period**.

## Using Device Control While Recording

The Device Control window can be used to facilitate the recording process while recording individual clips or, with the logging window open, to create a log of clips to batch digitize.

Using the Device Control window to record individual clips is much like using a hand-held remote control.

### To record individual clips.

1. Choose **Recording** from the **Windows** menu.

Setup VideoShop for video capture (refer to Chapter 11, “Capturing Video and Audio”).


2. Choose **Device Control** from the **Windows** menu.

Make sure the logging window is closed. If the logging window is open, pressing the **Record** button on the recording window batch digitizes the log.

3. Use the Device Control window to locate the footage to record.



4. Click the **Record** button in the recording window twice, once to activate the window and once to start recording.

 **NOTE:** *As with a VCR (Video Cassette Recorder), any time you record, be sure to press Stop in the recording window before you press the Pause/Stop button in the Device Control window. If you stop the tape before you stop recording, a frozen frame will appear at the end of the clip.*

## Using Device Control During Print to Video

Without the device control of the Logger, it is difficult to begin recording to a tape at exactly the same instant as VideoShop begins printing. Failure to synchronize these two operations can result in either a blank spot at the beginning of the tape or loss of a portion of the movie. With device control, you can consistently ensure perfect timing.

## LOGGING BASICS

You may already be familiar with the process of logging clips from source tapes. As you would expect, the Logger also lets you log clips with their names, their start and end timecodes, and their durations.

### The Logging Window



The toolbar across the top of the logging window helps you to organize the contents of the log. You can choose between two different ways of looking at the log, poster view or by list, and you can sort the log alphabetically, by In point, by Out point, or by Duration. In the space to the left of each clip name (or to the right of the Out point poster frame if you are in poster view) a **Hard Disk** icon indicates that the clip has been digitized. A check mark indicates that the clip is selected for batch digitization.

### *Creating Logs*

Only one log can be open at a time. If you want to switch logs you must close the current log before opening another log.

### *Opening a New Log*

A log is opened whenever the logging window is opened. Since only one tape log can be open at a time, you cannot open a new log until you close the original log.

#### **To open a log:**

- ☐ Choose **Logging** from the **Windows** menu.

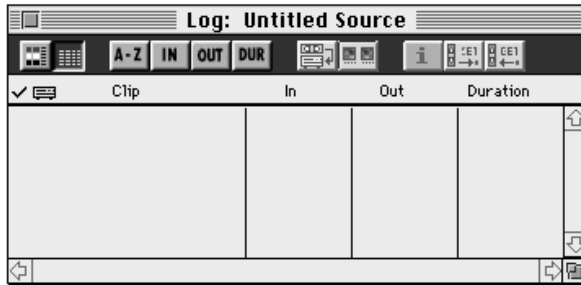
*or*

- ☐ Double-click an existing log in a desktop window.

*or*

- ☐ Choose **Open** from the **File** menu.

A new logging window appears entitled “*Untitled Source*”.

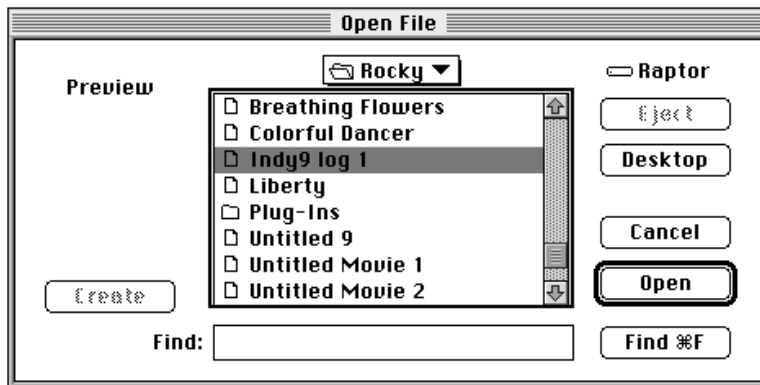


To open an existing log:

1. Select **Open** from the **File** menu.

or

Double click the log in a desktop window.



2. In the Open dialog box, select the folder that contains the log to

open.

3. Select the name of the log
4. Click Open.

*or*

Press **Return**.

*or*

Double-click the log name.

#### **To close a log:**

1. Click the log to activate it.
2. Choose **Close** from the **File** menu.

*or*

Press E-W.

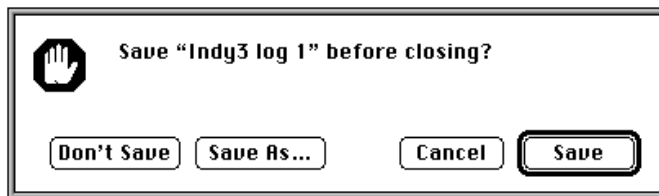
*or*

Click the close box on the logging window.

*or*

Choose **Logging** from the **Windows** menu.

A dialog box opens and asks if you want to save the current log before closing.



## **USING TAPE LOGS**

Tape logs are used for a variety of purposes to make working with your source material easier by saving time and disk space.



## For Batch Digitization

Clips which you want to batch digitize are selected in the tape log. The tape log determines the file names of the digitized clips; the file names of the digitized clips are the clip names in the log.

## SAVING YOUR WORK

By default, your current logs are stored in the Macintosh's volatile, random access memory (RAM); if necessary, save the information to a hard disk.

Should the power fail or the system shut down unexpectedly, as with any other document in progress, the logs stored in RAM are lost. However, you may restart the editing session by opening the logs saved on disk.

 **NOTE:** *Save your work frequently to hard disk to avoid losing your work.*

### To save a log:

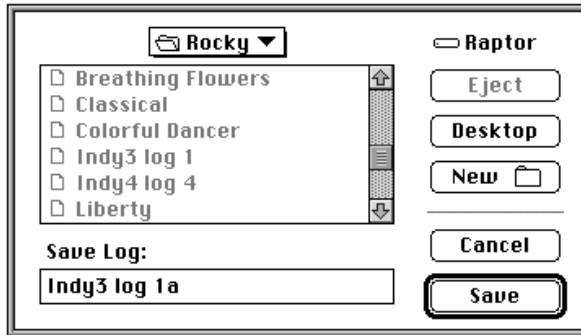
1. Click the log to activate it.
2. Choose **Save** from the **File** menu, or type E-S.

The **Save** command is dimmed if the current log has already been saved.

### To save a copy of a log:

1. Click the log to activate it.
2. Choose **Save As** from the **File** menu.

A dialog box appears.



3. Move to the disk and folder where you want to save the copy.
4. Type a name for the copy and press **Return**.

*or*

1. Select a log in a desktop window.
2. Select **Duplicate** from the **Edit** menu on the VideoShop Desktop.

#### **To delete a log:**

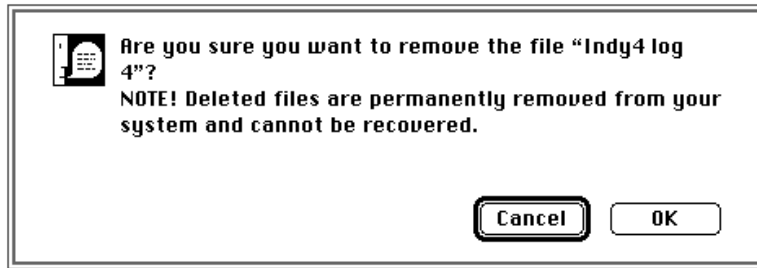
1. In a Desktop window, click to select the log you want to delete.
2. Press the Trash Can button on the toolbar.

*or*

Press E-K.

A warning dialog appears.





3. Click OK or press **Return**.

## PREPARING TO LOG MATERIAL

Once you have opened a log, open the Logger to access deck and logging controls, and enter the name of the tape you are logging.

This section explains how to access and use tools that provide the information to log your material.

### Inserting Source Tapes

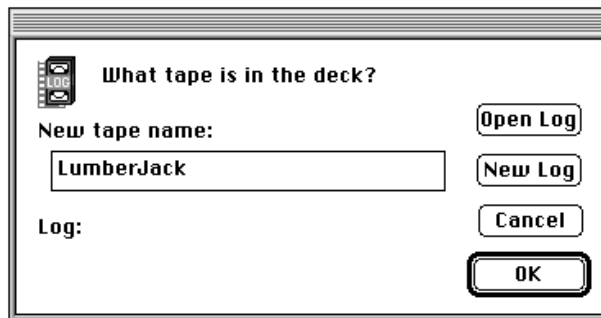
You must use unique names for logs and clips. The system cannot distinguish between two logs or clips with the same name. Since the clip names are used as file names for digitized clips, clip names within one log need to be different. The Logger checks for repeated names and displays a warning dialog box if two clips in a log are inadvertently named the same.


**To insert a source tape in a deck for logging:**

Sony serial decks need to be set to remote. ViSCA decks automatically recognize remote settings.

1. Insert a source tape in your deck.
2. Choose **Device Control** from the **Windows** menu.

The Device Control window and the Tape Name dialog box opens. If there is an open log, the name will appear in the current log. If the tape does not relate to the current opened log, click **Open Log** to open an existing log or click the **New Log** to create a new log.



 **NOTE:** Be sure to give your tape a unique name. The Logger cannot distinguish between tapes or clips with the same name. Plan your tape naming scheme to avoid duplicate tape names.

If you do not want to open a log file, click **OK**, and the open log is closed. Click **Cancel** to eject the tape.

 **TIP:** A log with a different source name from the current tape in the deck cannot be kept open.

3. Choose **Logging** from the **Windows** menu.

The logging window opens.

4. Choose **Recording** from the **Windows** menu.

The recording window opens.

## Choosing the Video Capture Rate Compression Setting

Logging your material at lower capture rates (frames per second) saves space on your disks, but results in playback that is not smooth.

- ☐ Select **Video Settings** from the **Recording** menu.

The Compression Settings dialog box opens. Refer to Chapter 11 to learn about the appropriate settings.

## Adjusting the Audio Compression Settings

Audio compression is made up of two aspects that determine your overall audio sample rate:

- Rate
- Compression

## Choosing the Audio Rate Setting

Your audio rate setting is determined by your system's audio card. The audio capture rate is set by the card; the Compression tool only reflects that setting. If the logged clips are going to be digitized on a system that uses a different audio rate setting, the audio rate that you choose now with the Logger Compression tool can be adjusted at that time.

You can choose one of the following audio capture rate settings

- 44100 Hz
- 48000 Hz

### To choose the audio rate settings:

- ☐ Choose **Sound Settings** from the **Recording** menu.

The Compression Settings dialog box opens. Refer to Chapter 11

to learn about the appropriate settings.

## Choosing Audio Compression Setting

You can select one of the following audio compression settings:

- 1:1
- 4:1

The 1:1 setting provides a full audio frequency response. The 4:1 setting provides the frequency used for the full range of speech, but does not capture the full frequency range of music.

### To choose the audio compression settings:

- ☐ Choose **Sound Settings** from the **Recording** menu.

The Compression Settings dialog box opens. Refer to Chapter 11 to learn to define the appropriate settings.

The sound volume and video image settings defined while logging are remembered during batch digitization. Each clip retains the established settings; during batch digitization, the Logger utilizes the clips' saved settings.

Assume a logging window is full of clips with unknown and miscellaneous settings. Because you can neither see nor adjust video and audio settings in the logging window, you must set the settings in the recording window. You can then set the adjusted settings to the Logger to update that one clip (if it is still selected), or update multiple clips to the new settings (if there are a number of selected clips in the log).

### To change the setting of a clip:

1. Select the entry in the logging window.

If multiple entries are selected, the first clip's settings are used.

2. Press the **Set** button.

The selected clip's video and audio settings are set to the record-



ing window.

3. Adjust the settings as desired.

**To grab the new setting in the logging window:**

1. Select the entries in the logging window.
2. Press the **Get** button.



The clips selected in the logging window are updated to the new settings.

## LOGGING

Once the Logger is open and all settings are in place, you can add entries to the clip log. Many editors prefer to log all entries (shots) first, then digitize their material later.

The Logger automates the process of recording each entry's start and end timecodes, so the information does not need to be entered manually.

**To add an entry to the log:**

Make sure the recording window, the logging window, and the Device Control window are open.

1. Load your tape in the deck.
2. Use the remote control portion of the Device Control window to move the tape to the beginning of the clip you want to create.
3. At the beginning point, click the **In** button or press the **Control - I** or the **Option** and **Up Arrow** keys on the keyboard.



Continue playing the tape until you reach the end of the clip you want to create. You can advance the tape to the end point using any method you choose (single step, play, scan, or fast forward). Since you are not recording, you can even go past the end point and then back up before defining the Out point.



4. Click the **Out** button or press the **Control - O** or the **Option** and **Down Arrow** keys on the keyboard.

5. Name the clip by typing a name in the **Clip Name** box.
6. Press **Return** or **Enter**.

The clip name appears in the logging window with its In point, Out point, Duration, and Clip name.



**TIP:** *It is not necessary to pause the tape before pressing the In or Out buttons. The most efficient way of logging clips is to use scan and fast forward to get close to the target footage and then switch to play to mark the In point.*

You can easily edit the clip later; it is better to err on the side of too much footage than too little.



**NOTE:** *The Logger rejects clips which have Out points before their In points and clips which have the same name as a clip already in the log.*

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



**TIP:** *You can also expand the Device Control window to enter the description of the clip you are logging while you are watching the footage.*

**To select an entry in a log:**

- ☐ Click the entry name

*or*

- ☐ Select multiple entries by **Shift**-clicking additional items.



**To delete a clip from the log:**

1. Select the entry (entries) in the log.
2. Press the **Delete** key on the keyboard.


*or*

Choose **Delete** from the **Edit** menu

*or*

Press E-K.

The entry is deleted.

 **NOTE:** *If the entry has been digitized, deleting the entry in the log only removes the entry. The digitized clip still resides in the recording folder.*

## CLIP INFORMATION

When a clip is logged with the recording window open, the head poster frame, the tail poster frame, and the current video and audio settings are recorded with the clip.

If you are logging clips without using the recording window (watching the video through a monitor directly from the deck) or if your digitizing card does not allow you to grab PICTs, an invalid poster frame is attached to the clip. You can later update the poster frame by selecting the **Update** button in the logging window. The Logger captures the head and tail frames of the in and out points of each clip by scanning (navigating) through the video.

**To update poster frames:**

1. Select **Recording** from the **Windows** menu to open the recording window.
1. Click to activate the logging window.
2. Press the **Update** button on the logging window toolbar.

New head and tail poster frames are created for the clip.



### To add or modify data in the Clip Information dialog:

The Logger allows you to add information to each clip with the **Clip Information dialog**.

1. Double-click the clip in the logging window.

or



- ☐ Press the **Clip Information** button on the logging window toolbar.

The Clip Information dialog opens.

The dialog box is titled "Clip: P. Airplane". It contains two small video preview windows on the left, each showing a different frame from the clip. To the right of these windows, the following metadata is displayed: "Source: tape c", "Format:", "Digitized:", and "Duration: 00:03:04:17". Below the preview windows are two time selection boxes containing "04:11:21:26" and "04:14:26:13". The main body of the dialog has four labeled text input fields: "Clip Name:" (containing "P. Airplane"), "Description:", "Keywords:", and "Copyrights:". At the bottom right, there are "Cancel" and "OK" buttons.

2. Add the desired information.

To navigate between fields, press **Tab** on the keyboard.

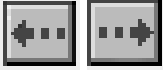
3. Select the data you want to change.
4. Type in new data.
5. Click OK, press **Enter**.

The information is added.

**To preview an entry from the analog source:**

- ☐ Double-click the entry in the Duration column.

*or*

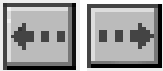


- ☐ Press the **Go To** button in the Device Control window toolbar.

**To move directly to the In or Out point of a clip:**

- ☐ Double-click the entry in the In or Out column of the logging window.

*or*



- ☐ Press the Go To In or Go To Out button in the Device Control window toolbar.

**To cancel the search:**

- ☐ Press E- **period**.

*or*



- ☐ Press the Pause/Stop button on the Device Control window.

**To copy a clip:**

1. Select the clip in the desktop window by clicking the clip's icon.
2. Choose **Duplicate** from the **Edit** menu.

*or*

Press E-D.

A copy of the clip appears in the Desktop folder.

**To print a log:**

Click to activate the logging window.

1. Chose **Print** from the **File** menu of press E-P.

The familiar Macintosh Print Dialog box appears.

2. Click OK or press **Return**.

The log is printed in the current view format (either text or poster view).

## BATCH DIGITIZING

Batch digitization is the process by which clips in a tape log are automatically recorded and stored on your hard disk so you can use them to make movies in VideoShop.

Before you can begin batch digitizing you must have VideoShop and your hardware set up to capture video and/or audio. For information on how to set up VideoShop or your hardware, please consult Chapter 11, "Capturing Video and Audio."

### The Batch Digitization Process

1. Set up VideoShop and your hardware for Recording
2. Set up your device for device control
3. Choose **Recording**, **Device Control**, and **Logging** from the **Windows** menu
4. Find the sections of footage you want to digitize
5. Create log entries for each clip you want to digitize
6. Mark the clips in the logging window you want to digitize
7. Click the **Record** button in the recording window, or the **Record** button in the logging window, to start batch digitization

## DIGITIZING CLIPS

Once you have created a log, the process of digitizing is simple. Select the clips you want to digitize and click the appropriate button.

### To select entries in the log for digitization:

- ☐ In list view, click to the left of the entry to make a check mark.

- ☐ In poster view, click to the right of the poster frame to make a check mark.

**To switch views:**

1. Click the logging window to activate it.
2. Either:



Press the **List View** button.

*or*



Press the **Poster View** button.

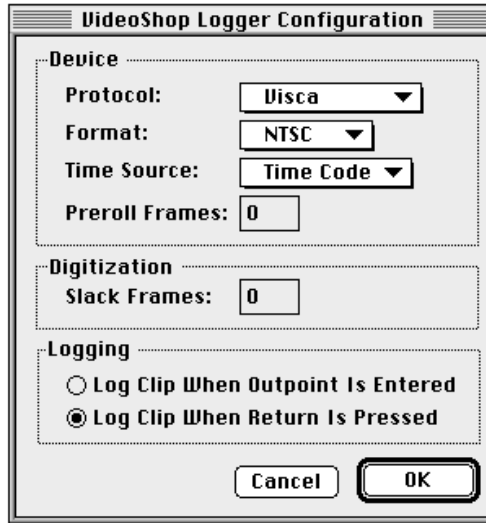
**To deselect entries in the log:**

- ☐ In list view, click the check mark to the left of the entry to deselect.
- ☐ In poster view, click the check mark to the right of the poster frame to deselect.

**To digitize clips in the log:**

1. Click the **Setup** button in the **Device Control** window.

The configuration dialog appears:



The clips are digitized using a **One Pass Digitization** process. One pass digitization yields frame rates equivalent to those you would obtain if you digitized clips individually without the Logger. The tape plays at normal speed during digitization and digitizes at a rate of one minute per minute of footage.

2. Enter the number of slack frames.

**Slack Frames** indicates the number of extra frames to be automatically added to the beginning and end of each clip when it is digitized. If you are not using time code, you should specify at least thirty slack frames.

3. Select **Video Settings** from the **Recording** menu.

The Compression Settings dialog box appears.

4. Turn on **Preview While Recording** to see the clips as they are digitized.
5. Choose the clips you want to digitize by clicking to the left of their names in the **logging window**.

A check mark appears next to each clip which is selected for digi-

tization. To remove the check mark and deselect the clip, single click on the check mark next to a clip.

or

Choose **Select All** (E-A) from the **Edit** menu



6. When you have checked all the clips you want to digitize, activate the recording window and press the **Record** button

or

Press the **Record** button on the logging window.



The Logger plays and digitizes each of the clips in the log. When digitizing a clip, the counter in the device control window stops to ensure the maximum possible performance during digitization.



As clips are digitized, a **Hard Disk** icon replaces the check mark indicating which clips have been digitized.

Digitized clips are stored in a new folder in the **Recording** folder that has the same name as the tape log.

Log: Indy4 log 4				
A-Z IN OUT DUR				
✓	Clip	In	Out	Duration
✓	Fearless Leader PU	04:05:00:07	04:06:17:04	00:01:16:27
✓	Indy /Colone1 1	04:06:19:07	04:07:18:13	00:00:59:06
✓	Indy /Colone1 2	04:07:21:14	04:08:14:15	00:00:53:01
	Indy /Colone1 3	04:08:16:14	04:09:13:00	00:00:56:16
	Indy /Colone1 4	04:09:15:20	04:10:10:23	00:00:55:03
	Facades	04:10:08:23	04:11:19:22	00:01:10:29
	P. Airplane	04:11:21:26	04:14:26:13	00:03:04:17
	Indy /colone1 zoom 1	04:14:36:09	04:17:15:17	00:02:39:08
	Indy /colone1 zoom 2	04:17:18:08	04:19:53:16	00:02:35:08



**NOTE:** If a file already exists in the tape log folder with the same name as one being digitized, a number is appended to the new digitized clip's name.

**To interrupt the batch digitization process:**



- ☐ Click **Stop** in the recording window.

*or*

- ☐ Press E-**period**.

## USING TIME CODE

**Time code** allows a video deck to uniquely identify each frame of video by time stamping the video. This allows the video device to know exactly where it is at all times and greatly improves the accuracy of searching, logging, and batch digitization.

Without time code, the device can only count frames as they are passed by the heads. If it misses few frames (which it often does when switching between modes or during fast forward and rewind), the device has no way of checking its absolute position without rewinding the entire tape, zeroing the counter, and starting over. This action causes errors accumulate. In short, if your device has the capability to use time code, it is best to use it.

## Time Code Formats

Different time code formats store this information in different places on the tape such as in an audio track (LTC), in an off-screen portion of the video signal (VITC, Vertical Interval Time Code) or in separate area (Hi8). The storage location of the time code should not matter much to you or the VideoShop Logger as long as the device you are using can read it. There is one important catch, both Hi8 and LTC time code can be added after the video is shot. However, VITC time code must be added while shooting the video since it is actually part of the video signal. If you plan on using VITC, make sure your camcorder writes time code while you are taping.

## Adding Time Code

The easiest and fastest way to add time code to your tapes is to add it while you are taping. Unfortunately, many consumer camcorders do not write time code. If this is the case, you will need to add time code to your tapes using your video deck in a process called time code dubbing.

 **NOTE:** *If your deck can only read VITC (Vertical Interval Time Code) you must add the time code*



*while taping.*

The documentation for your video devices should contain information on how to add time code to your tapes. To supplement, we have included instructions for some of the more popular devices below:

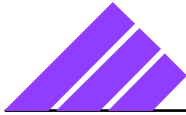
#### **Sony VDeck 1000 or VDeck 500**

1. If the Device Control is active in VideoShop, close it. The device should not be under computer control and the ViSCA light should be off.
2. Insert the tape and press Play (on the remote control or the front panel of the device).
3. Position the tape where you want to begin adding time code, and press Pause.
4. On the VDeck 1000, press **Time Code Dub** on the remote control (you will need to slide the protective cover down to access this button)

*or*

On the VDeck 500, press **Time Code Write** on the front panel.

5. Press Pause to execute time code dubbing – the red REC light illuminates.
6. Press Stop to stop time code dubbing.



# APPENDIX A

## MEMORY MANAGEMENT

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### MEMORY MANAGEMENT

When you install VideoShop, the installer software automatically allocates 4 MB (4000 K bytes) of memory for the program. Depending on the amount of memory on your system and the complexity of the particular operation you want to perform with VideoShop, you may want to increase this amount.

This appendix provides some guidelines for getting the most out of your system memory.

### VIDEOSHOP MEMORY ALLOCATION

When a program is launched, it reserves an area of memory (RAM) for its operation. This is known as the program's memory allocation.

Before changing the memory allocation for VideoShop, check how much memory is available on your system—choose **About this Macintosh** from the **Apple** menu. Note the number labeled **Largest Unused Block**—the Largest Unused Block represents the amount of free memory available on your system.

To enhance performance, we recommend that you allocate at least 4000 K to VideoShop. If the Largest Unused Block is less than 3500 K, you may use the minimum memory allocation, 2500 K. Remember, QuickTime uses free memory while playing back movies, so deduct 600-750 K of free (temporary) memory to QuickTime when making memory allocation decisions. For example, if your system has 5 MB of RAM and the Largest Unused Block is 3750 K, set the VideoShop partition to 300-3150 K to accommodate QuickTime.

### Memory Allocation Guidelines

Total Memory	VideoShop Allocation
--------------	----------------------

Less than 4 MB	Insufficient memory
----------------	---------------------

Total Memory	VideoShop Allocation
--------------	----------------------

4 MB	2.5 MB
------	--------

5 MB	2.5 MB
------	--------

<del>8 MB</del>	<del>3-4 MB</del>
-----------------	-------------------

More than 8 MB	8 MB or more
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**To change VideoShop memory allocation:**

1. Select the VideoShop icon.



Strata VideoShop® 3.0

2. Choose **Get Info** from the **File** menu.  
A dialog box is displayed.



3. Enter a new value for the memory allocation in the **Current Size** box in the bottom right of the dialog box.

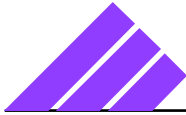
## WORKING UNDER LOW MEMORY CONDITIONS

Although the preferred memory allocation for VideoShop is 4 MB, you can get by with allocating as little as 2.5 MB, if you make some other adjustments. The following guidelines can help you maximize VideoShop 3.0's performance when operating under low memory conditions.

**To save memory space and prevent degradation of system performance:**

- Turn off File Sharing from **Sharing Setup** in the Control Panels folder.
- Turn off electronic mail; consult the documentation for your electronic mail program.
- Turn off as many system extensions (INITs) as possible. To turn off a system extensions, use an extensions management utility or drag the extension out of your Extensions folder or System folder and restart the Macintosh.

- Avoid running VideoShop 3.0 while other applications are running.
- Make sure that virtual memory is turned off. Virtual memory, a capability of System 7, tricks your computer into believing it has more memory than the actual on-board memory (RAM). However, QuickTime does not always function properly when significant amounts of virtual memory are used. To turn virtual memory off, double-click **Memory** in your Control Panels folder and change the setting. After making these adjustments, restart your Macintosh.
- Leave some temporary memory available. When determining how large the VideoShop partition should be, don't use all of the possible free memory.
- While running VideoShop:
  - Keep the number of windows open at a time to a minimum.
  - Keep the recording window closed unless it is in use.
  - Avoid adding unnecessary edits or tracks in an open sequencer, as they use up memory.
  - Close the info palette when it's not needed, especially during playback.
  - Choose effects from the Transition button pop-up menu and the Filter button pop-up menu rather than from the effects dialog boxes.



## APPENDIX B

### FILE FORMATS

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#### FILE FORMATS

You can automatically convert and incorporate files of various file formats into your VideoShop movie. VideoShop supports PICT, PhotoCD, PICS graphic, Text files, and AIFF, MIDI, and SND audio formats. You can bring files with these formats directly into your sequencer as simply as you drag and drop video clips—you don't have to import them specially.

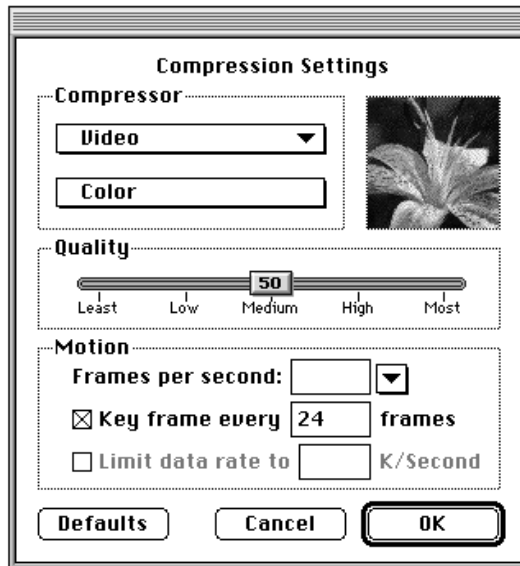
#### RECOGNIZING FILE TYPES BY THEIR ICONS

File formats that VideoShop recognizes are visible in your desktop windows; files of unrecognized formats are not visible.



#### USING THE COMPRESSION SETTINGS

When you move a PICT or PICS file from a desktop window into a video track of your sequencer, VideoShop automatically displays the compression settings window. Compression reduces the storage requirements and improves the playback of your movie.

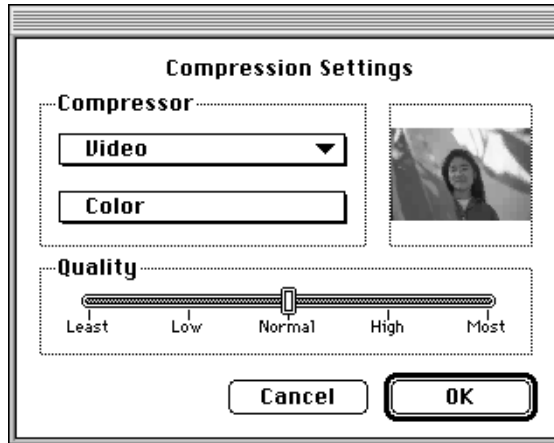


By default, VideoShop selects what it deems to be the best compressor for your image. You can, of course, modify the compressor and compression settings. You need to consider the different file formats when you save, mixdown, or compress your movie. For more information on compression settings, see Chapter 9.

## PHOTOC D FILES

VideoShop recognizes PhotoCD files and lets you use them in your movie like any other clip.

When you move a PhotoCD icon from a desktop window to the sequencer, a compression settings window is displayed, with a PICT or PICS file. PICT and PhotoCD files, when dragged and dropped into the sequencer, default to a duration of one second.

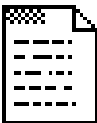


## TEXT FILES

You can add Text files from word processing programs to a title track of your sequencer. Text files are files which do not include format or style. Save the file as Text in your word processing program. (Choose **Save As** from the **File** menu and choose **Text** or **Text only**. See the documentation for your word processing program for instructions.)

You manipulate Text files just as you edit titles you created in VideoShop, in the title window. Open the Text file in the word processing application and copy the contents onto the clipboard. Then simply paste the contents into the titling window of VideoShop. Text files can also be dragged into a title track of the sequencer, at a default duration of two seconds. Text files default to white text on a black background.

### To incorporate and scroll a Text file:



1. Open the Text file.
2. Select the portions of text to include in your movie.
3. Copy the portion to the clipboard by choosing **Copy** from the **Edit**



menu.

4. Launch VideoShop again.
5. Click the Text tool.
6. Choose scrolling options and direction from the **Scroll** and **Direction** pop-up menus.
7. Press E-V to paste the clipboard media into the titling window.
8. Choose **Insert Into Sequencer** from the **Title** menu, or click the Insert Text button from the titling window toolbar.

## AUDIO FILES

VideoShop recognizes SND and AIFF audio files. You can use audio files in these formats without importing them.

### To incorporate an AIFF or SND file in your movie:

- ☐ Drag and drop the file into an audio track of your sequencer.

Double-click an AIFF file to open a clip window. You can trim the AIFF file with the In and Out handles just like a video clip. When you want to drop it into your movie, hold down the **Shift** key to change the Double Arrow Hand tool to the Hand tool to grab and drag and drop the file into your sequencer.

## AUDIOCD FILES

VideoShop recognizes AudioCD files (standalone CDs used for music) and lets you use them in your movie like any other sound clip. Using AudioCDs brings better sound fidelity to your movie. There is less loss of data, as you are making a direct digital copy from the disk, without redigitizing.

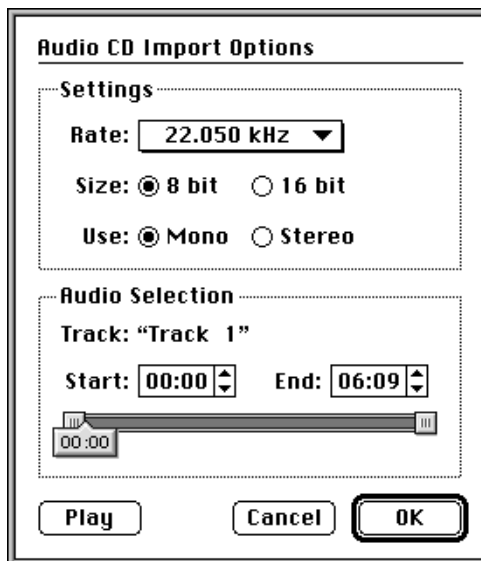
### To drop AudioCD tracks into a sequencer:

1. Click the AudioCD icon in the volumes window to open a desktop window containing the AudioCD tracks.



2. Drag the track from an AudioCD into an audio track of the sequencer.

An AudioCD Import Options dialog box is displayed.



3. Set the In and Out points for the selection of audio you want to include.
4. Establish the settings. (See Chapter 9 for a discussion of audio settings.)
5. Click **OK**, or press **Return** to begin importing the AudioCD to

your movie.

## EDITING FRAMES IN GRAPHICS APPLICATIONS

You can easily transfer a selection of frames from VideoShop to a graphics application, such as Fractal Design Painter® to use that program's painting, erasing, and duplicating tools. Then, when you've finished editing each frame, you can bring the entire selection back into VideoShop and paste it in its original location.

### To edit frames with a graphics application:

1. In the Finder, launch the graphics application and open a new document.



**TIP:** Make sure that the VideoShop plug-in module for Fractal Design Painter (or other applications) is installed. See Chapter 7 for details.

2. In the sequencer, in time view, select the range of frames you want to edit in the graphics application.



**TIP:** Click the sequencer's time scale selector closer to the right for an expanded view of the frames. You can more accurately select the frames you want in an expanded view.

3. Choose **Copy** from the **Edit** menu to place a copy of the frames in the clipboard. Do not remove the selection marquee from the sequencer.
4. Click the new document of the graphics application to make it active.
5. Use the graphic application's import commands to paste the selection into the application as a QuickTime movie. (See the documentation for the graphics application for instructions.)
6. Use the application's tools to edit the frames.
7. After editing, select the frames and copy them to the clipboard.
8. Switch back to VideoShop.

If you have not made changes in VideoShop, the selection marquee should still be visible around the original frames. You can paste the edited selection directly into the marquee to replace the

original frames.

9. Choose **Paste** from the **Edit** menu.

The edited frames fit exactly into the same location on the track.

## IMPORTING STILL IMAGES AS VIDEO CLIPS

A still image, such as a graph, photograph, or drawing created in another application makes an interesting addition to a movie. VideoShop lets you import graphic images as long as they are in the PICT format. To save a graphic as a PICT file, see the documentation for the graphics program for instructions.

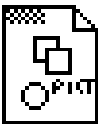
You can save PICT files in or move them to a desktop window. From the folder, drop them directly into a sequencer. VideoShop automatically converts the image to a video clip of one second duration.

### To bring a still image into the sequencer:

1. Be sure the image is in PICT format.

If it is not, most graphics applications allow you to save the image in PICT format with the **Save As** command. See the documentation for your graphics application.

2. Move the image into a folder.
3. Switch to VideoShop.
4. Locate the image. (Use the **Find** command from the Macintosh **File** menu if you can't locate it.)

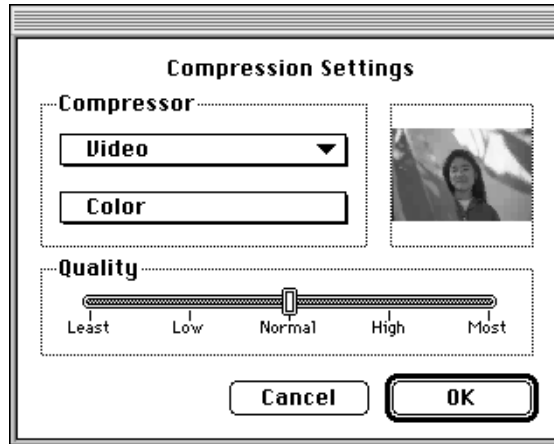


In a folder window, the image has a characteristic icon used by VideoShop to identify PICT files.

5. Drag and drop the image file into the sequencer.

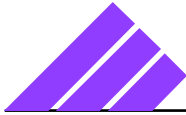
VideoShop automatically converts the file into a QuickTime movie of one second duration. VideoShop displays the Compression Settings dialog box for PICT files. In the dialog box, set the movie's

quality and frame rate. (See Chapter 9 for more information.)



6. Choose the compressor, color depth, and image quality, and a duration value in seconds. (See Chapter 9 if you are unsure about which choices to make.)
7. Click **OK** to accept your compression settings.

The image becomes a QuickTime video clip in the sequencer.



## APPENDIX C

### USING CLIP CATALOGS

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#### FINDING AND ORGANIZING CLIPS WITH CATALOGS

VideoShop gives you the ability to integrate with database applications. When editing projects, having access to keyword searches and archiving is very powerful. The Strata Cataloger is a sample database developed in HyperCard and included with VideoShop. As it is *only a sample*, we do not recommend that you use it to archive large libraries.

Each clip in the catalog has a card, or entry, in which you can enter information about the clip; there are fields for description, copyright information, keywords, file type, duration of the clip, dates created and modified, as well as a Micon or still image representing the clip. After an entry has been made for your clips, you can use the catalog for organization and retrieval. This appendix covers:

- Opening the catalog
- Entering clips in the Strata Cataloger
- Navigating in the Strata Cataloger
- Displaying information about a selected clip
- Finding a clip with the Strata Cataloger
- Printing Strata Cataloger entries
- Using other cataloging programs
- Choosing a catalog document
- Creating a new catalog stack

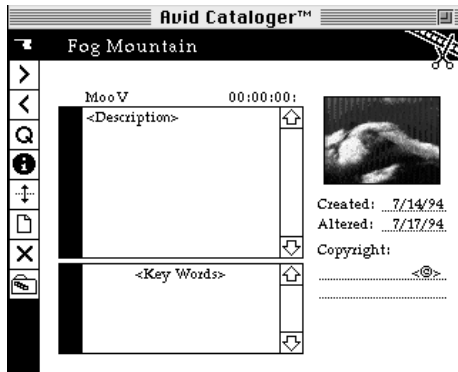
#### OPENING THE CATALOG

The catalog must reside in the same folder as the VideoShop application.

### To open the Strata Cataloger:

1. Select a clip in a desktop window.
2. Choose **Get Catalog Info** from the **File** menu.

VideoShop launches the application and opens your designated Strata Cataloger card.



You can automatically forward clip searches and selections directly to VideoShop—in folders or dropped into the current sequencer.

You can customize performance of the catalog in the **Catalog Preferences** dialog box, accessed from the **File** menu.

## ENTERING CLIPS IN THE STRATA CATALOGER

Once you open your Strata Cataloger stack, you can create cards for each of your video and audio clips. (You can also create cards for graphics, images, and titles.) Each card is called an entry, and has a variety of information fields. There is a space for a Micon of the clip, which is added automatically when you create an entry.

It is important to make an entry for each of the clips you intend to use and store. Once you have made an entry for a clip, add keywords to aid in searching for the clip and add notes to provide background information.

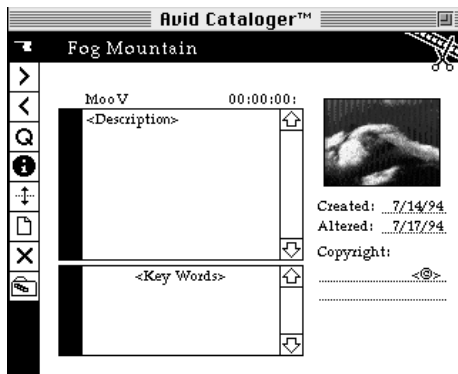
**To enter a clip in the Strata Cataloger:**

1. Select the clip(s) in a desktop window.
2. Choose **Update Catalog Info** from the **File** menu.

A dialog box opens to ask if you would like to create a new entry.



A new card is created for each selected clip. Each card automatically takes the title of the clip as its name. A Micon for video clips or an audio icon for audio clips is entered automatically in the card's Micon field.



As with clips in a desktop window, clicking the Micon displays a clip window where you can view the entire clip. Clicking an audio clip plays that clip.

*or*

Instead of selecting a clip and choosing **Update Selected Clips**, you may choose **Update Catalog Info** without having any clips selected. This creates a new card for the last 20 clips created since



you last updated the Strata Cataloger.

3. Enter your keywords and descriptive text into the various fields.  
The clip is now a part of the Strata Cataloger.

*or*

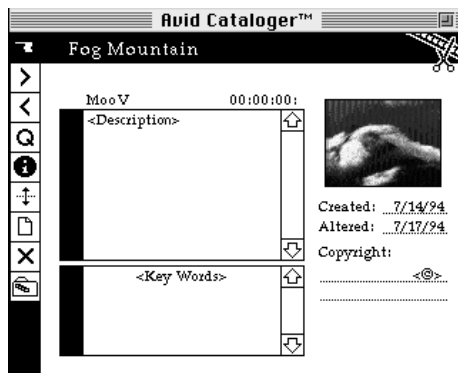
1. Select a clip in a desktop window.
2. Choose **Get Catalog Info** from the **File** menu, or press E-I.

A dialog box appears, stating the clip was not found, and asks if you want to create a new entry.



3. Click **OK** or press **Return**.

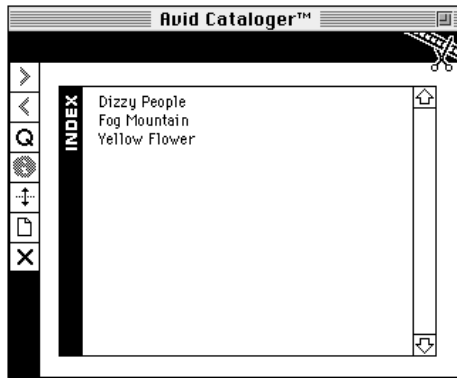
A new card is created in the index. You can now fill in the description fields.



## NAVIGATING IN THE STRATA CATALOGER



When you open the Strata Cataloger, you can search for and display other entries. The cards are organized in the catalog alphabetically, by clip name. You can see the list of all entries in the Strata Cataloger by clicking the **Index** button.



Index Card

Each card in the Strata Cataloger has a toolstrip along the left that helps you navigate through the catalog and search for other clips and entries. Since the catalog is a HyperCard stack, it relies on familiar HyperCard conventions.



#### **Go To Next**

**Go To Next** displays the next card in the Strata Cataloger index.



#### **Go To Previous**

**Go To Previous** displays the previous card in the Strata Cataloger index.



#### **Query**

**Query** opens a dialog box that helps you search for a clip entry. You may enter a keyword or phrase.



#### **Index**

**Index** opens the index card, which contains the alphabetical list of all catalog entries.



### Expand/Collapse

**Expand/Collapse** displays the catalog cards in full or half size, to adjust the view to the amount of screen space you have.



### Print

**Print** displays a dialog box in which you can identify specific cards for printing on a hardcopy printer. To mark a card for printing, click on the flag in the upper left corner. (A raised flag indicates a “marked” card.) It can take a long time to print a large stack.



### Delete

**Delete** removes the currently displayed catalog entry, but does not delete the clip from your hard disk. To delete *all* entries in the Strata Cataloger, display the index card, then click the Delete tool.



### Open in VideoShop

**Open in VideoShop** opens the clip in VideoShop. You can opt to open the clip in the desktop window, open the clip window, or open the found clip in an open sequencer. Determine how you want the clip to open in the Catalog Preferences dialog box.

Next Match

### Next Match

**Next Match** appears in the lower right corner of a card when a query finds more than one clip entry that matches the search string you typed.

Enter descriptive words to find a clip in the Query dialog box.

## DISPLAYING INFORMATION ABOUT A SELECTED CLIP

While you are working in VideoShop, with desktop windows open and Micons displayed, you will often find it useful to obtain information about a clip, such as the last time it was modified. If you include this information with the clip entry in the Strata Cataloger, you can quickly retrieve this information.

**To display clip information:**

1. Select a clip in a desktop window.
2. Choose **Get Catalog Info** from the **File** menu.

If an entry exists for the selected clip, the Strata Cataloger displays the clip's card. If no entry is found, you are asked to create an entry for the clip.

## **FINDING A CLIP WITH THE STRATA CATALOGER**

The Strata Cataloger can find a clip entry just as the **Find** command can locate a document. After you find the clip entry, you can display its desktop window and drag and drop the clip into a sequencer. You can search for clips by name, keyword, text from descriptive notes, date, size, and file type.

**To find a clip with the Strata Cataloger:**

1. Choose **Get Catalog Info** from the **File** menu.

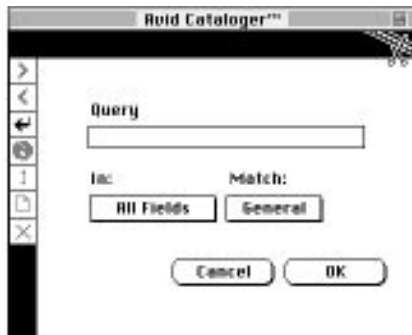
The Strata Cataloger's index card is displayed.

2. If you know the name of the clip, select the name to display the card.

*or*

If you do not know the name of the clip, select the Query tool. This displays the Query dialog box with search options.

3. In the Query dialog box, enter the keywords or descriptive text for finding the clip.



You can restrict the search to a particular card field, and you can specify a partial, or exact match in wording.

4. Click **OK**, or press **Return**.

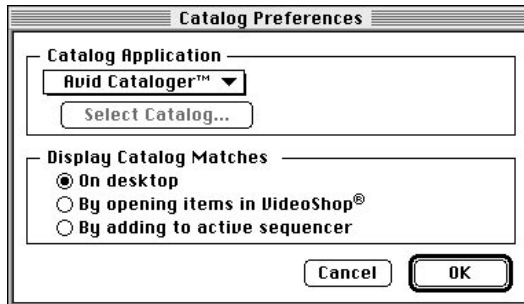
The Strata Cataloger locates the first entry that matches your query. If more than one entry matches your query, the Next Match button will be darkened. Click the Next Match button to display the next entry.



5. To display the desktop window containing the clip, click the Open in VideoShop button on the Strata Cataloger's toolbar.

VideoShop opens the desktop window containing the found clip, with the clip selected.

You can have entries found in the Strata Cataloger automatically drop into the active sequencer. The **Preferences** command on the **File** menu, in the **Catalog** submenu, contains an option that performs this drop for you whenever you find an entry. The clip is dropped into the beginning of the active sequencer.



In addition, you can drag the preview of a clip in the Strata Cataloger directly to an active sequencer without leaving the cataloger.

**To clear all entries in the Strata Cataloger:**

1. Display the index card.
2. Click the Delete tool.

## PRINTING STRATA CATALOGER ENTRIES

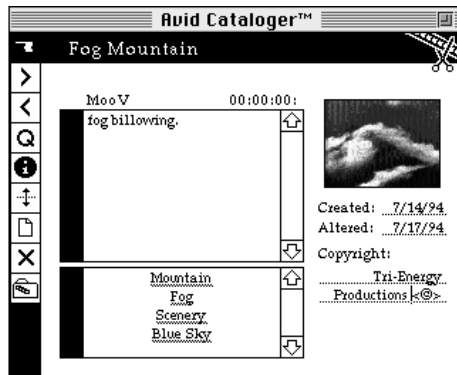
You can print individual card entries or entire Strata Catalogers. A hardcopy version of the catalog is useful for annotating cards or for seeing several card entries simultaneously. You must mark clip entries for printing.

### To print Strata Cataloger entries:

Before you begin, display the Strata Cataloger by choosing the **Get Catalog Info** command from the **File** menu.

1. Display the first clip entry you want to print.
2. Click on the card's marker flag (upper right corner) to raise it.

Mark any other cards for printing in the same way.





3. Click the **Print** button on any card's toolstrip.

The **Print** dialog box displays several print options.



4. Select your print options.
5. Click **Print**, or press **Return** to print the marked card(s).

Before printing begins, the Strata Cataloger offers you the chance to unmark the flagged entries when printing is completed. It is a good idea to unflag your entries otherwise you will not know which entries are flagged for printing the next time you print.

## USING OTHER CATALOGING PROGRAMS

HyperCard and Aldus Fetch can also be used as catalog programs. Working with these other programs is very similar to working with the Strata Cataloger, with one difference. With these other programs, you can maintain multiple catalogs. For example, you can construct a catalog for each of your projects in progress.

## CHOOSING A CATALOG DOCUMENT

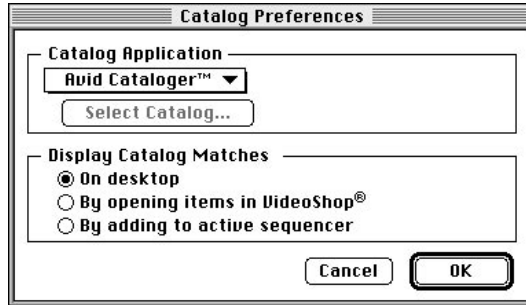
VideoShop can only use one catalog at a time, although you may maintain any number of catalogs in various programs (such as HyperCard and Aldus Fetch).

### To choose a catalog:

1. Choose **Catalog Preferences** from the **File** menu.

A dialog box is displayed, with a set of program options and

options for using the catalog.



2. Choose a catalog application from the **Catalog Application** menu.  
If you select an application other than the Strata Cataloer, click **Select Catalog**.
3. Select the name of the catalog stack you want to use.
4. Click **Open** or double-click the stack name.

## CREATING A NEW CATALOG STACK

You can store any number of catalog stacks in the VideoShop application folder. To create a new catalog, you need a blank stack to use as a template. You can obtain blank copies of catalog stacks from the VideoShop Installer disk.

If, for some reason you cannot locate a catalog stack or the original Installer disk, you can create a blank stack by making a duplicate of an older one and clearing all its entries.

### To create a new catalog stack:

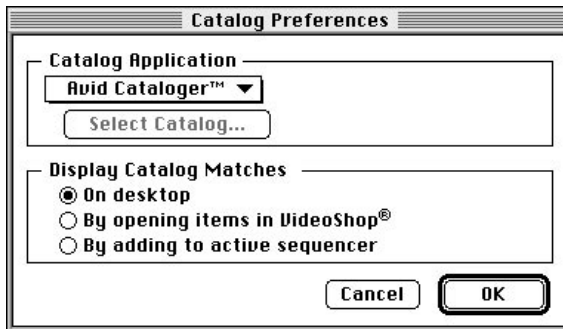
1. In the Macintosh Finder, select the catalog stack.
2. Make a duplicate of the stack by choosing **Duplicate** from the **File** menu.
3. Rename the duplicate copy of the stack.
4. Switch back to VideoShop (or launch the application).
5. Choose **Catalog Preferences** from the **Preferences** submenu of the





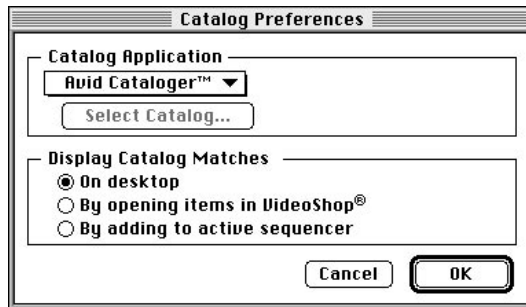
**File** menu.

A dialog box with options for setting catalog parameters appears.



6. From the **Catalog Application** menu, choose a catalog other than the Strata Cataloger.

**Select Catalog** becomes active.



7. Click **Select Catalog**.

The standard Macintosh Open File dialog box is displayed.

8. Select the name of the new catalog stack.

9. Click **Open** or double-click the stack name.

This redisplay the Catalog Preferences dialog box.

10. Click **OK** to accept your changes and close the Catalog Preferences dialog box.

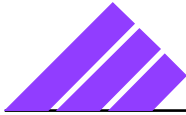
11. Choose **Get Catalog Info** from the **File** menu.

The application is launched (if it was not already open) and dis-

plays the initial entry in your catalog.

This gives you a new catalog stack for entering new entries.





## **APPENDIX D**

### ***TROUBLESHOOTING GUIDE***

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#### **TROUBLESHOOTING GUIDE**

The following problems are frequently encountered and are easily solved. Consult this chapter if you are having difficulties.

If your problem persists after double-checking everything on this list, please contact the Avid Technical Support Staff at (508) 640-3070. Before you call, see “When You Contact Technical Support” in Chapter 1.

#### **VDIG (VIDEO DIGITIZING COMPONENT)**

- Make certain the software associated with your digitizing hardware is correctly installed; reference the manufacturer instructions.
- Confirm that you have an up-to-date version of the VDIG (Video Digitizing Component).

#### **ANTI-VIRUS SOFTWARE**

- Disable your virus detection software before installing VideoShop.
- You may scan the disks before disabling the anti-virus software.

#### **QUICKTIME**

- Make sure you have installed a supported version of QuickTime—use the version included with VideoShop.

#### **MONITORS**

- Check the monitor settings from the Control Panel folder. Make sure the correct monitor is attached with the correct settings (color, depth).

#### **INITS**

- Disable as many INITs as possible to avoid any software conflicts and to conserve memory.

## CONNECTIONS

- Check all cables connected to the digitizing board and to the computer. Loose cables may cause unreliable results in your video and audio.

## HARD DISK

- Defragment your hard drive to ensure maximum performance. There are many software utility programs you can use to do this.

## MEMORY

- Turn off virtual memory and reduce disk cache size. VideoShop and QuickTime manage available memory.
- Confirm that 32-bit addressing is on to ensure you are using all installed memory.

## LOGGER

*Symptom: No video appears when you press Play.*

### Possible solutions:

1. Make sure the Recording window is open. The video plays in the recording window not in the Canvas window.
2. Make sure that there is a cable running from the **Video Out** on your device to the **Video In** on your digitizing card.
3. Make sure that the **Source** under Video Setting on the Recording menu is set to the appropriate input (S-Video or Composite).
4. Close the Device Control and Logging windows and press play on the video device. If you still do not see video, refer to the *VideoShop User's Guide* and set up your system according to the instructions in the "Capturing Audio and Video" section . If you see video, the problem is with your device control setup. Refer to "The device control panel is dimmed and won't respond" discussion below.

*Symptom: The device control panel is dimmed and will not respond*

**Possible solutions:**

1. Make sure there is a tape in the deck and video device is turned on.
2. Press the **Setup** button on the Device Control window toolbar.
3. The **VideoShop Logger Configuration** dialog box appears.
4. Check that the correct device is selected.

**For ViSCA Users:**

1. Make sure there is a serial cable running from the **Modem Port** of your Macintosh to the **ViSCA In** (not the **ViSCA Out**) port of your VDeck or VBox.
2. If you have a VBox:
  - a. Make sure the VBox is plugged in and turned on. The power light on the front of the VBox should be illuminated.
  - b. Make sure the Control-L cable runs from the Control-L port on the VBox to the Control-L port of the video device.
3. Close the Device Control window and choose **ViSCA** from the **Control Panels** option on the **Apple** menu. If ViSCA is not present, quit VideoShop and reinstall the ViSCA Control Panel as detailed in Chapter 12.
4. If ViSCA is present, choose **No ViSCA** from the pop-up menu. Then choose, **Modem Port** (or **Printer Port** if your device is connected to the printer port). ViSCA should report that the “Number of devices found = 1.” If it does not, the problem is with the serial cable connection or the device itself.





*Symptom: Frames are missing at the beginning or end of digitized footage*

**Possible Solution:**

1. This is more likely to occur when you are using the counter rather than the time code as your time source. If possible, dub time code onto your tape and use time code (don't forget to change the time source to time code in the VideoShop Logger Configuration window).
2. If you are using the counter as the time source, you should specify a liberal number of slack frames (at least 30) in the VideoShop Logger Configuration window. You should also **Reset** the device immediately before digitization and periodically while you are logging footage. (See "Resetting the Counter" in Chapter 12).

*Symptom: The first few frames of video are garbled*

**Possible Solution:**

1. Increase the number of **Preroll** frames in the VideoShop Logger Configuration window.

This problem usually occurs because the picture has not yet become stable after the device searches for the footage.

2. If this does not help, increase the number of slack frames in the VideoShop Logger Configuration dialog and trim the unwanted

footage in VideoShop.

*Symptom: The keyboard shortcuts for controlling the video device do not work*

**Possible Solution:**

- ☐ Activate the Device Control window or the Recording window. Either the Device Control window or the Recording window must be active for the keyboard shortcuts to work.

**Setup for using ViSCA deck control and the Quadra 840 AV**

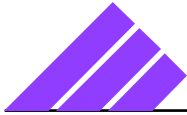
There are some peculiarities using ViSCA deck control with the Quadra 840 AV due to the Macintosh's Geoport hardware on the modem port.

**To compensate:**

- Plug the ViSCA cable into the Printer Port.
- Disable AppleTalk.
- Switch to **Printer** in the ViSCA Control Panel







## APPENDIX E

### *TIPS AND TECHNIQUES*

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#### TIPS AND TECHNIQUES

The following techniques and tricks of the trade may help you create your movie with the most professional and polished results from VideoShop.

This chapter covers the following topics:

- Shooting video
- Lighting for video
- Editing techniques
- Synchronizing
- Rotoscoping
- Blue screen
- Alpha Map
- Video in a title
- Mesh warp
- Morph
- Exporting backgrounds
- Transcript tracks
- Delayed video wall

## SHOOTING VIDEO

Close-ups and medium shots are best for video and digitized video. Both extreme close-ups and long shots are best used in small doses, as fine detail and subtle color differences are often blurred on television and computer screens.

Also, it is important to note that the visible area on a computer or television screen differs from the visible area on videotape and in a camcorder viewfinder. Be sure that the bulk of the action takes place within the **Safe Action Area**—approximately the inner 80% of the monitor—the NTSC standard.

## LIGHTING FOR VIDEO

Be sure to consider the difference in resolution between film and video when lighting for video and digitized video. The brightest and the darkest areas tend to wash out; what looks like strong contrast with the eye often looks muddy on video. Be advised, strongly backlit scenes tend to become silhouettes on video. For video, low contrast lighting is your best bet.

## EDITING TECHNIQUES

The following are advanced digital effects and techniques you can use in VideoShop. Each procedure is spelled out to help you achieve professional quality results. The techniques described assume a familiarity with the basics of VideoShop.

## SYNCHRONIZING



The following are more advanced techniques for precision cutting to music and for adding cut-away shots to pre-synchronized video and audio. Use these techniques after you have mastered basic synchronization. (For information on synchronizing, see Chapter 4.)

### To cut to the beat:

First, make sure you are working in a sequencer in time view, with video and audio in the tracks.



1. Use the scrub in the canvas window to move slowly back and forth until you hear and see the precise point for the cut in the can-

vas window.

When you release the scrub, a playout point marks the point for the cut.

2. Press **Enter** to set an insertion point and to automatically scroll to that point in the sequencer.
3. Use the time selector or the Magnify tool to zoom in at the playout point.
4. Trim the clip back or slide to match up with the insertion point.
5. Move subsequent clips back to meet the trimmed clip by grabbing the orange slide bar with the Hand tool.



*or*

Use the In and Out flags to trim to that point.

*or*

Double-click the Cut tool to cut at the playout point.

*or*

Press **I** and **O** in the sequencer while listening to the audio to set In and Out points, respectively, at the appropriate audio cue.

6. Press **Return** to play from the In point to the Out point before making edits.



**TIP:** *For improved playout performance, store audio and video material on separate hard drives while editing.*

## ROTOSCOPING

Rotoscoping is a technique for painting or drawing on individual frames of a movie. Portions of clips can be exported to painting applications (such as Fractal Design Painter®) for customized effects and detailing. When these clips are read into a painting application, they appear as **filmstrips**.

### To rotoscope:

You must have the appropriate painting application installed on your computer to proceed.

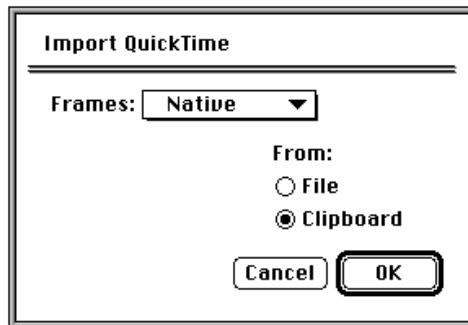
Make sure the VideoShop plug-in for the painting application is installed in the painting application's folder.

1. In a video track of a sequencer in time view, select a portion of a clip.
2. Choose **Copy** from the **Edit** menu (or press E-C).
3. Choose your painting application from the **Open Other** submenu of the **File** menu.

Your selected program launches.

4. In the painting application, choose **Acquire** from the **File** menu.

An Import QuickTime dialog box opens. Select to import frames from the clipboard.

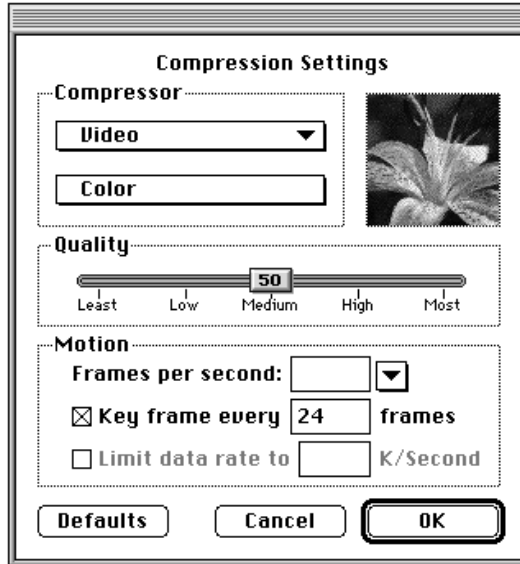


A filmstrip of your frames opens in the painting application. Use the features of the painting application to edit the individual frames as you desire.

5. When you are done, choose **Export** from the **File** menu.

The Compression Settings dialog box appears (for more information on these settings, please see Chapter 9) in which you set com-

pression parameters, and click **OK**.



A dialog box appears in which you can name the filmstrip and determine to what folder and drive it should be saved.

6. Return to VideoShop.
7. Choose **Paste** from the **Edit** menu (or press E-V) to paste the roto-scoped filmstrip from the clipboard to a selection in the sequencer.

The rotoscoped portion appears as a separate clip in the sequencer, with a dog-eared corner.

## BLUE SCREEN

You use a blue screen in shooting video when you plan to chroma/ luma key one video over another. Essentially, you shoot a subject in front of a blue background and “key” out the blue with a chroma key.

Chroma key is a multi-track filter effect in which a specific color on one track is made transparent to expose the video track beneath it. Chroma key works on one color only, everywhere it appears in the frame. The color blue is used because of its uniform color intensity and because there is no blue in skin tones, so there is very little chance of turning your subject’s face transparent. Blue screen effects are often

seen in the nightly news, whenever a map appears behind the weatherperson.

## **Shooting Against a Blue Screen**

When using a blue screen, be sure to use adequate lighting. There should be only a slight difference in intensities between the key light and the fill light. In film, key light is the primary source of light; fill light is light that rounds out the scene and balances the amount of bright spots and shadows.

While skin tones are not blue, shadows are. Medium tone shadows contain blue tones, and can become transparent when chroma keyed.

It is also a good idea to have your subject wear something other than white. Colors reflect on white, which may cause portions of a white shirt or object to disappear when chroma keyed.

## **Chroma Keying with a Blue Screen**

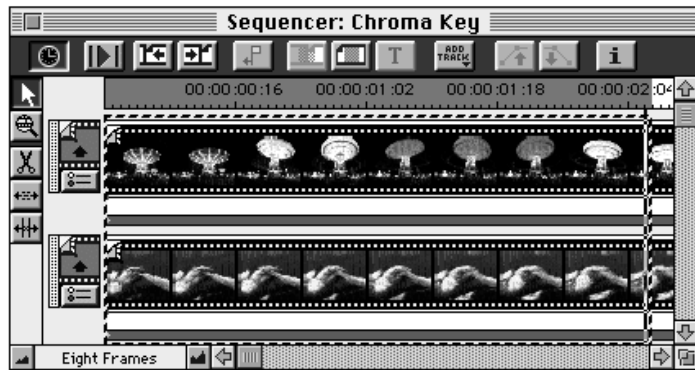
Once your subject has been shot in front of the uniform color of a blue screen (and your video has been digitized), you are ready to apply a chroma key.

**To apply a chroma key filter:**

1. Add an empty track to your sequencer and insert the foreground (blue screen video) of the chroma key filter. (Refer to Chapter 5.)
2. Add another empty track and insert the background of the chroma key filter.
3. Position the track containing the foreground media directly above

the track containing the background. (Refer to Chapter 5.)

4. Select a region over both tracks to which to apply the effect.

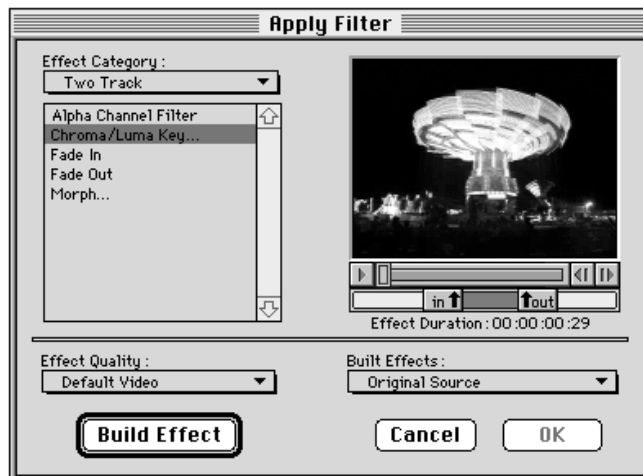


5. Click the Filter button.

or

Choose **Apply Filter** from the **Sequence** menu, then **Apply Filter** from the submenu.

An Apply Filter dialog box is displayed. Only filters appropriate for the number of tracks selected appear. Since you have selected a region over two tracks, only two-track filters are available.

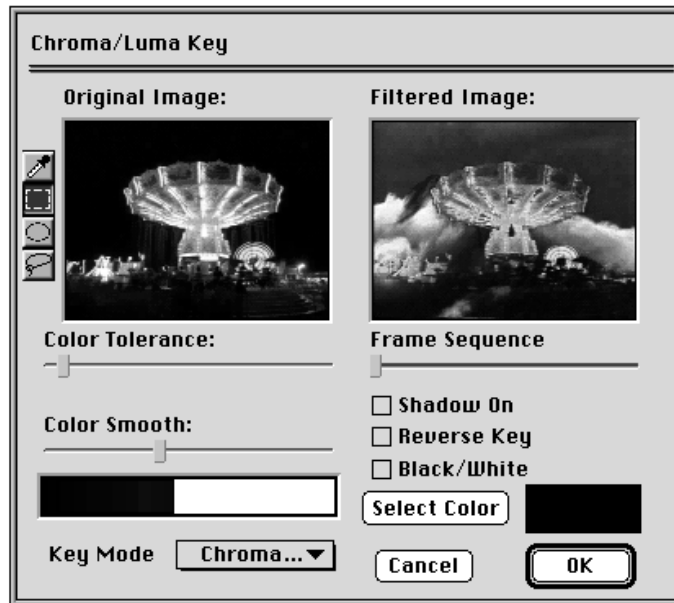


6. Choose **Chroma Key**, then click **Apply**.





7. Use the Eye Dropper tool to select a color to chroma key. Adjust color tolerance and color smoothing as necessary.



8. Build and apply the effect to your movie sequence in the same way that you build and apply single-track filters.

When the effect is created, the text and video are blended together. The resulting effect appears in the upper video track.

## ALPHA MAP

VideoShop currently supports a three-track Alpha Map filter. An Alpha Map uses alpha channels to give a very high-quality multi-track blending effect. This filter is useful for creating complex transparency effects in your movies. The Alpha Map filter takes the middle track and uses it to create a dynamic alpha channel. The third track is revealed through the first by using the second to set the alpha values.

### To apply an Alpha Map filter:

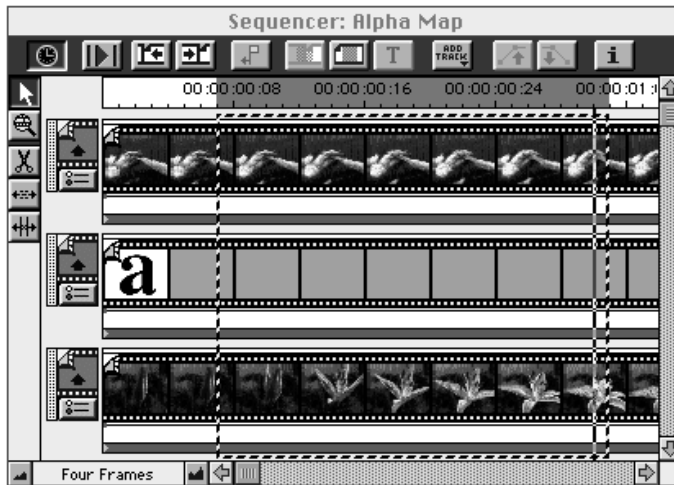
1. Add two video tracks to your movie and insert media (video or

text).

2. Add either a video or text track to your movie.

The media that you place in this track should be in black and white, or in shades of gray. This is used as the Alpha Map.

3. Position the Alpha Map track containing black and white media between the two other tracks. (Refer to Chapter 5.)
4. Select a region over the three tracks. The Alpha Map filter is applied over this region.



5. Click the Filter button.

or

Choose **Apply Filter** from the **Sequence** menu, then **Apply Filter** from the submenu.

An Apply Filter dialog box is displayed. Only filters appropriate for the number of tracks selected appear. Since you have selected a region over three tracks, only three-track filters are available.

6. Choose **Alpha Map**, then click **Apply**.

An Alpha Map filter is applied. Media on the top video track is substituted into the black regions of the middle track, and media on the lower video track is substituted into the white regions of

the middle track.



When the filter is created, the text and video are blended together.

## VIDEO IN A TITLE

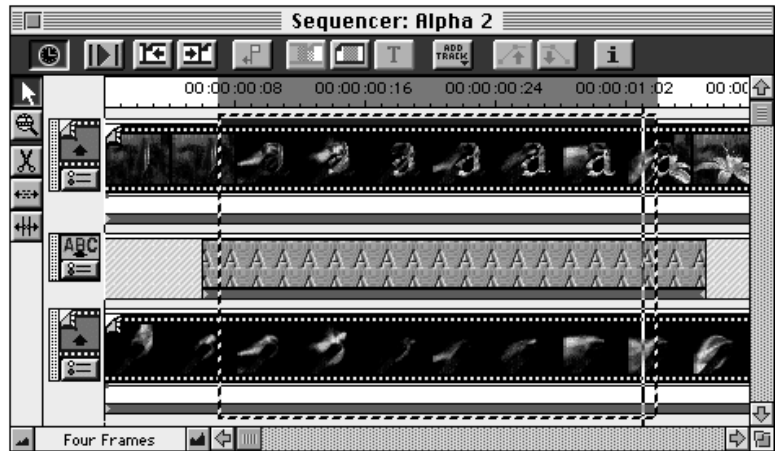
You can create the effect of video in a moving title by combining scrolling text and an Alpha Map filter.

### To key video through a moving title:

1. Add two video tracks and a title track.
2. Position the title track between the two video tracks.
3. Insert a title with scrolling text to the title track, or use the path editor to move a title. Refer to Chapter 8 for titles, Chapter 6 for motion control.
4. Select across all three tracks and apply the Alpha Map filter.

The video from the bottom track appears through the top track in

the shape of the title.



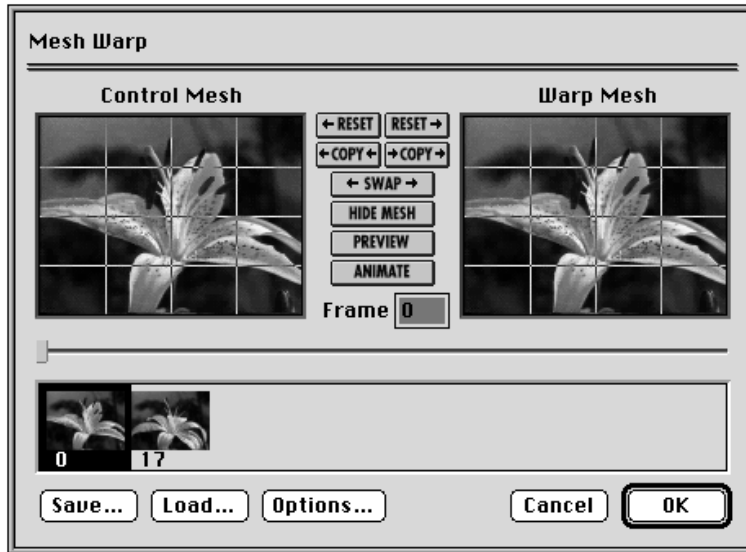
## MESH WARP

Mesh warp is a one-track filter that allows you to warp an image (stretch, shrink, twist, etc.) based on a modifiable mesh. You can think of the image as a sheet of rubber.

**To apply a mesh warp:**

1. Select an area across one track in the sequencer.
2. Choose **Mesh Warp** from the **Apply Filter** menu on the **Sequence** menu.

This displays a window.



## Mesh Warp Window Tools

The window has three main parts: the **control mesh**, the **warp mesh**, and the **key frames display**. Each point in the control mesh maps to a point in the warp mesh. You can think of these meshes as before (control mesh) and after (warp mesh). When you click a point in either mesh (an intersection of lines), the corresponding point highlights in the other mesh.

Click key points of the image in the control mesh to define the points you want to stretch. Then move the corresponding point in the warp mesh to the new destination. The filter stretches the point from its origin in the control mesh to its destination in the warp mesh.

Apply the control and warp mesh to each key frame. The filter automatically considers the first and last frames as key frames. Add key frames by using the slider to go to a frame and then click either mesh. When you animate or build, the filter automatically interpolates between the key frames to make the image warp over time.

**Control Mesh.** Uses the control mesh to define the key points in the image that you want to move.

**Warp Mesh.** Defines the destination of each point in the image. Points defined in the control mesh are stretched to their new destination in the warp mesh.

**Key Frames Display.** Indicates key frames included in the mesh. The first and last frames of the selection are always key frames. To add more key frames, move the slider to a point in the selection and click in either the **control mesh** or **warp mesh** window. A red border surrounds the frame to indicate that it is a key frame.

**Load.** Allows you to load predefined meshes.

**Save.** Allows you to save your own meshes.

**Options.** Displays a dialog box.

**Use Smooth Mesh.** Uses a smooth instead of a linear mesh.

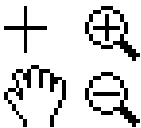
**HiQ.** Produces a better looking image but takes three times as long.

**# Vert Lines.** Sets the number of vertical lines in the grid.

**# Horiz Lines.** Sets the number of horizontal lines in the grid.

**Line Width.** Sets the thickness of the lines on the mesh.

## Special Keys



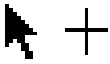
Pressing the **Option** key while the cursor is over the image changes the Crosshair into the Magnify tool to zoom in. To zoom out, press both the **Option** and **Shift** keys. The **Control** key activates the Hand tool for moving around the zoomed image.

Pressing the **Option** key while dragging a point releases the mesh movement constraints and allows you to cross over other points in the mesh.

You can use keyboard shortcuts (E-X, E-C, and E-V) to cut, copy, and paste key frames, respectively.

3. Select an area across one track in the sequencer, and choose **Mesh Warp** from the **Apply Filter** menu on the **Sequence** menu.

This displays the mesh effect dialog box.



4. Move the mouse over the Control Mesh image.

The Selection tool becomes a Crosshair.

5. Click and drag points of the control mesh to identify key points in the image.



**TIP:** Click on the intersection of two lines in the control mesh and notice how the corresponding point is highlighted in the warp mesh. Whatever part of the image lies under that point in the control mesh appears under the corresponding point in the warp mesh.

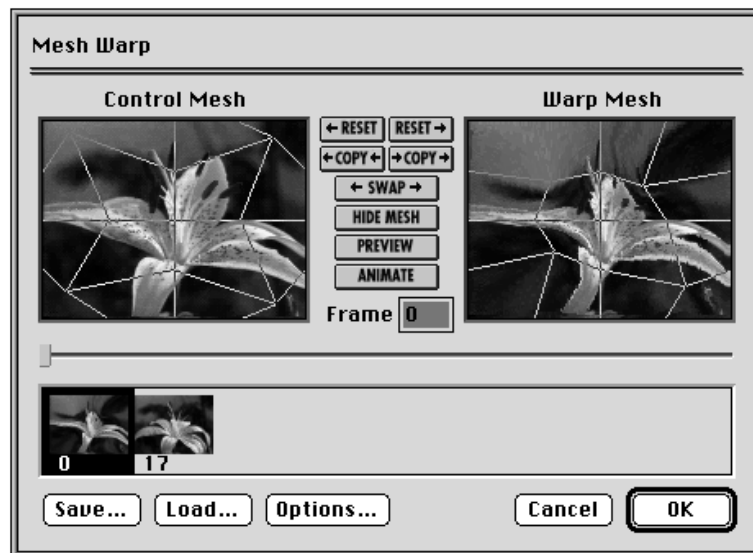
A line intersection can be moved anywhere so that it doesn't cross any other lines, and so that no lines are twisted more than 90°.

Press the **Option** key while dragging a point to release these constraints. The resultant image, however, may have discontinuities. The first key frame is highlighted, meaning that you have been modifying the first frame.

6. Click the corresponding points in the mesh warp and move them to their new destination.

7. Click **Preview** (located between the two images).

Points defined in the control mesh move to their new location in the warp mesh.



8. Click the last key frame to modify it, or use the arrow keys on the

keyboard to move the highlighted square over the appropriate key frame.

You can now modify the mesh of the last key frame.

9. Click **OK**, or press **Return** to accept the warp.

The affected area appears in the sequencer with a blue effects bar across the top.

**To see a small preview of the whole sequence:**



1. Click the **Animate** button.
2. Use the slide control to shuttle through the frames. Notice that the mesh changes smoothly from the first key frame to the last key frame.

**To add a key frame:**

1. Move to the frame with the slider.
2. Click either the control or warp mesh.

A red border appears around the images, signifying a key frame. You can add up to 100 key frames in the sequence.

**To delete a key frame:**

1. Select the key frame.
2. Press **Delete**.

Mesh warp does not currently support Undo so make sure you



don't delete something you want to keep.

#### To copy the mesh from a key frame:

1. Select the key frame.
2. Click **Copy** (between the two meshes).
3. Select a new key frame.
4. Press E-V to paste the mesh.

## MORPH

A **morph** is a two-track filter that allows for a metamorphosis from one image in the top track to another in the bottom track. The two images can be either still images or moving images. A morph between moving images is known as a **dynamic motion morph**.

You apply a morph essentially the same as a mesh warp. Before working with morph, familiarize yourself with mesh warp. The effect is a combination of a warp and a fade. As such, you have controls for each.

#### To apply a morph effect:

The first step in producing a morph is to acquire images that will produce a good morph effect. The images should be on a similar background (preferably a solid color) and should be similar in shape, positioning, and motion.



1. Create a new video track in the sequencer by clicking the **Add Track** button and selecting **Video Track**.
2. Position the first clip in the top track and the second in the bottom track so the frames that you want to morph overlap.

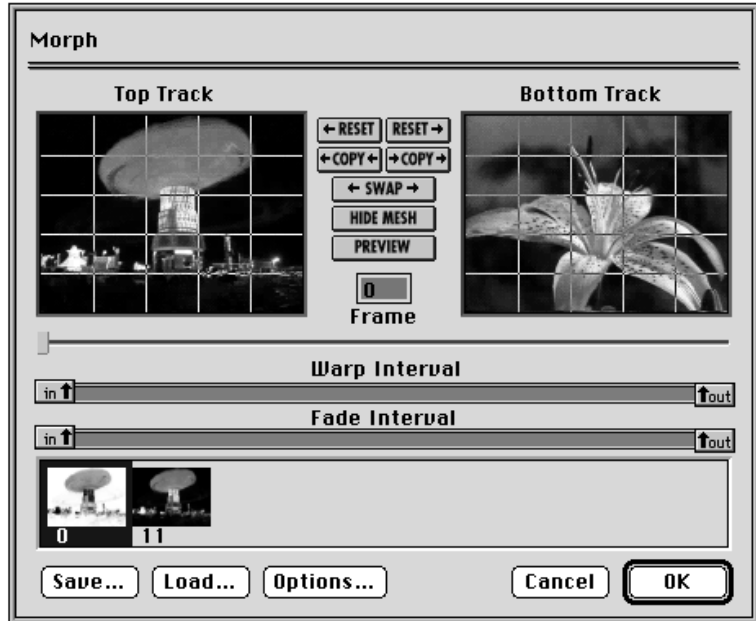
It may help to temporarily set the top track transparent so that you can see how your images line up.

3. Make a selection across the overlapping frames in the two tracks.
4. Click the Filter button and choose **Morph** from the submenu.

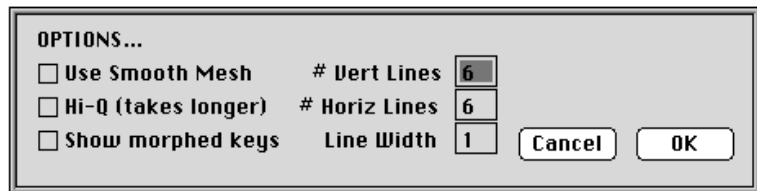


A morph window opens that looks similar to mesh warp. For a description of this dialog box, refer to the discussion of mesh


warp earlier in this appendix.



5. Click **Options** and set the grid density in the Options dialog box so that there are enough points to line up with all the important points in your images (eyes, chin, mouth, nose, hairline).



6. Start with the first key frame and align the points in the grid to the important points in the first (top track) image.

 **NOTE:** *Setting the key points is the critical step in the morphing process. Place the points in the start image over the important features that will move to a specified location in the end image.*

## HIDE MESH

You can set points either with a visible mesh or with only the points showing. To show only the points, click **Hide Mesh**.

7. When the points are aligned in the top track image, align the points to the corresponding important points on the bottom track image.
8. Press E-C to copy the mesh from the first key frame.
9. Click the last key frame and press E-V to paste the copied mesh onto the last key frame.

If the images have moved over the sequence, re-align the points.

## PREVIEW

10. Move to the middle frame and click **Preview**.

A representation of the morph halfway through is displayed. If the images have moved over the sequence, set more key frames and re-align the points.

Shuttle through the frames and watch the points on the images. Wherever the image moves from under the points, click the image to create a new key frame and re-align the points. Preview the image often to ensure good alignment.



**TIP:** Before clicking **OK** to build the effect, save the mesh in case you want to redo the morph with a slight change.

11. Click **OK**, or press **Return** to build the effect.

## Key Morph Controls

**Warp Interval Control.** Adjusts the start and finish warp time.

**Fade Interval Control.** Adjusts when the image starts and finishes fading the colors from the first image to the second.



**TIP:** If you do not have a video compression card, better results can be obtained if you change the effect quality in the Filter dialog box to **Other**, then select **Apple None** for the compression type.

## EXPORTING BACKGROUNDS

There are many options for canvas backgrounds, from both solid colors and patterns. Canvas backgrounds are PixPat patterns or solid colors. Each movie can have only one canvas background. If you want

to use the background patterns to quickly change background images, use the **Export Picture to Clipboard** command on the **File** menu.

The basic settings for the canvas window are static. You can also manipulate the background to change images over time to create a dynamic backdrop to your movie. After a background is exported, it is a PICT file which you can incorporate into your sequencer. You can apply any effect or transition to a PICT image in the sequence. For information on basic setting and changing the background of the canvas, see Chapter 3.

#### **To export a canvas background:**

Open a new sequencer and select a background pattern. Do not add any clips.

1. Click in the sequencer in time view to set an insertion point.
2. Choose **Export Picture to Clipboard** from the **File** menu.

A snapshot of the canvas is taken and placed on the clipboard.

3. Choose **Paste Picture** from the **Edit** menu to paste one frame, or select a duration in the track and choose **Paste Scale** from the **Edit** menu.

The image of the canvas from the clipboard is pasted into a video track of the sequencer.

4. Change the background pattern. Repeat to change the image.

Alternately, make a selection in a video track of a sequencer and use one of the other methods of paste, such as **Paste Stretch** (to extend the duration of the PICT image to fit the selection), **Paste Overwrite** (to paste over other media in a selection), or **Paste Truncate** (to crop the image to a selection shorter than the image).

## **TRANSCRIPT TRACKS**

Transcript tracks are titles that have not been mixed down or interleaved with other video and audio. You can use transcript tracks to maintain running subtitles with the movie (even in foreign languages) that can be searched with an authoring program or in a standalone run-time movie. Use the **Find** command to find a word on a transcript track and to display the word and its corresponding video frame. Transcript tracks are particularly useful in interactive presentations and CD authoring.

### To create a transcript track:

Make sure the title track in the sequencer is not collapsed.

1. Add titles to your movie in the usual way (see Chapter 8).



**TIP:** You may choose to display the transcript, or you may place it in the workspace, outside the canvas to create an invisible and searchable transcript track.



2. Click the lower half of the track icon to the left of the sequencer.

The Track Settings dialog box appears.



3. Check the **Transcript Track** checkbox.
4. Click **OK**, or press **Return**.
5. When you are done composing your movie, choose **Save As Movie** from the **File** menu.

6. Check **Standalone Player**.
7. Click **OK**, or press **Return**.

The transcript track is not included in the mixdown process.

**To search on a transcript in a standalone player:**

1. Double-click the icon of the player to open movie.
2. Choose **Movie Search** or press E-T.



3. Enter the keyword for the search.
4. Click **OK**, or press **Return**.

The movie advances to the point where the keyword is found in the transcript track.

**To use a Text file as a transcript:**

1. Add a title track and set it as the transcript track.
2. Drop the Text file into the track.



**TIP:** VideoShop automatically looks for carriage returns and breaks the text into separate screens. To change the synchronization of the text, you must use the Cut tool. Do not apply scrolling to this file, as only the first screen is recognized for scrolling.

**To synchronize transcripts from a Text file:**

1. Add a Text file to the title track.
2. Select the Cut tool.
3. Click and hold the Cut tool in the title track until the words change in the canvas window.



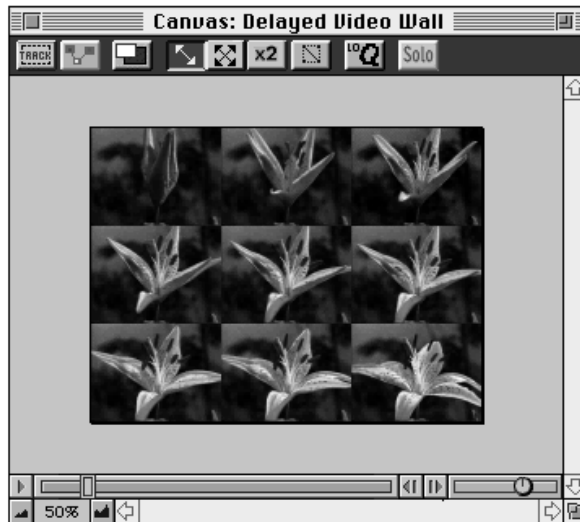
4. Release the mouse when you see the words change in the canvas window.

The text clip is snipped.

5. Repeat for the entire transcript.
6. Synchronize text clips by stretching and sliding. (See Chapter 4.)

## DELAYED VIDEO WALL

A video wall is a group of clips, positioned in rows and columns in the canvas window. A delayed video wall is a series of the same clip, where the timing of the clips is adjusted so that the action in the clips occur sequentially, as when fans in a football stadium do “the wave.”



### To create a delayed video wall:



1. Place a clip in the sequencer in time view.
2. Add as many tracks as you want clips in the video wall.
3. Add the same clip to each additional track.

Make sure each clip is at the very beginning of each track.

4. Choose **Canvas Size** from the **Canvas** menu.

Change the dimension of the canvas to a size that fits the number of clips across and down. For example, if your video wall is to be 4 clips by 4 clips and the clip you have selected is 80 x 60 pixels, change the canvas size to 320 x 240.

5. Click to select a clip in the canvas window, and move it to a quadrant.
6. Repeat for all clips until they are placed across and down on the canvas (like a checkerboard).

Consider the layering order of clips in the sequencer when you place clips in the canvas window. The first clip you select and move relates to the top video track, and the bottom clip in the canvas window is the lowest track in the sequencer.

7. Click the beginning of the first track in the sequencer to set an insertion point.
8. Select and delete the first few frames on the track (E-X).
9. Slide the clip to the beginning of the track.
10. Click the second track and delete twice the number of frames.
11. Repeat for each track, increasing the number of frames deleted in each subsequent track.
12. Make the end point of each track even by selecting across all tracks from the end point of the first track to the end point of the last track and deleting the extra frames.
13. Choose **Save As Movie** from the **File** menu and check the **Mix-down Movie** option in the Save As Movie dialog box.







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